



THE NETSIZE GUIDE 2008
Mobile 2.0, you are in control



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10th Netsize
anniversary

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TALKING ABOUT A (R)EVOLUTION

STANISLAS CHESNAÏ, CEO

In many ways I consider Netsize to be a microcosm of the mobile Web. When I founded the company a decade ago, the mobile content industry was in its infancy and even if consumers could find something they liked, the fragmentation of payment mechanisms and the absence of Premium SMS (take-up would first reach mass market in 2002) made purchasing content for many more trouble than it was worth. In contrast, many enterprises, particularly those with a remote workforce, regarded mobility as an essential business tool. Their resolve to mobilize their business processes and, in some cases, enable machine-to-machine (M2M) communication opened the door wide for Netsize, which quickly became a pioneer in mobile messaging and created new ways to harness SMS for a slew of new applications including supply chain management and CRM.

Moving from strength to strength Netsize made the milestone decision in 2000 to launch an ISP offering we would later call mGateway and lay the ground work for what would ultimately become our full infrastructure outsourcing capability. Initially, we targeted enterprise customers with our offering, for example enabling a global supply chain company to track parcels and support mobile workers on the move. Today the Netsize messaging network infrastructure has direct connections with the SMS centers run by 80 mobile operators in Europe and roaming agreements with other operators to span the globe. We are also expanding our offer to include Wi-Fi and WiMAX.

The rise of direct-to-consumer (D2C) mobile content providers – companies that allow users to browse and buy content direct from their sites and by-pass mobile operator portals - presented us with the challenge and the opportunity to turn our proven and successful business-to-business mobile messaging offer into a consumer-facing service. We sharpened our focus on the emerging mobile entertainment space and resolutely developed a capabilities mix that would allow us to support our D2C customers as they moved up the value chain, pushing the boundaries of mobile business. In 2001 we added mobile payments, an offer we call mPayment, allowing customers to charge for digital



Mobile unlocks new opportunities in retail, encouraging customers to explore the long tail of physical goods.

content across Europe. Today, Netsize is the preferred premium mobile billing partner of 100 mobile operators across 22 countries, and counts mobile content giants such as News Corp.'s Jamba and Lagardère's Cellfish Media among its major customers.

As chinks began to appear in mobile operator portal walls, and D2C content revenues exceeded all expectation, it marked the start of a new gold rush as publishing companies and media brands jumped on the mobile bandwagon. Their determination to bring their digital assets to a new audience via WAP sites and cross-platform marketing schemes, exposed a desperate need for a combination content management and service delivery platform that could manage both distribution and digital content retail. Netsize responded in 2004 with mSuites, a comprehensive solution aimed at publishers and mobile portal providers. Today we are enhancing this offer to cater to the needs of specific mobile entertainment verticals such as games, music and mobile communities.

What's next for Netsize? In my view, the full-force arrival of Internet giants including Google, Amazon and eBay as well as the advance of handset makers such as Nokia and Apple into offering mobile content services heralds a seismic shift in the mobile landscape. In anticipation of this trend, Netsize launched mServices in 2007, a full outsourcing solution that covers all the bases to provide Internet companies and retailers with customer analytics tools, end-user device support, promotion and marketing management, and mobile commerce solutions.

Look around and it's clear that history is about to repeat itself. It's going to be the Internet all over again – only this time it will be personal, pervasive and perfectly in tune with our individual profiles. What's more, features and functionality such as GPS will pave the way for mobile phones to be more than the entry point to digital content; they will be the link to location-aware services that connect the physical and virtual worlds to enable a much more holistic commerce experience.

Netsize will push the boundaries of mobile commerce and pave the way for a profound change in the way goods and services are bought and sold.

Imagine a scenario where you enter a shop, are alerted via SMS or MMS to an item you're sure to like, but find it's not available in the size or color you desire. You might ask the salesperson to order it according to your specifications, but more likely you'll simply leave the store. However, if a system allowed you to send a text message or scan a 2D barcode with your phone to initiate a purchase of the item just the way you wanted it and even deliver it direct to your home, then chances are you'll buy it. The mix of physical and mobile commerce becomes a win-win situation, both for you, the satisfied customer, and for the retailer that has just clinched another sale. What's more, mobile unlocks new opportunities in retail, encouraging customers to explore the long tail of physical goods that they can have on their terms and conditions by just sending a message.

Put simply, mobile can enhance and facilitate our real life experiences in ways that will surprise us. At Netsize we are preparing for tomorrow today, laying the groundwork for a platform that will push the boundaries of mobile commerce and pave the way for a profound change in the way goods and services are bought and sold the world over. We know from observing the evolution of the Internet, and from reading the best-selling business book, *Wikinomics: How Mass Collaboration Changes Everything*, that competitive edge belongs to those companies that can provide a great platform.

At Netsize we are building that platform. To deliver on the promise of global commerce, we also plan to extend our reach, through a mix of partnership and acquisition, to North America, Latin America and Asia. This algorithm for success will benefit our customers, delight their customers and unleash a torrent of business and commerce innovation that will be truly transformational.

TAKING CHARGE OF CHANGE

FRÉDÉRIC HALLEY, COO



The global marketplace for mobile content, communication and commerce is on the cusp of fundamental change. Winning is not about size alone; it's about the ability to manage and leverage a broad range of content and capabilities to improve the end-user experience. Concretely, success is determined by the quality of the platforms - in the form of services, tools and technologies - companies use to capture, extend and exploit the capabilities of other partners, companies and stakeholders in their business ecosystems.

In recognition of the inevitable shift away from point solutions to comprehensive service suites, Netsize was a pioneer in the development of a capabilities mix that encompasses service creation and retail, content supply chain management, service delivery and billing.

Today our broad offering is not only well-received by our customer base of over 800 mobile entertainment companies, mobile merchants and enterprise clients; it is perfectly attuned to the needs of new customer segments we see on the horizon as well as the demands of more established content providers as they enter a new phase in their business development.

These mobile content veterans have enjoyed several years of consecutive and steady growth. But industry consolidation, market saturation and the demand from empowered consumers for more tailored content on their terms have turned up the pressure on traditional players to rethink their approaches and refocus on their core competencies. Against this backdrop, we at Netsize see a strong trend among major mobile companies to outsource significant parts of their infrastructure. Transferring this responsibility and complexity to Netsize frees resources that are mission-critical as these companies reorganize to take advantage of growth opportunities and increase profitability.

At the other end of the spectrum, fast-growing companies in segments such as mobile gaming, which in 2007 reported a 50 percent increase in revenues over the previous year, are engaged in a land grab. The stakes are high and the winners are not clear, so these companies are singularly focused on achieving scale.

Real competitive advantage is gained by developing and delivering a unique and compelling end-user experience

They want to be on the carrier decks of mobile operators worldwide and they are looking for partners that can deliver results. These nimble newcomers are joined by scores of Internet retailers and media companies just discovering the mobile Web and under pressure from their shareholders to make up for lost time.

In both cases, Netsize is a first choice because of its deep integration with the content management and billing systems run by more than 700 mobile operators. Europe, our home market, stands out as a densely populated and extremely complex market. Our ability to address the systems and directly connect with the networks belonging to a diverse mix of mobile operators, merchants and mobile Web destinations is a hugely important ace in our hand.

Moving forward, we see two distinct customer groups emerging: Established players that recognize it no longer makes business sense to develop their own platforms because real competitive advantage is gained by developing and delivering a unique and compelling end-user experience; and the nimble newcomers that need scale to survive.

To this end, Netsize has reorganized its corporate structure, enhanced its services portfolio and sharpened its focus on vertical markets such as gaming. In addition, we have invested significantly in R&D to develop our software platform and enable the creation, promotion and delivery of more tailored mobile content and services. The aim is to provide each of our customers a unique bundle of capabilities that allows them to build market presence, connect with the companies in their business ecosystems and differentiate themselves at the customer interaction level – where it counts!

It's an area we believe will experience strong growth over the coming years and we're already seeing tremendous take-up by our customers in the mobile entertainment industry. In this segment, the rise of off-portal, the growing popularity of mobile social networks and the importance of delivering the right content and advertising to the right users requires nothing less than a revolution in CRM.

Traditional retailers have also come to recognize the potential of mobile. Major players are harnessing SMS and MMS to target customers on the move with special offers and alerts. In fact, it's one of the fastest growing parts of our business right now and we expect the combination of mobile commerce, location-based services, mobile coupons and mobile search will create new services and new opportunities for all the players in the ecosystem.

Indeed, the mobile space has never been more exciting – or challenging. Our new structure, focus and resolve to remain a leading one-stop provider of mobile commerce and mobile communications solutions ensures our customers will ride this tide of change rather than be crushed by it.





THE POWER OF US

RENAUD MÉNÉRAT & PEGGY ANNE SALZ

Digital convergence of communications, content and communities is driving profound change, removing the constraints of time and space to deliver any-time, anywhere and always-connected applications and services that transcend devices and platforms.

In a sense, the world around us has become the network and we have become the content.

We are witnessing the rise of a participatory culture in which each individual can co-create the content they consume and shape the industry in which they work and the society in which they live. Everyone can be a publisher and, more importantly, everyone's opinion matters. It's a tectonic shift in the relationship between people and technology that TIME captured in the design of its magazine cover for the 2007 Person of the Year, incorporating a mirror to reflect the face of the individual reader. It's all about harnessing the power of technology to create content and communications on our terms. There are no limits to what we can do, and we demand technology and services that enhance this newfound freedom of expression.

We at Netsize encourage you to seize the reins and co-create your content. To this end, we have divided the Netsize Guide into ten comprehensive chapters – ten to also mark Netsize's 10th anniversary - reflecting the ways people connect with each other and with the abundance of content and services at their finger tips. This underlines our conviction that people want their activities to dictate the technology they use – not the other way around.

We have also asked you, the readers, to participate. This Netsize Guide is very much YOUR voice. Between November and December 2007, we conducted an online survey of industry executives across five continents and 79 countries. In total, we received an impressive total of 1,835 responses and 705 additional and invaluable comments from people and professionals who share the same passions. From Mumbai to Guayaquil, and from Reykjavik to St Petersburg, you have expressed your opinions and ideas. We also include



25 exclusive interviews with leading industry executives and opinion-makers, each sharing their unique vision of mobile and its impact on the evolution of communications and commerce on our connected society.

This is the Netsize Guide 2008, the first Netsize Guide 2.0.
You are in control.

Thank you for lending your voice to ours.

Renaud Ménérat & Peggy Anne Salz,
in the name of the Netsize Guide team.

ABOUT THE NETSIZE GUIDE 2008

The published results and comments of the survey, the articles and interviews are only reflecting individual opinions and do not represent any Netsize or mentioned companies statement.

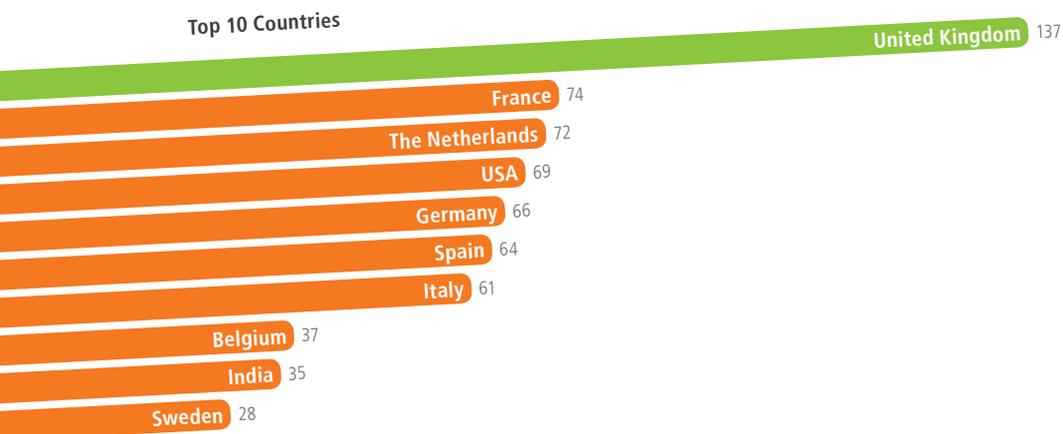
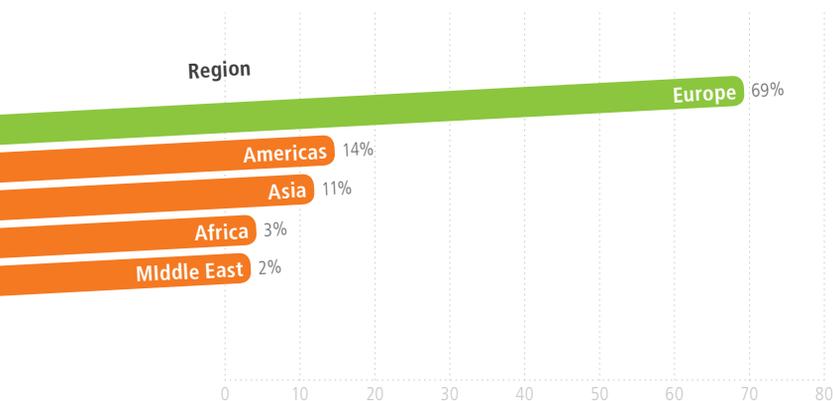




NETSIZE SURVEY FACTS

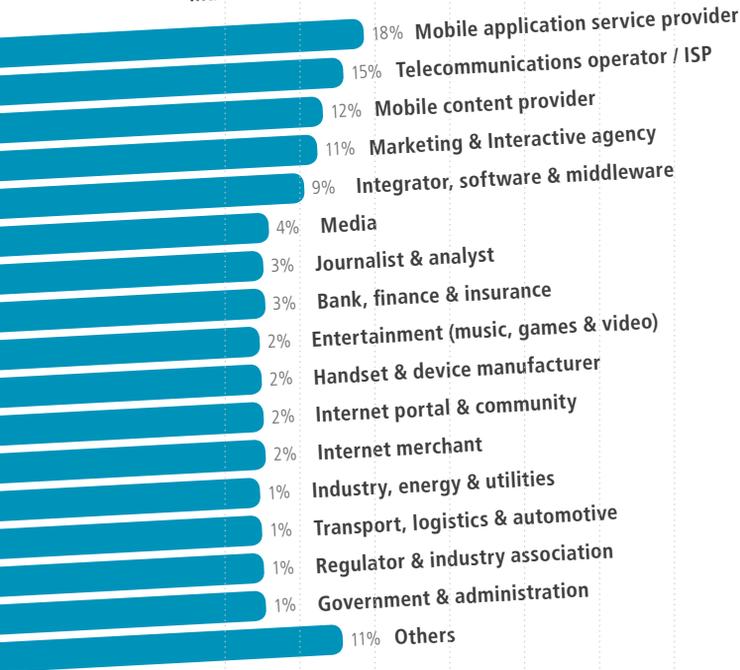
The survey has been conducted by Netsize between the 23/11/2007 and 23/12/2007.

1,835 persons from 79 countries answered the Web-based questionnaire and provided Netsize with 705 comments.

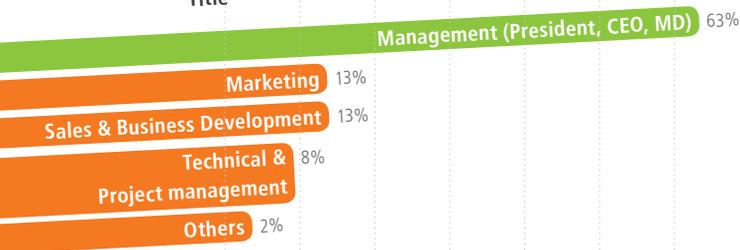




Market / Industry



Title



Gender



0 10 20 30 40 50 60 70 80 90



10 FACTS THAT MARKED 2007

7th February - London & Newbury, U.K.

Vodafone & MySpace partner to develop mobile social networking

Vodafone inks an exclusive deal with MySpace allowing mobile users in the U.K. access to the social networking website on the move. The Vodafone deal with MySpace marks the first time that the Fox Interactive Media unit of News Corp. has made its MySpace.com portal available to European mobile users.

23rd February - Madrid, SPAIN

LaNetro Zed acquires Monsternob

The acquisition saga comes to an end when Monsternob shareholders vote in favor of LaNetro Zed's proposal to take a 52 percent stake in the company. The completion of the deal ends weeks of speculation that China's Linktone would take control of the company for \$78 million, and marks the start of a major shake up of the D2C mobile content sector.

23rd April - Tokyo, JAPAN

NTT DoCoMo & Napster launch unlimited mobile music service

This marks the first-ever deployment of the ground-breaking Napster Mobile service that seamlessly integrates mobile and PC, enabling users, for one low monthly fee, to access full-length songs and ringtones that can be delivered over-the-air (OTA) directly to their mobile handset for immediate listening and downloading. The service provides a blueprint for the clear convergence of Web and mobile music services, and paves the way for unique pricing and data models.

15th May - Dulles, VA, U.S.

AOL enters into mobile advertising with Third Screen Media

The mobile advertising land grab continues with AOL snapping up mobile advertising company Third Screen Media for an undisclosed sum. The deal follows Microsoft's acquisition of French advertising firm ScreenTonic and marks another milestone deal in a period that has seen a mad scramble for position in digital advertising.

1st June - U.S.

Amp'd Mobile MVNO files Chapter 11

The dream of the content-oriented MVNO comes to an end as Amp'd Mobile files for bankruptcy protection and closes its doors a month later. The news comes just months after the high profile fall of Mobile ESPN, the Disney-owned MVNO that hoped to find a subscriber base among U.S. sports fans by delivering sports-oriented content over the phone. Will ad-funded MVNO Blyk raise hope?





29th June - Cupertino, CA, U.S.

• **Apple launches iPhone & re-invents touch-screen technology**

Steve Jobs takes the wraps off the long-awaited iPhone, a game-changing device with touch screen and a raft of features to encourage mobile browsing and content consumption. The iPhone buzz reaches Europe in the Fall, sparking a Christmas buying frenzy.

29th August - London, U.K.

• **Nokia announces Ovi & a move towards Internet services**

Nokia reinvents itself as a mobile services company, announcing Ovi as an umbrella service for its music, games, mapping and Internet offerings. The launch ends the speculation about Nokia's intentions in the content sector and marks a significant turning point in the handset maker's strategy.

1st September 2007 - London, U.K.

• **U.K. mobile payment goes live with Payforit launch**

Major U.K. mobile operators jointly launch Payforit, a new payment service for mobile websites based on Vodafone m-payments. Use is limited to transactions under GBP10 and the user-experience is similar to the Internet. Could this be the initiative that jumpstarts real m-commerce development?

1st November - Espoo, FINLAND

• **Nokia buys navigation mapping company Navteq**

Nokia pays a whopping \$8.1 billion for Navteq, a satellite navigation mapping and software company. The technology is folded into the existing Nokia Maps solution, which is spearheaded in the market by the GPS-enabled N95 Nseries device. Will this be the catalyst for mainstream location-based services (LBS) adoption?

29th November - Brussels, BELGIUM

• **EU supports DVB-H mobile TV standard**

The European Union formally and finally supports DVB-H as its "official" mobile TV format. The decision to support one standard is seen as an effort to promote consensus and stop market fragmentation. Signs are strong that 2008 will mark the starting point for commercial mobile TV.







ACCESS



CONNECTING THE ALWAYS-ON SOCIETY

The world broadband market may be dominated by wired broadband platforms such as DSL and cable, but the wireless broadband technologies and technologies such as WiMAX, HSDPA and EV-DO – and their evolutions – are in the pole position to deliver wireless connectivity and content to the world. Indeed, technology consultancy Informa Telecoms & Media reckons wireless broadband platforms will account for almost half (49 percent) of all broadband subscribers worldwide by 2012, up significantly from 17 percent in 2007.

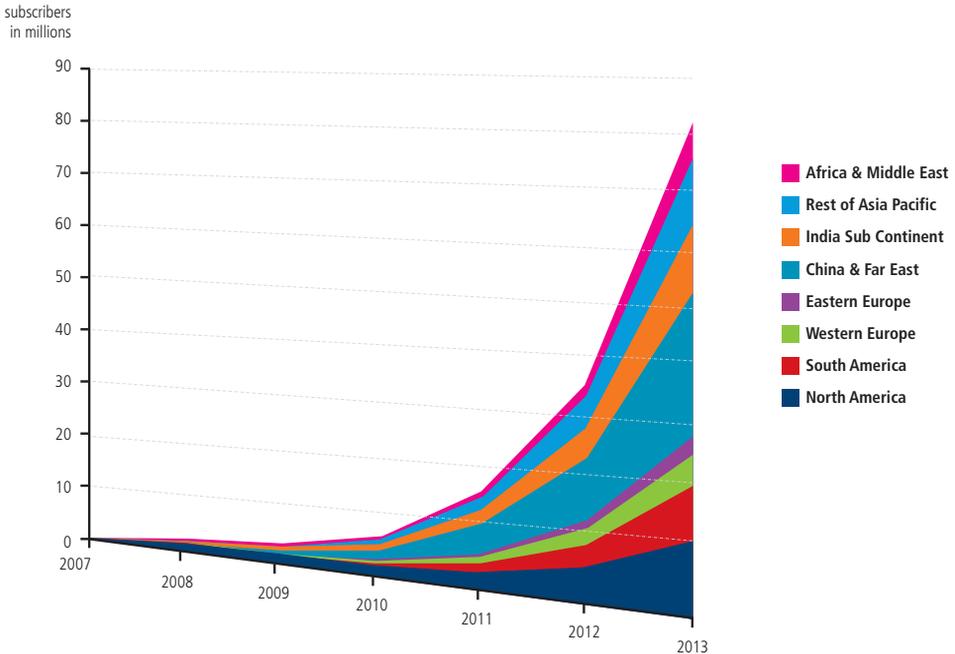
It's tough to pick a winner, and HSDPA is clearly in position to deliver broadband services now and in the future. However, WiMAX, which stands for Worldwide Interoperability for Microwave Access, is certainly one to watch. The technology was developed to provide fixed as well as mobile access in large metropolitan areas and is widely regarded as a successor to the Wi-Fi standard, which provides wireless access in local area networks, also popularly known as hotspots. WiMAX also enjoys the support of key vendors including Cisco, Fujitsu, Intel, Motorola, Nokia, Nortel and Samsung, as well as mobile operators BT, Sprint, ZTE and Korea Telecom. More recently, Vodafone and T-Mobile have joined the growing ranks of mobile operators evaluating the potential of WiMAX to deliver more personalized mobile broadband services.

To date Jupiter Research counts over 250 trial Mobile WiMAX networks worldwide, and two commercial networks in operation. It estimates Mobile WiMAX will begin to take off in 2010, with more than 80 million mobile subscribers worldwide by 2013.



GLOBAL MOBILE WIMAX 802.16E SUBSCRIBER GROWTH 2007-2013

Source: Juniper Research



WiMAX can be seen as both a complement and a threat to 3G HSPA (High Speed Packet Access) networks and the next phase of HSPA development known as HSDPA. WiMAX functions as a complementary technology to 3G, potentially offering metropolitan-area, higher data rate coverage. But this coexistence starts to look like competition if we consider 3G coverage is also best in metropolitan areas. Promising to offer higher capacity at lower costs, WiMAX could appear to collide head-on with 3G. However, there are some question marks around WiMAX, such as network performance, infrastructure cost and handset availability – to name a few.

As of June 2007 there were 140 live HSDPA networks worldwide, according to Informa’s World Cellular Information Service (WCIS). That is almost double the number of live EV-DO networks worldwide. HSDPA has effectively transformed 3G. This software upgrade pushes network speeds above the 2Mbps that 3G was promised to deliver in the first place, but then fell a bit short. While HSDPA is considered a mobile technology, the truth is mobile phone users are not the target audience. The focus, and biggest group of users, are actually nomadic users – otherwise known as road warriors – who use the



high speed data connection to access the Internet from their laptops on the move. In view of this, Informa predicts that HSDPA will be the leading mobile broadband system in 2012 by number of subscribers, followed by EV-DO and Mobile WiMAX. EV-DO, which stands for Evolution-Data Optimized, is a 3G mobile broadband technology that had the most subscribers at end-2007 but will likely be overtaken by HSDPA in 2009, according to telecoms consultancy Informa Telecoms & Media.

MARKETS WITHOUT LIMITS

EV-DO is entrenched, HSDPA is accelerating and WiMAX is gaining traction. But the stage is hardly set for a showdown. The sheer scale of demand in many markets for broadband services in general and mobile broadband in particular means the market is big enough for everyone. Put simply, wireless on the whole is on track to overtake wired as the dominant broadband platform worldwide, which means the market will be large enough to support three competing standards.

Still, WiMAX pulled ahead in 2007, when U.S. carrier Sprint went live with its WiMAX service, dubbed XOHM (pronounced 'Zoam') across some major cities in preparation for a commercial rollout in the second quarter of 2008. To round out the offer Sprint teamed up with Google to create a search and social network portal for the network. The portal, slated to launch in April 2008, will feature location services tied into Google Apps, a suite of applications combining Google Calendar, Google Talk and Gmail services.

But that's not the end of Google's interest in WiMAX. Google has also said it will fork over the \$4.6 billion required for 22MHz of U.S. 700 MHz spectrum set to be auctioned no later than January 28. It is widely believed Google will use the spectrum to roll out a wholesale WiMAX network.

Meanwhile, WiMAX also made some important headway among device manufacturers. In 2007 it signed up some significant vendors, paving the way for connectivity to a host of new devices, including notebooks, laptops, Ultra Mobile PCs, consumer electronics devices and digital cameras. The combination of personal mobile devices and personal mobility enabled by WiMAX ushered in a new trend to "wireless personal broadband services." WiMAX supporters

hope access to a plethora of WiMAX-enabled services will persuade consumers to adopt an always-on, always-connected lifestyle, and ultimately spark a new wave of broadband growth in the process.

At the other end of the spectrum, content

WiMAX-enabled services will persuade consumers to adopt an always-on, always-connected lifestyle.



providers, media brands and social networks are hopeful the rollout of WiMAX networks and devices will allow them to bring their customers onto the mobile Web. In this scenario, community-driven applications like MySpace that allow users to connect with content and each other, could be independently and rapidly brought to market by the media companies – thereby bypassing the mobile operator’s network.

Annual global sales of dual-mode mobile phones are likely to exceed 100 million in 2010.

Can WiMAX disintermediate traditional mobile operators and service providers? You, the respondents to the Netsize survey are split down the middle. When asked if Wi-Fi and WiMAX will bring the mobile Web to the masses and bypass operators 2.5 /3G networks in the process, 49.4 percent answered yes and 50.5 percent disagreed.

EVERYWHERE, ALL THE TIME

Wi-Fi technology is a key component of the natural evolution in wireless broadband technologies and platforms. It got a major boost in 2007 when vendors introduced a slew of Wi-Fi capable devices. Indeed, dual-mode handsets, which can connect to conventional mobile services or Wi-Fi networks, are no longer the exception; they are well on their way to becoming the norm, with over 100 Wi-Fi phones certified - and more on the way. ABI Research forecasts annual global sales of dual-mode mobile phones are likely to exceed 100 million in 2010.

A milestone in 2007 was the dramatic debut of the iPhone, Apple’s iconic touch screen device chock-full of features, including Wi-Fi, Bluetooth and EDGE capabilities, as well as a rich browsing client for surfing the Web. For an encore, it cleverly sealed a deal with Starbucks, which now offers free Wi-Fi to users with an Apple iPhone or Apple iPod touch. To date, the offer is good in a total of between 800 and 900 Starbucks branches across several major U.S. cities. Ironically, Apple is now in possession of a huge Wi-Fi network in the U.S. without having to bid for spectrum, as Google likely will when the auction for 700 MHz spectrum opens.

Nokia also took the wraps off its hotly awaited flagship “multimedia computer,” the Nokia 95, and a Wi-Fi scheme of its own. The device, which boasts an impressive list of features including built-in Wi-Fi, was designed from the ground-up to encourage users to use the mobile Web. Later in the same year Nokia would make Wi-Fi connectivity key to its ambitious strategy to morph from handset maker to services provider, launching its Nokia Video Center with a host of content partners. The portal concept enables to access video content



via 3G, Wi-Fi or PC, giving users of Nokia's Nseries mobile phones access to content from companies including CNN, IBN, Jamba, Sony Pictures, Rooftop Comedy, ROK, YouTube, Reuters and Versaly Entertainment.

At the other end of the spectrum, the BBC signed a deal with Wi-Fi hotspot operator The Cloud to make its stockpile of content available for free across 7,500 wireless access points in the U.K. The move gives users access to BBC News, programming website and the BBC iPlayer peer-to-peer video service. Using mesh technology, The Cloud has effectively created one of the densest and most comprehensive Wi-Fi mobility networks in Europe. The network comprises 127 nodes and is set to eventually cover 95 percent of London.

Sensing a business opportunity, Fon, the open Wi-Fi maverick from Spain, has built a radical new business model on the concept of connecting Wi-Fi hotspots around the world in an alternative network that gives traditional mobile networks a run for their money. Companies that join Fon in this ambitious scheme either give free access to - or sublet - their Wi-Fi connection to others in the ecosystem in exchange for reciprocal privileges.

Originally, British carrier BT wasn't sold on the idea of its customer companies effectively "on-selling" the wireless access they got to Fon. Today, it's a different story and BT is a convert to and investor in the communal Wi-Fi model. As BT's group managing director Gavin Patterson sees it: "We have built a public Wi-Fi network and 12 Wireless Cities already, but today we are saying to customers, let's build a Wi-Fi community together, which covers everywhere and serves everyone."

In France, the champion of open Wi-Fi is French broadband provider Neuf Cegetel. In 2007 it started the rollout of a national Wi-Fi network, integrating Wi-Fi networks already developed by operators Ozone, FON, Adael, Manche Telecom, railway network the SNCF and others.

In the U.S. hotspot operator Boingo has joined the Fon fold. In addition, Fon struck a deal with U.S. cable broadband provider, Time Warner, to allow subscribers to access its growing Wi-Fi network.

MORE IS BETTER

However, alternative access technologies such as Wi-Fi, WiMAX and disruptive combinations of the two don't just deliver turbo-charged wireless broadband connectivity for bandwidth-hungry services and applications. They effectively empower users to access the Internet on their own terms and conditions.

Personal mobility has become an essential part of everyday life and lifestyle. On the move, in the office and at home, consumers have grown accustomed



to a mix of mobility technologies, encompassing wide-area cellular communications technologies, which support traditional mobile communications via 2G/3G networks and their evolutions; local area communications, which enable high-speed data traffic over short distances in environments such as public hotspots and home networks; and a mix of proximity technologies including Bluetooth, and NFC (Near Field Communications), a technology enabling touch-based interaction for mobile devices.

Users clearly want to have access to all applications and services all the time without thinking about the underlying technology.

Users clearly want to have access to all applications and services all the time in a way that offers the best possible user experience. But they want to do this without thinking about the underlying technology or having to log on or off to the service multiple times. Put simply, people want their activities to dictate the technology they use – not the other way around.

This new mindset combined with the rise of alternative access technologies to deliver on the always-connected vision of personal mobility represent both a huge opportunity and a significant threat to traditional mobile operators – depending on their point of view and business model.

Wi-Fi, an access technology that supports high-speed data traffic over short distances of between 30 to 100 meters, is ideal for exchanging multimedia messages and music playlists – and a real boost for multimedia services that require lots of bandwidth such as movie trailers and video clips. In this scenario Wi-Fi can complement cellular access to enable a raft of services where users congregate most -- in places including airports, hotels, restaurants and shopping malls. However, the same technology can cut mobile operators out of the equation entirely as more users access the Internet from their handset over Wi-Fi networks.

Clearly, carriers are already at a crossroads, where they have to decide whether to focus on audience, and take on the role of a media company, or stick to access, and risk being “just a pipe.”

However, purposely making it hard for empowered consumers to get to the Internet sites and services they know and enjoy will likely backfire and strengthen their own determination to surf the Web on their terms. Users will get to where they want to go, but carriers will not be able to participate in the value exchange in that. In worst case scenario, users, frustrated by the inability to pursue an always-connected lifestyle, will likely vote with their feet, resulting in a loss of revenue for the operator.

To stem this exodus mobile operators must relinquish some control over what happens on their networks and focus on the value they can wring from these when millions of consumers can access a wide variety of content and applications using a broad range of mobile devices.

Put another way, an all-inclusive access strategy – rather than one that excludes technologies – sits at the center of a sustainable, successful and holistic mobile communications strategy.

This radical approach flies in the face of scale-driven strategies, and a preoccupation with market position, that have led carriers to presume the end-game is market dominance and control. In the right context, this strategy can work. However, it is a sobering fact that the world is making the seismic shift a world where technology was the main attraction to a future where the user is the focus.

Taking the hassle out of personal mobility by providing choice, easy access, and not requiring users to log on and off multiple times is a way mobile operators can make the inevitable transition from access to audience companies. However, operators should not let themselves be paralyzed by the fear of becoming “just a pipe”. There is a huge difference between being a “dumb” pipe, a pure-play access provider, and a “smart” pipe that can offer its customers a network with intelligence. The industry generally agrees that mobile operators will retain their close relationships with customers, and maintain their deep insights into individual users’ preferences, profiles and browsing/purchasing patterns - data that other companies are willing to pay for – for years to come. Put simply, information – about the network, the consumer and the transactions that transpire – is quite literally power.



NETSIZE SURVEY RESULTS

Will Wi-Fi and WiMAX bring mobile Web to the masses and by-pass the 2.5/3G mobile operator networks in the process?

Yes 49.4%
No 50.6%

Will the mobile Internet mainly be made-for-mobile (WAP sites or transcoded) or simply the Internet?

WAP 21.5%
Transcoded 20.7%
Internet 57.8%

Will mobile phones be the primary devices to access wireless data services?

Yes 70.6%

No 29.4%

Is the cost of data to blame for low mobile data usage?

Yes 75.3%

No 24.7%

Will mobile operators evolve to be :

Mobile content & services enabler 74.9%

Mobile content & services retailer 25.1%

* About the survey, please refer to pages 13-14





Interestingly, the killer app for me is not on my 3G phone itself, it's being able to use it as a modem with my laptop to get fast Internet access on the move - great for getting email on the train :) I think we are going to see Wi-Fi becoming increasingly important, especially now we have the likes of FON doing big deals with BT to provide dense network coverage at no-brainer prices.

Matthew Goodsall, Bluetab Solutions, London, United Kingdom

We need to tap the Web's potential for education & health services to truly make a positive impact within the global society.

Chirag C Shah, Nokia, Mumbai, India

Flat rate tariffs will dominate in the future as they take the uncertainty out of the equation for the customer.

Dom Smith, Vodafone, Ireland

The iPhone, for the first time, proves that it is the device (consumer experience) and has the pricing (iPhone has flat rate data pricing) to override what has so far been an inhibitor to wireless data adoption.

Gene Keenan, Isobar, San Francisco, USA

I do not believe Wi-Fi / WiMAX networks will bring the mobile Web to the masses as these are just pipe-technologies, not actual content platforms.[..]. The key to bringing the mobile Web to the masses is openness. Operators are geared up to open their platforms and allow customers and other members of the ecosystem to add value, regardless of their role.

Eduardo Raad, Metromovil, Guayaquil, Ecuador

In terms of IP traffic, the Internet is growing 100% per year, compared to only 5% for mobile data.

Carl Gunell, Maximin Management LLC, Costa Mesa, USA

Although the mobile phone will be the strongest wireless device, we will also see more dedicated hardware emerge, for example wireless readers similar to the ones Sony and Amazon have released.

Olafur Andri Ragnarsson, Reykjavik University, Reykjavik, Iceland

I think the mobile Internet arena will see the first step in the merger of technology, media and telecom. Telecom as we know it will transform and run on the WiMAX platform. It is feasible to assume the operators of this platform will continue to be the current telecom providers, however there is a school of thought that Google can run the WiMAX and provide the product free for consumers. This will give them a competitive advantage over the telecom providers because a bulk of the cost for telecom is billing, collections, marketing and support, and Google can eliminate most of these by providing the service for free and using ads to cover their costs.

Anuj Kumar, JP Morgan, USA



The Open Question

Mike Short, Chairman, The Mobile Data Association

Social networks, flat rate charging and products which are far easier to use will be the major themes in the mobile market, according to Mike Short, Chairman of The Mobile Data Association - a non-profit global association for vendors and users of mobile data and their advisors. In this exclusive interview, Short, who also heads R&D at O2 UK, a mobile operator belonging to Telefonica O2 Europe, defines the key market and technology trends to watch in 2008 and beyond.

What were the three key developments that marked 2007?

First, the continued movement of voice from the fixed world to the mobile world. This is an obvious trend supported both by operators' tariffs and a shift in user behaviour from landline to wireless phone. Second, the significant growth in data usage in all its forms beyond SMS. This is evident in the results of a number of mobile operators, most recently Telefonica and Vodafone. Data usage, whether it has to do with mobile email, mobile Internet or content downloads, is on the increase based on volumes of traffic and revenue. I put a lot of this growth down to devices that are easier to use, and more capable devices such as 3G phones. Third, the growing emphasis on user experience. We're now seeing developments that have a positive impact on usability, such as advanced cameras, simpler storage options for users' [content] uploads and downloads, not to mention bigger-screen devices such as the Apple iPhone, that make exploring content and the mobile Internet much more intuitive.

Another notable development was the announcement of the Open Handset Alliance (OHA). What is your view of the Google-led alliance?

I fully support openness from my work as a

founding member of the Open Mobile Alliance [OMA], an organization that focused on bringing together activities from smaller standard bodies to build a much more open mobile ecosystem. Some would say that Google accomplishes this. But I would counter that the industry doesn't know enough about Android at this moment to make that judgment.

On the face of it, Android appears to be about Linux [operating system] and Linux has been around for quite some time. Android is welcome because it directs Google's efforts at mobile and market development. But it's also welcomed in the same breath that Apple is for its mobile roadmap providing users innovation, choice and features. Moving beyond this discussion, it's important to realize that many of the complexities related to offering mobile Internet services are not about the operating system. The bottleneck is the browser, access speeds and a mix of other usability factors.

The goal is an open mobile Internet. How do you define "open"?

You have to look at open from the customer point of view. Customers want reliability,

The idea of having completely free data could actually lead towards chaos.



I see Wi-Fi as a complement to cellular when the user is engaged in a stationary activity.

effectiveness, convenience – and that mobile experience doesn't always go hand in hand with openness. Against this backdrop, openness is about access to applications anywhere, anytime. I say access because I think there needs to be a key to the door which stops the entry of rogues, viruses, spam and inappropriate content. I also think that the idea of it all being free is nonsense. Some of it being free is entirely reasonable, it could be sponsored, it could be reverse charged, it could be paid for by others, but I think it needs to be considered in a way that there is a sustainable business and a return on investment.

Many claim high tariffs discourage users from using mobile data services and surfing the mobile Internet. What is your view?

First of all, I don't accept that data charges are the primary bottleneck. I think the idea of having completely free data could actually lead towards chaos. It could lead towards network overload, it could lead towards network crashes and it could lead towards being knocked off the air. There need to be sustainable investment and business models to support all this. Moreover, we must also think about end-to-end systems that can handle data and voice [traffic] growth. At the device level, memory also plays a part in this. So to say users don't utilize mobile data because the charges are high is to take a simplistic view of a complex question.

What's growing even faster is the number of points of access to the Web or to email systems from a remote location.

Will Wi-Fi and WiMAX bring mobile Web access to the masses, by-passing the 2.5/3G mobile operator networks in the process?

We need to differentiate between Wi-Fi, which we already have today, and WiMAX, which is a technology for next year and beyond. I see Wi-Fi as a complement to cellular, particularly for instances when the user is engaged in a stationary activity such as downloading content, updating a music or video collection, or simply surfing. Only last year [2007] did we see an increased number of dual-mode cellular/Wi-Fi devices coming to market – devices that didn't exist before – so this was the first year that Wi-Fi has really had an impact on how we access the Internet.

WiMAX is a different story. We have only seen trials and limited deployments to date. It may come across as a kind of substitute of low-cost technology, but actually it's not really a direct substitute because WiMAX-capable mobile handsets and devices are not yet widely available. We'll no doubt see multi-mode devices that include both Wi-Fi and WiMAX, but that will be some time.

Will we use mobile phones to access mobile data services and the mobile Internet?

It will be a mix of mobile handsets, portable computers and other devices. The vast majority of data continues to be processed from computer to computer today. But what's growing even faster is the number of points of access to the Web or to email systems from a remote location. That's access where mobile phones and smartphones dominate. Do I expect the vast amount of data that is processed by computers today, computer to computer, to move to mobile? No. Do I expect the number of access points that access data from remote devices to increase? Definitely yes!



There Can Be Only One?

Rich Miner, VP Wireless Strategy, Google

The emergence of the Android platform, combined with the backing of over 30 companies in the Open Handset Alliance, including Google, is set to fuel rapid innovation across the entire mobility industry. The open-source platform will comprise of an operating system, middleware stack, customisable user interface and applications, and the first Android-based phones should hit the market in the second half of 2008. Rich Miner, Google VP, Wireless Strategy, discusses Google's plans, business model and expectations for the emerging ecosystem.

Google has a very broad and impressive array of capabilities, ranging from mobile search and advertising to mobile social networking. What is the interplay between these services and applications and the Android platform?

You're right, they're all very inter-related, but Android is a platform that makes it easier not just for Google, but for any company to develop and deliver apps [applications] into a mobile environment. We think that Android will make a great platform for all those applications, and you will also see a lot of best in class Google apps implemented [on Android].

The agenda is much broader than just Google, which is why we have the Open Handset Alliance and the partnership to allow the industry to deliver a consistent and unified experience. One of our frustrations has been the fragmentation of the various platforms. We can deliver a great experience with Google maps, for example. But it falls down if you want to create a seamless link between Maps and the address book, because that part is written in some native environment. So, linking the two together to let users do something as straightforward as accessing Google Maps from their address book can be a problem.

What is your response to claims that Android merely represents another platform and effectively increases fragmentation rather than reduce it?

I don't think we're causing further fragmentation; we're trying to create a one Linux platform and that doesn't exist in the Linux world. This we accomplish with Android. So, while it's true that for a very short period of time the industry is presented with yet another platform, Android will be quite the opposite. It will be a unifying [force] in a space that has been trying to build a platform on top of Linux, and ultimately do quite a bit to reduce fragmentation.

What applications do you hope to see developed on Android first?

We're convinced there's going to be no lack of applications developed on Android, but we are not steering [those efforts]. We want to see entertainment apps, and I'm certain there will be games developed for the platform. We'll also see location-based services that will probably

There have already been phones released that have a strong integration of Google apps that people refer to as a Google phone.



Our vision is that the powerful platform we're unveiling will power thousands of different phone models.

leverage and mash up our maps capabilities with others for the platform.

There really should not be any limit to the applications. Most of the developers who have downloaded and looked at the SDK, feel it's one of the best development environments for mobile and so I think you'll see quite a breadth of applications.

Does the Android announcement end rumors of a "Google phone"? What is the current thinking within Google on making devices free, paid for by advertising?

We work with a number of OEMs to put a tightly-bundled collection of Google applications in the handset, as is the case with Sony Ericsson, LG and Samsung. You can assume that that type of bundling, and maybe even tighter integration, will be possible with the Android phone. Will people want to call that a Google phone? Possibly. But that [creating a Google phone] is not our focus. As Eric [Schmidt, Google CEO] has said: "Our vision is that the powerful platform we're unveiling will power thousands of different phone models."

As to advertising, we've been very cautious about pushing ads in any of our mobile applications because we don't yet know how to do it without potentially compromising the user experience and being intrusive. But it [advertising] is not part of Android, or required to be adopted with Android. Would we rather see [brands and advertisers such as] BMW and IKEA subsidizing people's data usage as opposed to them getting higher bills? Sure, and we think this is a story that also resonates with

some of the carriers that we partner with.

This partnership was formed to help unleash the potential of mobile technology and create an approach to fostering innovation in the mobile industry. What is to keep mobile operators from simply locking the devices or maintaining control over the user experience?

These are policy decisions and – you're right –there's nothing to stop an operator from taking this open platform to create a closed experience. However, our message of openness has been resonating very well with the industry and we're seeing announcements from mobile operators that they embrace this wholeheartedly. Verizon has announced it will support unlocked handsets and third-party applications on its network. It wasn't so long ago that Verizon had locked down the Bluetooth capabilities on its phones, preventing users from even copying their photos [on the phone] to their PC. But it's not just the operators who are enthusiastic about openness; consumers also benefit. Innovation cycles will be faster and deliver users a greater choice of applications.

What is the benefit to Google and how will it make money?

Google makes money from ads, so ultimately we think that the better connected our subscribers are, the better opportunity there is for us to monetize those platforms. Even if a carrier decides to build with a handset manufacturer a phone that doesn't have Google apps on it, we know that because we're putting a great Web browser inside the Android platform, the user will be able to browse the Internet and have a better experience. When they go to google.com to get access to content, where they'll also see some of our ads, then we'll be able to monetize it [that experience]. We think that this will ultimately be a large win for Google.



Under The Radar

Patrick Parodi, Global Chair, Mobile Entertainment Forum (MEF)

The advance of new entrants from the Internet is sure to shake up the mobile space. But will a flood of news content and services market where all boats rise? Or will it result in a tidal wave that crashes down on mobile operators and media companies unprepared – or unwilling – to go with the flow? Patrick Parodi, Global Chair of the Mobile Entertainment Forum (MEF), the leading trade association for the mobile entertainment industry – identifies the developments that will leave an indelible mark on the next year.

You are a keen and expert observer of trends in the mobile content market. What were the milestone events that marked 2007 and what are the developments you expect will impact 2008?

Mobile entertainment now grosses close to \$30 billion a year. This means the mobile content market is four times larger than the user-paid Internet content market. The difference, of course, is that in the mobile business much of the value is still tied to personalization and communication. I'm thinking here of services such as ring-back tones, for example.

What is even more amazing about this growing industry is that consumers are—for the most part—not satisfied with today's mobile media experience. According to an MEF survey, two-thirds of users in the U.K. and the U.S. are not satisfied with their mobile entertainment experience. All players in the value chain need repeat customers to survive. However, delivering a substandard experience with little, if any, pricing transparency will achieve the opposite and result in one-off transactions and no repeat usage. "Mobile media" will remain a misnomer until we start seeing habitual usage for these kinds of services.

Nevertheless, 2007 saw services like mobile video maturing, with even the creation of a new user generated mobile video format in the

form of SeeMeTV. MMS got off to a slow start but has also started to ramp up in terms of usage as operators and infrastructure providers finally worked out the bugs to allow for full-fledged interoperability. In 2007, the MEF also recognized the founders of WAP - Chuck Parish, Alain Rossman, and Bruce Martin - for their outstanding individual contributions to the mobile entertainment industry.

Mobile users are starting to replace their MP3 players with their handsets and even - incredibly- download full tracks over the air! The number of users discovering music through their mobiles, by using services like Shazam, is increasing as well. All in all, things are not too gloomy.

Thanks to the pressure being applied by our friends at Apple, the traditional OEM community will deliver some very exciting handsets in 2008, which can only bolster the experience and deliver more rich media applications tied to music, video and games. The big questions in my mind for 2008? Will we finally see some usage of DVB-H and broadcast TV?

The mobile content market is four times larger than the user-paid Internet content market.



Will operators truly push for flat-rate plans to allow for “full” open mobile Internet? Will a new entrant - like an Amazon - into the mobile content space shake things up a bit? What we can be sure of is that things in this business always take longer than expected—and in most cases the business opportunity is also bigger!

There has been a flurry of activity in the industry related to a variety of content services and applications, ranging from gaming to music to mobile video to social networking. What sector has produced the most interesting initiatives? What is highest on your radar and why?

Most people would agree that social networking is quickly becoming an overused term with little understanding of its potential for mobile. The progression of social networking from online to mobile is inevitable and represents massive opportunities for all parties involved.

Connecting a mobile phone book with information on presence and mood—like that which lies at the core of online social networking site, Facebook—will result in more connected mobile communities. Users will have more control over when, where and how they communicate.

Operators have lost sight of these relationships in all their depth and complexity. If we are to consider the potential of mobile advertising for instance, it is this closeness that will allow operators to provide a level of service higher than that of their online counterparts, such as Yahoo, Google or Microsoft.

A surprising development is the proactive approach of handset makers such as Apple (iPhone) and Nokia (Ovi) and their move into services distribution. Observers note their strategies could collide head-on with the established position of mobile operators as the gateway to these services. What tensions will erupt and what outcome do you expect?

The tension is strong and increasingly palpable, particularly as the market realizes that there is very little it can do to increase mobile penetration and/or ARPU [average revenue per user]. Apple’s position is a unique one due to the ubiquity of iTunes and their dual position as a device manufacturer. This will be an area to watch in 2008 as the pressure from consumers for the Apple iPhone to become open source grows, and the Android operating platform sees its first applications launch. I wouldn’t be surprised if you continue to see the close collaboration between Apple and Google on this front, which will create a very powerful force for operators to reckon with.

Nokia’s initiatives, beyond Ovi and including their big push in to location information, music and advertising, make them a serious competitor to the mobile operators value added services strategy.

Although it would seem that operators will be getting the squeeze from both sides, we must also acknowledge that their ownership of the customer is not likely to change radically or quickly. As long as Google stays away from the spectrum auctions, the operators will continue to be the gatekeepers and be in the best position to determine how to monetize their mobile audiences.

Things in this business always take longer than expected—and in most cases the business opportunity is also bigger!



What is your opinion of the role of ad-funded services, offered by companies such as Blyk, and mobile advertising (display banners and in-game advertising) as a means to make content affordable for a wider user audience?

I applaud Blyk for its ambitious business model, and initial indications seem positive. However, the service relies on very specific parameters in order for it to be profitable. It has also launched with a “push” model as opposed to one that integrates the advertising impression into the service which is being used. My sense is that this model will have a hard time to work unless the advertising impression is delivered within the application or service so that users are aware of the benefit they are getting from the ad-impression.

Payforit, PayPal mobile, Google check-out. Mobile payment is evolving and the market is crowding. What outcomes do you expect? Will the mobile operator continue to dominate the billing relationship?

Mobile Internet will enable companies like PayPal and Google to handle transactions over mobile devices. However, the simplest way for a subscriber to pay for content is to have it added to their bill at the end of the month. This puts operators in a good position to retain control over payments for subscription customers.

For pay-as-you-go customers, who are likely to have less advanced handsets, mobile Internet will have less penetration, and so Premium SMS is the natural choice for transactions. It's also what people are used to—and we know how hard it is to change habits.

What are the key obstacles to mobile content development? Platform fragmentation that forces developers to customize content for a myriad of handsets? The rev-share demanded by mobile operators? High rates for mobile data? Poor usability?

Platform fragmentation, revenue share demands from operators and poor user experience are all potential barriers to content development. However, they all share one common source—data charges. If it costs me a lot of money to enjoy content, I will do it infrequently, if at all. Operators must then rely on my voice and SMS usage to earn money from me. If this is the case then, as these [services] continue to plateau, the hardware operators are willing to subsidize and offer me for free won't be the latest and most advanced. Without the latest handsets being offered freely, I will have a poor user experience with my older device and the bottom end of the market will continue to lag behind the majority. At the end of the day, democratization of good mobile content will remain a pipe dream.

Operators - still tender about the prices they paid for 3G licenses - will feel the need to charge handsomely for content received over those networks. However, if the industry is serious about bringing mobile content to the mass market, then a fresh look at the way in which the business model works is critical.

As long as Google stays away from the spectrum auctions, the operators will continue to be the gatekeepers.





WORK



THE EXTENDED ENTERPRISE

Enterprises may like to think they are part of a value chain, but in reality they are linked in a value Web where collaboration with other companies – even competitors —is crucial to success. In this new corporate ecosystem, strength is in numbers and only companies that have the right mix of communication technologies will move ahead.

This became crystal clear in 2007 when Web 2.0 communications, solutions and technologies that empower workers anywhere anytime to freely create, share and connect around content in all its forms broke on the scene. Their impact has been profound, as recent research from the Economist Intelligence Unit (EIU) illustrates. It defines Web 2.0 as the “network as the platform,” spanning all connected devices. Web 2.0 applications are those that make the most of this platform: delivering software as a continually updated service that gets better the more people use it. What’s more, this paradigm allows participants to consume and remix content and data from multiple sources, including individual users, while providing their own data and services in a form that allows remixing by others.

Recent research from the EIU shows that business is “going Web 2.0” at a breakneck speed, with 60 percent of 406 senior executives polled in 2007 reporting they see the sharing aspects of Web 2.0 as a revenue-creation opportunity. As one respondent noted: “Web 2.0 is no longer bleeding edge. Now it’s leading edge.” Going forward, companies expect Web 2.0 methods and tools, across all platforms and devices, to have the greatest impact on either the way their company interacts with customers (68 percent) or how employees interact with each other and the company (49 percent). But one figure stands out: A whopping 26 percent view their own IT departments as the weakest link and



the issue that most hinders them from taking advantage of Web 2.0.

The swiftly shifting nature of the competition brought about by the spread of the Internet and the rise of the mobile Web turns up the pressure on enterprise to enable workers to collaborate instantly. Put simply, enterprises must not only become mobile; they must create pervasive knowledge networks and virtual work spaces that encourage new levels of collaboration and productivity. Demanding remote workers, reared on PCs and a plethora of mobile devices, require workspaces that enhance their connectivity through ubiquitous and unified access to email, messaging, video conferencing and phone calls – fixed and mobile, voice and data – from anywhere to anyone.

Indeed, research shows the average company now provides workers upwards of six communication modes and methods. A typical employee uses 4.8 of those. The Yankee Group, a U.S. based management and technology consultancy, estimates that 40 percent of today's work force is considered mobile. It has also found that roughly 40 percent of enterprise telephony costs are mobile, and rising; 15-40 percent of mobile calls are made in-building, often within reach of a fixed line; and 10-25 percent of enterprise IT budget is spent on voice communication costs.

COME TOGETHER

Analysts and industry observers correctly identified 2007 as a pivotal year in the emerging Unified Communications (UC) market. A flurry of product releases and the firm commitment of market leaders such as Cisco, Siemens and Microsoft have firmly placed UC at the top of the telecoms agenda. But before mobile operators and managed services providers can achieve their business objectives, it is imperative to understand what UC is – and more importantly – what it is not.

40 percent of today's work force is considered mobile.

UC, which has evolved from the unified messaging proposition that originally supported such simple messaging applications as email, voice and fax, has grown to encompass more real-time capabilities such as presence management, conferencing, voice-over-IP, and voice services. New to the mix is a slew of communications capabilities made possible by improvements in speech recognition technology such as text-to-speech, which allows workers to listen to their text messages on the move; and speech-to-text, which lets workers speak their emails into their PDAs and have them delivered as text.

In October 2007, Microsoft unveiled its vision of UC when it took the wraps off its UC server, dubbed the Office Communication Server, and its UC client.



The combination was developed to take UC to a new level, embedding UC tools like instant messaging, conferencing, email, voice and presence into critical business applications, Microsoft says. In his keynote speech at VoiceCon Orlando in 2007, Jeff Raikes, president of Microsoft's business division, stressed that the end-game is about making communications the jet fuel for work instead of an interruption.

In principle, UC solutions increase optimization and decrease worker frustration. A recent survey – aptly entitled **Measuring the Pain: What Is Fragmented Communication Costing Your Enterprise?** – makes an attempt to quantify this frustration and the business costs of fragmented communications. The survey, conducted by independent Canadian research firm Insignia Research and commissioned by Siemens, polled 517 communications end-users across North America and Europe. In a nutshell, companies that maintain the status quo stand to lose a whopping \$13 million. The main money-eaters are lost productivity (due to workers waiting for information or failing to reach the right people at the right time) and expenses (due to increased travel to be sure all project team members are on the same page).

Against this backdrop, many in the industry maintain UC is the lifeblood of the connected company. There is a competitive need to streamline the flow of knowledge and information worker expertise throughout the organization, and UC provides a framework for accomplishing just that. In-Stat and Wainhouse Research have joined forces to publish an extensive two-part market report covering the whole of the UC services market. They estimate the entire UC communications products and services market at \$22.6 billion in 2007, growing to \$48.7 billion by 2012. Compound annual growth rate over the forecast period will be 13.7 percent.

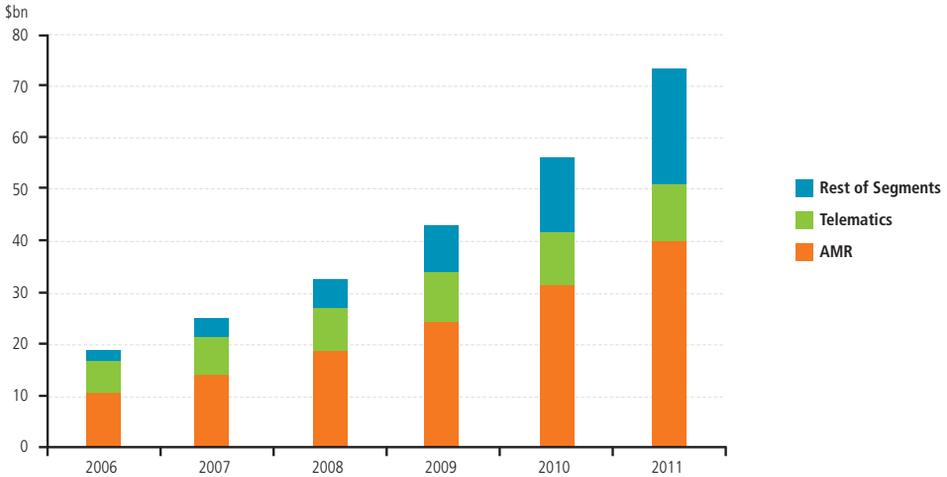
When will the marketplace see the full-force arrival of UC deployments? You, respondents to the Netsize survey, see progress starting in 2009. In fact it's a split down the middle, with 44.2 percent expecting deployments in 2009/2010 and 46.9 percent counting on real progress in the years that follow.

No matter when UC arrives, David Lemelin, In-Stat analyst, is certain the impact will be transformational. As he sees it: "The way in which individuals communicate and collaborate in the business setting has changed dramatically in the last few years, but we are just on the cusp of even more dramatic change. Employees will increasingly have intuitive tools that allow them to control communications and presence, while expanding their access to critical information." In his opinion the real break-through is presence. Workers can see and reach out to colleagues and co-workers at the critical moment when they need answers or assistance. This functionality paves the way for presence to become the dial tone of the 21st Century.



WIRELESS M2M MARKET SPLIT BY INDUSTRY SEGMENT (\$BN)

Source: Juniper Research



M2M REACHES A NEW PHASE

While UC is a catalyst for a shift in human-to-human communications, there are also interesting implications for human-to-machine and machine-to-machine (M2M) interactions. It is easy to imagine scenarios in which the combination of UC and M2M opportunity could improve – and even help reinvent – business processes, business intelligence and CRM systems.

Meanwhile, M2M as an industry exited the introductory stage of its lifecycle in 2006/2007, and is now entering a growth phase. According to a recent report from Juniper Research, the total world market for M2M will increase from \$20 billion in 2006 to over \$74 billion in 2011. This assumes annual growth rate of 30 percent, and the rollout of 3G and other forms of wireless transmission such as Wi-Fi to supplement 2G networks. Its forecast is split among the most popular M2M applications: automated meter reading (telemetry), and commercial tracking & telematics. It bundles other M2M applications [including point of sales (POS), surveillance & security, healthcare, insurance and manufacturing] together under Rest of Segments.

Juniper also estimates the global population of wireless M2M devices will grow from 35 million in 2006 to 250 million in 2011. This growth will be shared by all industry segments.

The number of M2M modules is expected to reach 500 million by 2010.



However, M2M research from European technology consultancy IDATE is even more bullish and predicts the M2M market will grow at an annual rate of 49 percent, to exceed €220 billion by the year 2010. The number of M2M modules is expected to reach 500 million by 2010. These modules will involve close to 2 billion machines and 100 billion communicating objects, mainly RFID tags, with pilots for tagging individual items beginning in 2009.

The spread of wireless technologies combined with the availability of low-cost embedded microprocessors, sensors and so-called “smart” RFID tags – labels that contain a computer chip and a minuscule antenna that transmits this information via a mobile network – allow companies unprecedented control over their key business processes, allowing new business models and benefits.

While its rate of growth in the coming years will vary from sector to sector, IDATE believes the most promising segments involve open supply chain management, particularly with RFID-based solutions, telemedical systems and energy management solutions, along with site or building management solutions. Certain industries are designing their own innovative services, like the automotive insurance business’s pay-as-you-drive system, new vending machine systems and preventive maintenance solutions for office equipment.

You, the respondents to the Netsize survey, gave your pick of the segments where you think it will be possible to make an M2M business case with positive ROI. Your top choices: POS (23.1 percent); Transport (20.2 percent); and Automated Meter Reading (11.9 percent).

Mobile operators and providers can also cash in on M2M, and are estimated to have made about \$2.5 billion in revenues from transmitting M2M data in 2006, a figure that is expected to rise to \$10 billion by end-2008, according to the U.S.-based research firm Focal Point Group.

More recent figures from IDC predict a particularly positive outlook for Western Europe – a market long hampered by lack of vendor push, poor solution implementations, and technical difficulties. Strong demand from the enterprise segment will grow Western Europe’s total M2M market – including services, software and hardware – from \$3 billion in 2005 to \$19.8 billion in 2010, IDC says. It estimates mobile data transmission and services will account for around 20 percent of the total market.

However, some observers warn the dominance of cellular modems is holding back the M2M market, burdening customer companies with high transmission costs. According to EZURiO, a designer of modules and wireless device servers for M2M and OEM applications, the M2M industry also “needs to open its eyes to the opportunities that are offered by short-range, cellular-free wireless



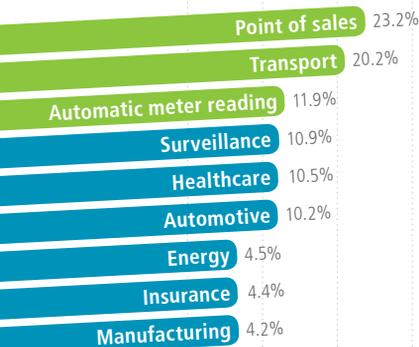
standards like Wi-Fi, ZigBee and Wibree if the industry is to grow from its current base of low tens of millions to the tens of billions of machines that are open for connectivity.”

But M2M is not only a business-to-business play. Some companies are also investigating ways to use always-aware sensors and networks to enable more creative mobile marketing approaches and target mobile users with advertising linked to their location or buying intent – such as presenting a special offer in a supermarket aisle or streaming a music clip to consumers in line for a new-release CD.

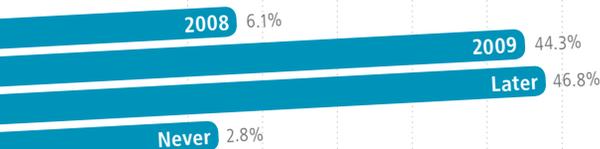


NETSIZE SURVEY RESULTS

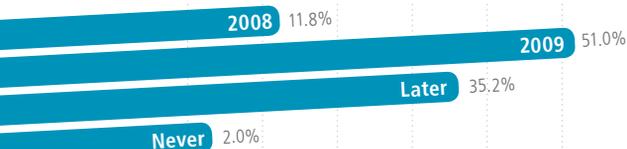
Which are the 3 sectors where you think it will be possible to make an M2M business case with positive ROI?



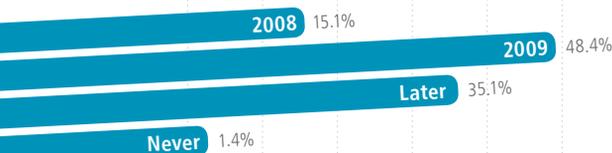
Will Unified Communications (UC), allowing remote workers to communicate and collaborate more effectively, be widely deployed in:



Will the ability to manage presence, allowing workers to reach colleagues across a wide variety of communications in real-time, become a reality in:



Will productivity tools for the enterprise go beyond push email and laptops in:



* About the survey, please refer to pages 13-14

0 10 20 30 40 50 60 70 80



At this stage, data bundles are so excessively high that any remote access to corporate files/data is a cash burner, not an incentive to explore.

Bob Sorensen, Sorensen Consulting, Toronto, Canada

The social problems of tracking people via built in GPS will be the biggest issue to the growth of this area.

Robert Hurst, MailAgent Limited, United Kingdom

Some countries in Africa have established M2M business, and the reason is they didn't need to replace any existing structure. Changes take time, and social and infrastructure changes take much more time.

Olafur Andri Ragnarsson, Reykjavik University, Reykjavik, Iceland

The mobile workforce, beyond email and laptops, is only a reality in very small pockets of the world of work.

Pelle Larsen, 3 UK Ltd, London, United Kingdom

Push email, the first 'killer' application of the wireless revolution, has provided white collar executives with the added control and instant gratification that they had been looking for.

Richard Paul, Retriever Communications, London, United Kingdom



Creating Competitive Advantage With M2M

Robin Duke-Woolley , Principal, Harbor Research Inc



Today's mobile paradigm, focused on person-to-person communication, has hit diminishing returns. It's too limited, saturated and expensive for growth. Some clever operators are gearing up to take advantage of a much larger growth opportunity: connecting inanimate objects in a ubiquitous "Internet of Things." While there are six billion potential mobile phone users in the world, bullish estimates put the number of machines that could be wirelessly connected at about 50 billion, with some analysts going as far as saying 500 billion. There is no doubt that there is a huge market opportunity in providing machine-to-machine (M2M) communication and enabling machines to talk to each other and the people managing them. But where is the money and where is the growth? Robin Duke-Woolley – a Principal of Harbor Research Inc., who directs the firm's research business worldwide from London – identifies new M2M service opportunities and discusses the surprising results of his company's recent survey of product manufacturers. Harbor Research is the only research and consulting organization focused exclusively on the impact of M2M on global business.

The overall M2M market encompasses an extraordinarily broad range of applications, using an increasingly wide choice of fixed line and wireless technologies to remotely connect devices and machines. Within this, M2M applications can be categorized in several different ways – for example, by the technology type used to connect the remote devices or by the industry sector in which the solutions are deployed. To cut through any confusion, Harbor Research has come up with an easy alternative. We have divided M2M applications into three categories according to the drivers that are impacting market growth: After-market, Regulatory and Line Fit. But we don't only debut this new way of looking at the market; we have also conducted a survey to establish which trends matter.

After-market includes traditional telemetry applications that were the original low-hanging fruit for M2M – typically moving local

telemetry to more standardized, wide area connectivity via the Internet. These applications are by definition retrofits – adding connectivity to products already manufactured and installed. As such, they tend to be relatively low volumes per application, short design cycle and medium to high cost per unit. Break-even point and ROI are important considerations for these applications and, as M2M solution costs have declined over time, this application has become more financially viable and widespread.

Regulatory, as the name implies, is created by the introduction of new regulations usually associated with particular applications. Road pricing and congestion charging are topical examples, as are AMR (Automated Meter Reading) metering applications in a growing number of markets. These tend to be nationally based, have lengthy gestation periods and design cycles, and are often subject to public tendering processes especially if driven by



central or local government. Connectivity is usually (but not necessarily) designed-in during manufacture, so that unit costs are kept low with high initial volumes until the base has been covered. Overall, Regulatory applications are very specific and only apply to particular market sectors.

The third category – Line Fit applications – is driven by new service opportunities around remote devices; opportunities often times created by the product manufacturers themselves, either on their own or in concert with partners to provide a complete ecosystem. Connectivity in this case is designed-in to minimize unit costs for high volumes. Since Line-Fit applications can apply to almost any product in any sector, the opportunities are broad and the outlook positive.

In early years, market growth was driven mainly by the After-market and – to a lesser extent – Regulatory categories. Because of the inherent volatility of the early After-market applications, forecast growth was often either significantly over-estimated or under-estimated by industry observers. However, this is changing. The After-market category has matured and the Regulatory category is in a growth phase, boosted by growing concerns for energy conservation, the environment and food supplies.

It's the Line Fit applications now being deployed that are taking center stage. Until recently this category was viewed as a late-comer, slow to take advantage of M2M. To track this development, Harbor Research conducted a sponsored survey of product managers during the second half of 2007, the results of which are available for free download on the Harbor Research website. The survey aimed to

establish how well-advanced product manufacturers are in this market and how significantly they view the opportunities to network their products.

The results were surprising. Among the 250+ respondents from all regions worldwide, 50 percent reported they already have product lines in the field being monitored. More significantly, most of them recognize the strategic importance of M2M device networking to their business. They are also well aware of the new revenue opportunities M2M represents as a driver of additional services and determinant of competitive advantage.

In view of these business benefits, most of the survey respondents said they are already engaged in development programs to extend networking capability across their other product lines. And these results were not limited to just one or two industry sectors either. Significant activity marked a range of industry sectors, including Buildings, IT/Data Networks, Healthcare/Life Sciences, Transportation, and Energy/Power. Respondents are also taking advantage of a wide range of connectivity options and access technologies, moving beyond fixed and mobile to include short-range technologies such as ZigBee, "smart" technologies such as RFID, and broadcast technologies such as satellite.

Drawing from this survey, and other recent research, it's clear that Line Fit is fast gaining traction. Moving forward, we expect Line Fit will most likely outrun both of the other categories combined, in terms of sustainable market volumes. This is because there are opportunities in all the key product sectors and the numbers involved for embedded communications are the full manufactured volumes



rather than a small proportion of the installed base. These trends are reflected in our M2M forecasts for 2008 – to be published shortly – which show that the underlying trend for M2M applications across all sectors and all technologies is set for more rapid growth over the next 5 years.

This speaks volumes about the position and importance of M2M, particularly in the cellular M2M market. Clearly, M2M is becoming more strategic for an increasing number of organizations. As an After-market application, M2M tends to have more significance for operational activities at a tactical level. As a Regulatory application, M2M is typically implemented as one service required to be used across a national market. However, as a Line Fit application, its significance is much broader and potentially game-changing for the product manufacturer as it offers the opportunity to introduce a developing range of support services.

This is focusing the minds of product manufacturers in this category on exactly what type of connection to use for their products, and the support resources required to deliver results. In the mobile space, this means product manufacturers that embed access into their products have sharpened their focus on making sure their products can be easily connected – no matter where they are deployed. This focus isn't limited to ensuring low cost,

reliable international coverage; it also means - where feasible- building the product from the ground-up to connect in a network. Put simply, connectivity - including the SIM – is built into the product during manufacture for activation at a later date when the product is installed in a remote location.

Cellular operators have largely recognized that M2M applications require substantially different tariffs compared with traditional voice applications. But understanding the challenge is no longer enough; they must act now to enable the full potential of M2M on their networks.

Its significance is much broader and potentially game-changing for the product manufacturer as it offers the opportunity to introduce a developing range of support services.







LISTEN



MUSIC FOR THE MASSES

The gauntlets hit the ground in 2007 as companies up and down the value chain started facing off against each other in the mobile music arena and hatched plans to sell music as more of a service rather than a product. Against this backdrop, the lines between content provisioning and content delivery became blurred as companies – even operators – rethought their strategies to sell and distribute music. Richard Wheeler, head of music partnerships at Orange in the U.K., put it best when he openly admitted in a press interview that the mobile operator no longer harbored ambitions to become a mobile music store. “We don’t see ourselves as a music retailer,” he said. “We are a music distributor.”

This new paradigm ran like a leit motif through a raft of milestone announcements that marked the mobile music industry space in 2007. Handset maker Nokia reshuffled the cards when it successfully reinvented itself as a services provider, launching Ovi, its new umbrella brand for a broad offer of online and mobile services including music. In line with this new strategy, Nokia took the wraps of the Nokia Music Store, a destination offering millions of tracks for download to a PC or directly to a compatible Nokia device for €1.00 (\$1.36). The offer, read as a strong bid to be the iTunes of the mobile music market, is tightly connected with Nokia devices, allowing easy access via a Nokia Music Store icon on the Nokia N81 and Nokia N95 models.

A game-changer was Nokia’s tie-up with European hotspot operator The Cloud, which signed up to offer free Wi-Fi connection to the Nokia Music Store from The Cloud access points. Overall, the Nokia Music Stores has its supporters, but not all labels are enthusiastic. Warner Music Group promptly pulled its music content saying it is worried that Nokia’s social networking site Mosh will enable users to illegally share Warner music content.



In December 2007, Nokia announced its Comes With Music platform, an approach to mobile music retail that flies in the face of all models to this point - including its own music store scheme. In a nutshell, the platform enables consumers to buy a Nokia device with a year of unlimited access to millions of tracks. Once the year is complete, users can keep all their music without having to worry about it disappearing when their subscription is over. Rival offers stop users from listening to the music they have accumulated once their subscription ends. Universal Music Group (UMG) is the first major label to launch with the service. At press time for this guide, Nokia said it was in discussions with the remaining major music labels.

In a bid to counter moves by Nokia, Sony Ericsson announced its own plans to launch a mobile music store in the second quarter of 2008. To this end it signed up the big five labels: Sony, BMG, Universal Music Group, EMI and Warner Music Group. To a lesser extent, Motorola also announced its plans to jump on the music services bandwagon.

The other handset manufacturer to mark out its turf in 2007 was Apple with the release of its iPhone, a coveted mobile device that sold an incredible 150,000 units in the U.S. the first day it went on sale. By the end of its financial year it had sold roughly 1.67 million iPhones. More impressive than its sales though is its boldness in imposing a sales model on Tier-One mobile operators that obliges them to pay a percentage of the revenues they generate to Apple.

After selling a whopping 2 billion songs via iTunes, with over one billion sold in 2006, the outlook in 2008 is positive for Apple to reign supreme as the global leader in digital downloads. However, Apple's modus operandi meets with mixed response as many industry observers charge the tight integration between Apple's iPhone and retail scheme represent a return to the walled garden when the rest of the industry is pursuing a more open approach.

Meanwhile, another aspect of the iPhone device captures the industry's attention and imagination: the capability that allows consumers to create iPhone ringtones from over 500,000 songs on the iTunes Store. What's more, users can edit, loop, fade in and out, preview and play around with their ringtones until they like the results. Each ringtone costs \$0.99 plus the cost of the song. Does the Apple's ringtone service set the bar? When asked what this service represents, you, the Netsize survey respondents, have distinct views. While 20.7 percent of respondents enthusiastically hail the service as a "catalyst for user-generated music," 79.2 percent regard it as "just a nice way to propose a product."

Apple's iPhone and retail scheme represent a return to the walled garden when the rest of the industry is pursuing a more open approach.



Ringtones will not disappear; they will evolve.

Apple's focus on ringtones can also be read as a clear sign that mobile music will continue to adapt to industry trends such as the rise of user-generated content and the advance of empowered consumers eager to co-create the content they consume. Put another way, ringtones will not disappear; they will evolve – and Apple's approach shows one direction this could take.

While handset makers make the headlines, a new service from technology company Omnicore pits itself squarely against Apple's iPhone, in a mobile music showdown. The service, dubbed Music Station, is a subscription-based service that enables users to download an unlimited amount of music over-the-air for GBP2 (US\$3.90) a week, with no data costs. It secures the backing of the major labels and a Who's Who of major mobile operators including Vodafone, Telenor, Vodacom and 3. Omnicore partners with operators, bringing them into its value chain on a pro rata basis, along with record labels and collections agencies.

RINGING IN REVENUES

In 2007, mobile music, a core mobile content offering around the globe, entered into a new phase of development, moving beyond the usual mix of ringtones and realtones to encompass full track downloads (FTDs) and other music-related content. The avalanche of content not only meant more choice for consumers; it has opened up the door for existing mobile content providers and established Internet players to promote and sell music content across platforms and devices. While this new converged music content meets user demand for portable content on their terms, it also changes the competitive landscape. Music shifts from a product to a service, and new offers and bundles are the rage.

But not all mobile music products share the same growth trajectory. Ringback tones, fun and personalized ringtones that can only be heard by the person calling the subscriber, continue their stellar growth in Asia, where they originated. The Recording Industry Association of Japan notes that ringback tones currently account for 2.8 billion yen (\$23.7 million), or roughly 9 percent of the country's total mobile music market. The real eye opener: ringback tones are the industry's fastest growing segment, and have stolen the lead even on FTDs. Overall volume more than doubled in 2007 over 2006. Meanwhile, figures released by Malaysia's three mobile operators —Maxis, Celcom and DiGi—show their combined ringback tone subscriber base has reached 4.3 million people. Each subscriber pays RM3 (US\$0.88) per month as a subscription fee for the service. The money generated by this service

New converged music content meets user demand for portable content on their terms, it also changes the competitive landscape.



alone tops the total sales of music – digital and physical – reported by the major labels in that country for the whole of 2006.

Ringback tones also enjoy wide availability and popularity in Europe and North America. In the U.S., the performing rights organization Broadcast Music, Inc (BMI) points out that the demand for ringback tones, which it estimates at around \$65 million in 2007, offsets the dip in ringtone revenue. The U.S. ringtone market fell by \$50 million in 2007, down to \$550 million in retail sales.

Unlike other forms of mobile music content such as ringtones, ringback tones are impossible to create, duplicate.

And ringback tones are also high-flyers for another reason. Unlike other forms of mobile music content such as ringtones, ringback tones are impossible to create, duplicate or imitate. This is welcome news for an industry that has seen piracy and outright theft siphon its revenues away. Mobile operators are upbeat about them because – for the moment – the sale of ringback tones is conducted on-portal. The reason for this is the mobile operator controls the retail of this relatively new content item and is the only player in a position to integrate the purchased ringback tone into the network where it can be triggered by an incoming call. However, direct-to-consumer (D2C) content providers will soon have reason to celebrate. While mobile operators may control the customers, they will soon need help to serve them and it's only a matter of time before mobile operators open up and let D2C retailers do what they do best: sell content. When this shift happens – it will grow the pie for everyone. No one will need to eat anyone else's lunch – everyone will have a hearty portion for themselves.

Meanwhile, the outlook for the OTA music download market is mixed. Despite strong demand for single songs, content pricing, the overall cost of music acquisition and the cost of dual downloading prevent the market from achieving its full potential. In fact, U.K.-based consultancy Juniper Research warns the mobile market is in for a tough time unless it works out the increasingly complex value chain and finally recognizes the cost of delivery in its revenue share demands.

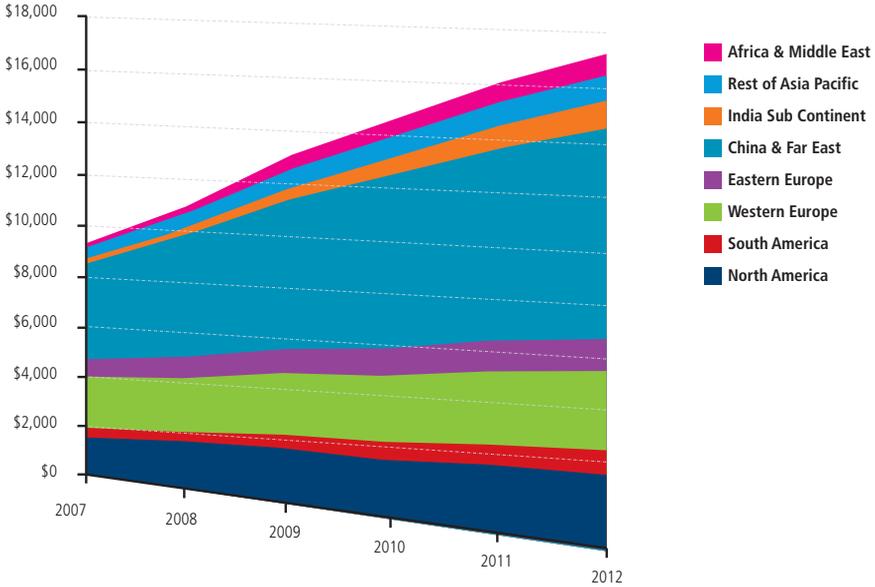
Juniper estimates the total cumulative revenues from 2006 to 2011 from mobile music services, which includes ringtones, ringback tones and OTA FTDs at \$62 billion. The breakdown puts ringtones at the top of the list with 62 percent, followed by 15 percent from ringback tones, 14 percent from OTA full track downloads and 9 percent from streamed music services. Of the total revenues, just over 40 percent will come from the Asia Pacific region, 31 percent from Europe and 16 percent from North America.

While Juniper is upbeat about ringtones and reckons they will account for



TOTAL END-USER GENERATED REVENUES FROM MOBILE MUSIC REGIONAL FORECAST (\$M) 2007-2012

Source: Juniper Research



the lion's share of mobile music revenues, other predictions are not so rosy. Figures from M:Metrics, a company that measures mobile content consumption, reveal that the number of consumers downloading ringtones in Britain, France, Germany, Spain and Italy is on the decline. Specifically, the percentage of subscribers buying a ringtone dropped to a low of 3.4 percent per month in Britain in October 2007. In the U.S it was 9.3 percent, higher than the 9 percent of October 2006 but below its January 2007 peak of 10 percent.

In an effort to make up for flat ringtone sales, major players including News Corp's Jamba and French mobile music services provider Musiwave refocused their businesses on enabling sideloading, and leading U.K. mobile operators stockpiled content to offset the slowdown.

Nonetheless, you, the respondents to the Netsize survey, are bullish about the future of ringtones in the mobile music content mix. While 37.7 percent of you believe ringtones will "progressively disappear," 62.3 percent are confident the ringtone is a "specific product here to stay."



FOLLOW THE LEADER

Despite competition from digital music players and rampant disappointment in ringtones, Gartner forecasts a positive future for mobile music, boosted by consumers' desire to personalize their devices – a craze just spreading across Asia after leaving its indelible mark on European and North American markets – and an increasing demand for entertainment on the move. But do these drivers play in the favor of mobile operators or record labels? Granted, operators have a strategic advantage when it comes to delivering services, but they also risk losing their edge to other players in the value chain – notably record labels, handset vendors and solutions providers. Moreover, many mobile operators are painfully aware that they simply lack the cool factor necessary to sell music successfully. By its own admission, Swisscom recently chose to brand its full track download service as Napster, reasoning that its own brand stands for good and reliable access but not for music content.

So where do operators fit in? Analysis from Gartner suggests the only ace left in the operator's hand may be the billing relationship. What's more, close ties with the customer allow mobile operators to monitor the important clues users leave about their preferences, such as download history, click behavior and mobile search patterns, to recommend music content users will appreciate and hopefully purchase.

Against this backdrop, major labels made huge progress in their off-portal strategies, launching destinations allowing them to by-pass the mobile operators and sell music direct-to-consumer (D2C). In the U.K., Universal partnered with Groove Mobile to build an off-portal music store allowing users to access full track music downloads from the label's catalogue via SMS short codes; in France, Vivendi set up Vivendi Mobile Entertainment and outlined plans to develop the portal as a paid-for service offering music, video, movies and other downloadable mobile content; and in Japan, EMI launched a mobile download site on NTT DoCoMo's i-mode service enabling users to purchase ringtones, full track downloads and other mobile music products either a la carte or via subscription. And the list goes on...

Who will take the lead in the distribution of mobile music content? You, the respondents to the Netsize survey, side with the record labels and established music retailers (48.4 percent), followed by the mobile operators (23.9 percent), device manufacturers (14.8 percent), and other parties (12.8 percent).

SIDELOADING MAKES SENSE

The increasing popularity of sideloading music content onto mobile phones is also bound to cause problems for mobile operators keen to sell their own content.



MOBILE MUSIC CONSUMPTION COMPARISON: JANUARY 2007

% of Mobile Subscribers	USA	UK	DE	FR	ES	IT
Listened to sideloaded music	2.9%	12.2%	8.4%	4.4%	8.8%	10.0%
Downloaded new songs from carrier music store	0.7%	2.7%	0.5%	0.5%	2.4%	1.3%

Source: M:Metrics, inc., Copyright © 2006.

This is the conclusion of recent research from iSuppli, which argues sideloading will increase as more handsets have common interfaces such as USB and Bluetooth. iSuppli estimates 764 million handsets shipped in 2010 will have USB connectivity and Bluetooth, WLAN and NFC (Near Field Communications).

But some clever mobile operators turn a potential problem into an opportunity, introducing multi-platform schemes that actually encourage sideloading in the hopes the service will become sticky and ultimately reverse churn. In the U.S., Alltel’s sideloading music application lets customers buy from online store eMusic and easily transfer the music to handsets; AT&T partners with digital music retailers Napster, Yahoo Music and eMusic to enable customers to sideload music they had purchased or rented through their PC to select handsets; and Verizon unveils a new, free application designed to make it easier for Vcast Music subscribers to manage their libraries on their PCs and mobiles.

M:Metrics research bears out the trend, showing that sideloading is much more prevalent than downloading. In the U.K., for example, 12 percent of subscribers sideload music, while fewer than 3% download songs from a carrier (see fig.). And in Italy - which has the second-highest mobile broadband penetration in the world, after Japan - 10 percent say they sideload tracks, but just 1.3 percent get them directly over the wireless network.

M:Metrics analyst Jen Wu put the results down to the fact that sideloading effectively overcomes the two main barriers to mobile music adoption: accessibility and fair value. “The prevalence of sideloading, largely shaped by current usage and understanding of digital music players, shows that the perceived value in music phones is still in the ability to make one’s personal music collection portable, as opposed to a new acquisition point for music,” Wu said in a press statement.

Perceived value in music phones is still in the ability to make one’s personal music collection portable, as opposed to a new acquisition point for music.

Put another way, just because users have music-enabled phones doesn’t necessarily mean they are using them to listen to music. You, the respondents to the Netsize survey, also doubt whether the fit between mobile music and



music-enabled devices is a perfect one after all. In response to the question: “Will the mobile device become merely a remote control means to access music stored elsewhere or will it boost music sales by providing users the means to buy the music they like on impulse?” you were split down the middle with 51.7 percent answering it would be a means to buy music and 48.3 percent convinced it would serve as a remote control means to access music.

THE LONG TAIL OF MUSIC CONTENT

Moving forward, the mobile music industry has to rethink its business models and deliver new services to make up for the lack of consumer demand for full track downloads (FTDs). Contrary to the commonly held view in the industry that users are willing to pay more for content downloads on mobile than on the Internet, sales are slow and revenues dismal.

The premium charged for mobile downloads could be one factor dampening the enthusiasm for FTDs on phones. Another factor could be a lack of interoperability, which is preventing users from transferring music downloaded to their phones to other devices, such as dedicated music players and PCs.

No matter the obstacles to FTDs, some industry observers argue the way to make profits is to add value to mobile music services by allowing users to tag music they like or collect and store music on their terms. Indeed, consumers are beginning to demand much more from mobile music services and are no longer happy with the usual mainstream fare. According to market research firm GFK, in mid-2007 about 70 percent of FTDs were from the top-20 chart, but by November 2007 that number had dropped significantly revealing a trend to downloading tracks from outside the chart.

How to tap the **long tail** of hit-and-miss mobile music content is just one of the issues the industry will have to grapple with over the next months. The industry will also have to develop an ad-funded approach to music delivery and retail that works for all members of the value chain. For example, if mobile music revenues come wholly or partially from advertising, then the question of how much in royalties should be paid and to whom becomes vastly more complicated. The good news: users seem to accept ad-funded pitches in return for free music content. A survey conducted by Arbitron and Telephia of over 2,000 mobile users in the U.S. found the majority of users actually prefer an ad-supported model.

But the biggest challenge may be the advance of Internet giants into a turf that was largely the territory of mobile-only players and major cross-platform D2C content providers such as Jamba, Lanetro Zed and Cellfish. In October 2007, Amazon broke on the scene with a public beta of its Amazon MP3



music-download store offering what the company is calling “the Earth’s biggest selection of a la carte DRM-free music downloads”. The impact of this online retailer is likely to be quite significant. The offering comprises two million songs without any digital protection, enabling users to listen to songs downloaded from the site on any device. Most songs are sold for \$0.89 or \$0.99, while albums cost between \$5.99 and \$9.99.

Not to be outdone, retail giant Wal-Mart launched Wal-Mart Mobile – an online store —and a WAP portal to sell mobile content through a partnership with mobile media firm Playphone. The move is part of a bigger Wal-Mart strategy to promote music sales in its brick-and-mortar stores and its online properties. The impact isn’t clear, but it is obvious the mobile music space is hotting up.





NETSIZE SURVEY RESULTS

Is Apple's iTunes ringtone:



Concerning ringtones, what do you think?



According to you, who will lead the mobile music distribution?



Will the mobile device become merely a remote control means to access music stored elsewhere or will it boost music sales by providing users the means to buy the music they like on impulse?



* About the survey, please refer to pages 13-14



Nothing beats a real file on a real CD. Subscription models may sound fine and dandy, but at the end of the day when you unsubscribe you lose your music.

Guido Brockmann, emobilo, Hoeilaart, Belgium

The music industry and distribution networks will be dragged kicking and screaming to face up to the issues presented by P2P file sharing networks. These can never be defeated, and can only be worked with. It is possible that a much more direct connection will exist between artists and music buyers, and that the middlemen of the industry will wither away.

Alex Kerr, PhoneThing Ltd, London, United Kingdom

The ultimate features are instant benefits: Fueling up your car and your mobile music in your car, for example.

Michael Boevink, IMCI, Voorburg, The Netherlands

I think the key is instant, impulsive access. If the price of a song is now the same as a candy bar, then the marketing approach is clear. And what needs to be done is to make the purchase as simple and seamless as possible...

John Lambie, Bates Asia, Singapore



New Models Change Old Habits

Guillaume Decugis, VP, Musiwave



Musiwave provides mobile music entertainment services to over 30 mobile operators across 25 countries, and powers more than 20 full-track mobile music services. The company's close relationships with music labels, device makers and mobile operators have allowed it to do more than deliver music. Its sharp focus on personalization has enabled users to create music channels, an approach that also helps operators attract and retain listeners. In 2007, Musiwave was acquired by Microsoft to complement its Connected Entertainment technologies and services including Windows Mobile, Zune, MSN and Windows Live. Guillaume Decugis, VP, Musiwave, looks at music distribution, discovery and new business models sure to "rock" the industry in 2008.

What single development impacted mobile music most in 2007?

I think a lot of people will say iPhone was the key announcement in 2007. It has had a positive impact on people's perceptions of what they can do with music and the experiences that can be enhanced by mobile music. I personally believe the device is more of a browsing device than a really good music phone, but it has nonetheless generated a lot of interest and buzz – and that is why it was the topic in 2007.

The iPhone may have created a lot of hype, but it also highlighted the importance of the device and of leveraging device features to deliver great results. Many may argue that the content alone matters, but I would counter that the device and the content are a package deal. We have data that shows that when devices are optimized for mobile music they perform better regardless of the operator [delivering them], the geography and the content available.

Describe how users will access and consume mobile music in the next 6-12 months. How will that change and who will take the lead in facilitating this change?

First, I am a firm believer that full-track music downloads are far from having peaked or having reached their potential. We have compared the numbers with our operator customers and generally find that one out of three or one out of four 3G subscribers has downloaded [full-track] music. The fundamental issue we face as an industry is how to grow that and also encourage users to come back and buy more.

And this brings us to the user experience and making it easy for consumers to discover music content. To this end, we released our Music Discovery Engine. Having that [Java] application on the phone as part of our overall music discovery strategy has led to more repeat users because they can find music they like – and more of it. But even though this is a great experience, it's a standalone experience and users want integrated experiences that connect mobile and the PC, for example. They want to do things like sideload tracks or playlists, they want to be able to search and discover music

It's all about offering users a more consistent experience and, above all, one that bridges the mobile and the PC.



on both platforms and they want to organize music on their PC and access it on their mobile phones. It's all about offering users a more consistent experience and, above all, one that bridges the mobile and the PC.

How should business models then adapt and evolve to support user preferences for a more seamless experience?

They need to be much more flexible and imaginative than the ones we have now. . . . Where this is taking the industry is to a model where we put all the music in the world in a network, or some place in a cloud, and then charge users a monthly access fee to listen in. We also provide them some great tools to navigate through the music, discover new content and organize what they like the way they like it. That's much more valuable to the user than a pay-per-track model, but it is also a bit further off in the future.

Right now, at the end of the day, the subscription model makes the most sense, but we also need to make sure we can identify the consumers using it and so offer them seamless access and an easy way to renew it. We also need to bundle music access with other services. We recently launched a service with [French mobile operator] SFR that combines the music service subscription with the overall cost of the voice and data plan. It's an all-inclusive plan that gives users voice, data, unlimited music access and other content. It's a new model that I'm sure we'll see more of in the next year.

Who will lead the mobile music distribution? Labels & retailers, wireless operators, device manufacturers?

It's not about leading; it's about enabling. Many have predicted the death of the music labels, for instance, but we won't see that happen because there is a need in the value chain for companies to discover new talents

Whether music labels can be distributors is an open question, but I think it stretches them too far.

and bring these to the rest of the world. Music labels do this well. Mobile operators can obviously be a group of distributors, but other companies could also be distributors. Whether music labels can be distributors is an open question, but I think it stretches them too far. Device manufactures play a role too, but the market is fragmented and there are no clear winners who can lead the way. I am not convinced Apple can get 70 percent market share, and the same goes for Nokia. So there is huge complexity to address there. Right now, not one of these players feels it is not their job to lead music distribution.

But what is central is the user experience. Labels can distribute music, but they can't fundamentally change how users experience music. That is a service that mobile operators are positioning themselves to offer and they are looking to companies like ours to make this possible.

What is your role here as Musiwave and how will this likely evolve as a result of the Microsoft acquisition?

Our role has been to deliver a much improved user experience that makes it easy and simple for users to navigate, discover, browse and organize music content. However, we recognize that once users download content the management of that content on a mobile device is not as cool as it is on a PC. These worlds need to be brought together. With Microsoft we can channel more resources and more good ideas towards delivering a seamless user experience that achieves this and much more.





PLAY



THE GAMES PEOPLE PLAY

Mobile games, once the darling of the mobile content industry, fell from their top-notch position in 2007 amid claims that audience growth for downloaded mobile games had stagnated. M:Metrics, an authority in the measurement of consumer consumption of mobile content and applications, found that pricing, choice and lack of interest were the top reasons cited by players of downloaded games in the U.S., U.K. and Germany for not buying more games. Research from iSuppli also picked up on a slowdown in the games market. It reported worldwide mobile games revenues declined by 9 percent sequentially in the second quarter of 2007, compared to an 11 percent growth sequentially in the first quarter.

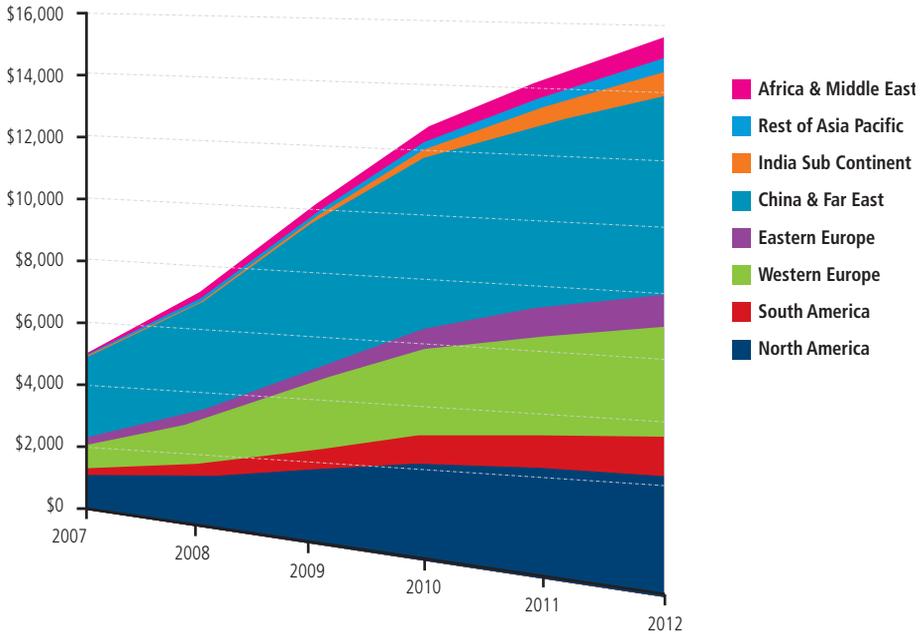
However, the same research from iSuppli stressed mobile games sales are poised to benefit from innovation around features such as mobility, connectivity, community and location. This jives with what you, our Netsize survey respondents, tell us. You see a bright future for location and multiplayer games accessed via 2G and 3G networks (40.3 percent), and Wi-Fi (49.5 percent). Against this backdrop, iSuppli expects mobile gaming revenue to nearly triple by 2011 to \$6.623 billion, up from \$2.854 billion in 2007.

The prediction is rather conservative compared to new figures from Juniper Research. It estimates that end-user generated revenues for both one time downloads and subscriptions/rentals of mobile games hit \$5 billion in 2007, a figure set to rise to nearly \$16 billion by 2012. The largest regional market will be China & the Far East.



TOTAL END-USER GENERATED REVENUES (\$M) FROM MOBILE GAMES (ONE TIME DOWNLOADS AND SUBSCRIPTIONS). REGIONAL FORECAST 2007-2012

Source: Juniper Research



BUSINESS MODELS THAT MATTER

While the jury may be out on the size and potential of the mobile games market, there is a clear consensus that more mobile games publishers are jumping on the D2C bandwagon. Games publisher Gameloft, for example, has adopted a pure retailing approach, launching a WAP site to sell games directly, using Premium SMS or Premium WAP payment mechanisms. Meanwhile, Digital Chocolate chose a hybrid approach promoting its Cafe WAP site, where consumers can read information about games, get hints and tips and also download free demos and the full games, but are then directed to a destination within the operator portal. Disney Mobile opted for another strategy with its “community portals” – WAP sites accessed from within games that offer high-score tables, hints and free wallpaper and ring-tone downloads. The publisher launched the offer as a bid to boost the life span and popularity of its games offer.

Can mobile publishers develop the capabilities necessary to become successful D2C games retailers?



Unlike the console space, porting costs associated with mobile can be as much as an incredible 50 percent of the total development costs.

Which begs the question: Can mobile publishers develop the capabilities necessary to become successful D2C games retailers? You, respondents to the Netsize survey, are bullish on this issue, with 64.6 percent upbeat on this business model and see it as a complement to the exposure that publishers gain through prominent placement on the operator portal. To date sales via the operator portal accounts for the lion's share of publishers' revenues.

While mobile publishers may appear to be well-positioned to take charge of their commercial futures, they nonetheless face significant challenges as they make the move into the mass market. For one, most publishers have never sold their products direct-to-consumer before and will have to be extremely fast on their feet to close this important know-how gap. Publishers will also need to focus their merchandizing efforts more concretely on gaining a top-notch position in carrier decks as well as handset preload decks, and wring every drop of value out of such as proactive strategy.

At the same time publishers will have to grapple with issues and difficulties inherent in doing business in the games space, such as managing the high porting costs that result when publishers must develop and optimize many versions of their product to run properly on the abundant and confusing variety of basic mobile phones, full-feature smartphones and portable devices. Unlike the console space, porting costs associated with mobile can be as much as an incredible 50 percent of the total development costs. That can translate into as much as \$1,000 per handset model to ensure the game works and delivers a satisfactory end-user experience. Put simply, games publishers have to do a lot of heavy lifting and work hard to understand the specs of new mobile phones and devices. Keeping current is a mammoth task, but a critical one if publishers want to be confident that their game can play on them.

At the other end of the spectrum, handset vendor Nokia breaks the mould and takes the wraps off plans for a revamped next-generation N-Gage that promises to take games retail to a new level. By moving the focus from the device to a service, Nokia tries to take the pain out of finding and buying games for mobile devices. Options include try-before-you-buy, rental, pay-for-play and subscription models, as well as mechanisms to make games available to consumers via OTA downloads, downloads onto PCs, or even pre-loaded content on select devices. Nokia reveals it is in talks with all of Europe's major operators about marketing games and services for the forthcoming revamped version of its N-Gage alongside their own games offerings, and tie ups with



publishers - including EA, Gameloft, THQ Wireless and Glu Mobile - to establish a raft of strong content.

As Jaakko Kaidesoja, Director of Play New Experience Multimedia at Nokia, points out: “Nokia is not aiming to be the sole distributor

and seller of N-Gage games. We would rather open up a system to encourage more retailers and distributors to get involved, because it adds choice and value for consumers. The mechanisms are in place to link the purchase transaction to Electronic Arts’ own game store, for example, or to the Nokia store, or to any company that wants to become an N-Gage retailer. The aim is to create an ecosystem.”

Puzzle games accounted for more than half of all releases from game publishers.

GAMEPLAY FOR THE MASSES

A message that comes across loud and clear is the perfect fit between mobile and casual games. Research from global consultancy Informa Telecoms & Media finds puzzle games, along with action games, accounted for more than half of all releases from game publishers in 2H07, with sports titles slipping from the top position. The reason for the rise: one-button play makes for easier use.

Sensing a business opportunity in mobile casual gaming, a number of major-name companies including Nickelodeon and MTV Networks unveil plans to invest hundreds of millions of dollars in the development of online and mobile video games. These investment decisions mark a significant change in global strategy, which stresses the importance of incorporating the development of casual games at the inception of all new programming proposals and not as an afterthought.

A new report from Park Associates underlines the prevailing perception that mobile phones are made for casual gaming, and predicts casual games will continue to dominate sales. Less than 10 percent of mobile gamers want to play console-centric games on their mobile handset, the report says, while 55 percent want to play card and puzzle games, and nearly a third want word and arcade games.

Again, you, respondents to the Netsize survey, have your finger on the pulse. When asked if casual games will be the genre of choice on a mobile device, a whopping 75.7 percent of you answered affirmative.



TRANSFORMATION AHEAD

Looking ahead, signs are strong that consolidation in the games market is inevitable. Another trend on the radar is the advent of cross-platform gaming. In fact it was Oberon's strategy for a triple play - creating an integrated casual games solution across interactive TV, online and mobile platforms – that motivated its drive to expand its reach and influence through acquisition in 2007.

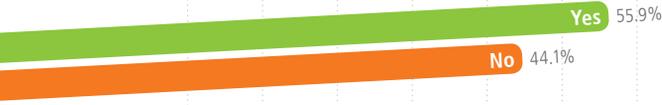
Finally, sideloading is poised to be an integral part of games services and offers as more publishers investigate the potential for PC-to-mobile applications. One of the first out of the gates is Gameloft, which has soft-launched a PC client to enable mobile users to sideload games purchased online onto their phone - a move that industry observers have likened to creating an iTunes for mobile games.

Less than 10 percent of mobile gamers want to play console-centric games on their mobile handset.



NETSIZE SURVEY RESULTS

Will handset platform standardisation happen to solve the porting costs?



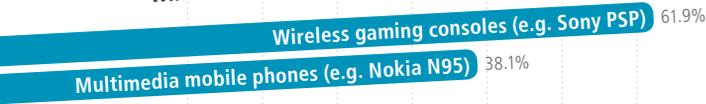
Will you play LBS and/or multiplayer games through:



Can mobile publishers develop the capabilities necessary to become successful D2C games retailers?



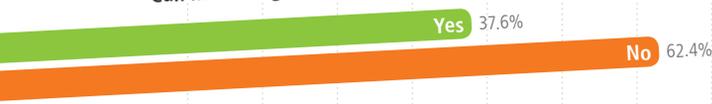
What will be the dominant mobile gaming console?



Will casual games be the genre of choice on a mobile device?



Can MMORG games become the dominant genre of mobile gaming?



* About the survey, please refer to pages 13-14

0 10 20 30 40 50 60 70 80



Successful deployment of online gaming on any platform or service requires real-time interaction and dynamic allocation of bandwidth as it is required. I don't see this happening using the existing 2G mobile infrastructure. It will require 3G.

John Armstrong, Apisphere, Inc., Boulder Creek, USA

Cheaper data tariffs will give MMOs the boost they still need to become truly big.

Benjamin Zuckerer, CipSoft GmbH, Germany

Games remain a niche market on mobile handsets and will primarily be for casual users, and allowing users to have one device to provide all of their basic entertainment and communications needs, with specialist devices (gaming devices, cameras, and music players) for those users who need a fuller, richer and more professional experience.

Oscar Grui, France

Mobile broadband networks will have a major impact on the usability of online and multiplayer gaming on-the-move. However, device screen-size and usability means that it won't be «standard» phones that are the primary user interface.

John Massey, Dr J. Massey, Indep. Research & Training, United Kingdom

Casual games will be popular but mostly free, whilst MMORPG will be a very niche segment with remarkable ROI and ARPU figures.

Mikhail Denisenko, United Fun Traders Ltd., St Petersburg, Russia



Playing To Win

Jaakko Kaidesoja, Director of Play New Experience Multimedia,
Nokia

After a first version in 2005, Nokia has now revived it as a multiplayer gaming service that works on its popular line of smartphones. The service provides a complete end-to-end experience for consumers, encouraging community, communication and commerce. Jaakko Kaidesoja, Director of Play New Experience Multimedia at Nokia, talks about the new N-Gage service, the new features enabled by the platform and the new ecosystem Nokia expects will flourish.

Looking back to the first N-Gage. What are your key learnings and how have you harnessed them to create the N-Gage next-gen platform?

We learned it is important to have a much wider range of devices. Some can be more gaming oriented devices, with dedicated gaming keys, and some can be designed more towards imaging or music or just be balanced multimedia computers, although all devices will still support games. We know a lot of different people play games in different circumstances, and so we are enabling this across a range of devices. Customers also want to choose how they access and play games. Networks with higher bandwidth help here making it possible to distribute games digitally and effectively, and we have responded with a platform that enables an array of distribution models.

Nokia is becoming a content destination and represents a massive distribution channel for games and publishers. How do you see your role in this ecosystem and what are your concrete plans to offer your platform to publishers for the wider distribution of their games?

The N-gage service has a client application which resides on the device and also Web presence with N-Gage.com. Those are the Nokia distribution channels. But we also have tools that allow us to distinguish between the game

file distribution and the license distribution, which we can open up to all publishers. Nokia is not aiming to be the sole distributor and seller of N-Gage games. We would rather open up a system to encourage more retailers and distributors to get involved, because it adds choice and value for consumers. The mechanisms are in place to link the purchase transaction to Electronic Arts' own game store, for example, or to the Nokia store, or to any company that wants to become an N-Gage retailer. The aim is to create an ecosystem. Nokia will always manage the platform and SDK [Software Development Kit] for game content development, but the distribution is really something that can become wider than just Nokia.

The Nokia strategy for the new N-gage platform revolves around enabling users to try demos, then purchase and download / sideload the full games. Which models work best and might other models – such as ad-funded – grow the gaming market?

Based on our studies and discussions with gamers, consumers prefer a purchase model to a subscription. They also favour a free trail, but that is a no-brainer since people generally like the opportunity to try before they buy. However you need to be careful about the extent of a free trial because if you give half



Ad-funded hasn't really taken off so well on the console side yet.

a game for free, for example, you may have a hard time selling the rest. It's important to have the right balance and so we also offer an array of options like a one-day pass, for example. If your friend has a game that you don't and you would like to play it together then there should be a way to rent it [the game] for a day. Besides, it's a good model to encourage more people to play games.

However, I think there might be the danger of a trade-off between ad-funded games and games quality. If you give the games for free just to sell ads on top of them, then there is a chance the game quality will drop because the business objective is about quantity first. Besides it [ad-funded] hasn't really taken off so well on the console side yet. I would rather see a good working service, high quality games and a connected community in place. These are the drivers that will move the industry forward and show consumers that there is a value to the games they will be willing to pay for.

What will the genre of choice be on mobile?

We definitely see casual games picking up on mobile. We have observed this in the PC [space] and when you put the increase in popularity into the context of the ergonomics of the device, then I think casual games is a clear winner. All the more reason for the industry to create more rich experiences and sharpen their focus on the quality of casual games as well. It's also critical to make it easy for casual gamers to access the games in the first place. Hardcore gamers may be willing to figure out how to download games onto a mobile, but for the rest we need to keep it simple. I'm not willing to opt for solely casual games, as through

the technology development we will also see new genres popping up, like music, location based and so on. There is also always room for traditional gaming genres like racing, strategy and others as long as the games are designed for mobile.

Some say mobile games will get a boost from new technologies (touch screens, GPS, high-speed data networks, bigger processors, cameras and motion sensors etc...). What are the must-have features?

We see a huge opportunity in enabling new features and new kinds of gameplay. Cameras have been built into devices for several years, but the industry has yet to see a good game that uses a camera. It's easy to imagine a pinball type of game that would use a motion sensor to let consumers rotate the ball from one place to another, but it makes little sense to link a game to a hardware feature that is only available on a few device types. The games industry on the whole might not want to take risks and develop experiences tightly linked to device features. But Nokia, as a [device] manufacturer, has it firmly on the roadmap. Location through GPS is an obvious feature we want to integrate into games. Combing music and games is another. But the approach should never be to forcefully combine features for the sake of it; it must be intertwined with the complete game experience.

Many in the industry suggest that cross-platform gameplay is the future of mobile games. What are your concrete plans in this direction?

We are currently on alpha testing on a game that allows this, bringing together the PC and mobile. And this experimentation is a strength Nokia brings with it to the table. We are looking closely at what is going on in Internet communities and how to bring some of those elements – such as community – to mobile.



It's not about cross-platform; it's about creating a cross communication between the stationary Internet communities and the mobile communities.

It is very hard to say how this will play out in the end and there is no silver bullet solution to connect PC and mobile. You can't build and they will come; there has to be game logic that supports a cross-platform connection. In the case of massively multi-player games, we're already seeing that it's harder to bring them to mobile and barriers like data tariffs and latency mean it will likely take a bit longer than we all thought.



The Discovery Channel

Paul Maglione, President , Vivendi Games Mobile



Vivendi Games Mobile, a division of Vivendi Games, creates and publishes quality titles based on original IP and popular entertainment licenses for the mobile games market. The games are distributed by more than 90 operators and dozens of Web portals in 60 countries around the world. Its parent company is a publisher and distributor of multiplatform interactive entertainment, building on its position in the PC, console and handheld games markets. Paul Maglione, President of Vivendi Games Mobile, discusses the outlook for the market, the merits of the subscription model and the impact of mobile social networking on gameplay and promotion.

Carriers are certainly in the driving seat when it comes to distribution.

Can mobile publishers develop the capabilities necessary to become successful D2C games retailers?

No. Publishers are not distributors. They don't have mechanisms for reaching vast numbers of people, they don't have a vast installed base, and they don't have large marketing budgets. A publisher's role is to identify good games, identify good brands and make the best games possible. For this reason, I think carriers are certainly in the driving seat when it comes to distribution. They have an installed base of tens of millions of users, and they have some control over the handset, which is the best way to get games into the hands of consumers – especially if they come pre-loaded with free demo versions of games.

The only alternative to the carriers are the Web companies – the likes of Amazon, iTunes

Securing a top-notch spot is the chief challenge for games publishers.

and other retailers we know from the Internet. They could easily sell mobile games from their existing Internet sites and, in many ways, it's an even better buying experience for consumers since they can look at videos of the gameplay, browse descriptions and check out how users have rated the games. But, by and large, selling mobile games is currently too small a business to interest the major Internet players.

Many say being on the carrier deck is critical. A top-notch spot is even more important since users don't tend to browse. Do you agree, and how can content discovery be encouraged?

That is the crux of the matter. Space on the carrier deck is limited, with everyone jockeying for placement at the top of the deck position where consumers can find them. Securing a top-notch spot is the chief challenge for games publishers, and it overwhelms carriers when they have to process all the new titles publishers release on a monthly basis.

One way out of this dilemma is to develop a process that awards quality. As we get past the early-adopter stage and see brands that have consistently and successfully sold several generations of their games, then they should be recognized for their ability to create games



or franchises that are fun to play. A reputation for quality should earn these publishers a position high in the carrier deck. The problem is that many carriers rotate their games managers quite often, meaning there is a steep learning curve for the new manager and little chance for a publisher to impress the manager with their track record. Put simply, without continuity on the carrier side, it's a challenge to pick and place the games consumers really value.

What business models will bring mobile games to the largest market?

We are having a lot of success with what we call episodic gaming - games like *Surviving-High School* - where the user can actually download additional game packs every week. Also the spread of the try-before-you-buy model has helped encourage users to experiment and, ultimately, buy more games to play on their mobiles.

The model that we've seen work best in the real world, the one that has really driven revenues for publishers and for carriers, is the single game subscription model. It combines the attractiveness of a low price point with a longer lifecycle for the revenue stream if the consumer likes the game and keeps re-subscribing to it. The combination of flat rate data, so there's no cost to browsing, plus the subscription model is the business model we feel is the healthiest for the industry.

In-game advertising is a challenge because there is no pragmatic way to sort out who gets what between the publisher, the IP owner and the carrier. If I put a billboard for Coca-Cola on the side of the track in a racing game, then what piece does Coca-Cola realistically get? In-game advertising works only as a subsidizing mechanism for unbranded generic games, and that's why we also think generic games will eventually rotate out of the deck. Ad-funding may encourage new users to download their

The combination of flat rate data plus the subscription model is the healthiest for the industry.

first mobile game, and that's good for everyone, but we don't want to devalue our best brands and properties by giving them away free or at subsidized prices.

What do you expect will be the dominant mobile console and will the games industry have to pay more attention to high-end smartphones?

Nokia has definitely invested a lot in the N-Gage brand and platform, and they clearly have the advantage in terms of creating the hardware, software and hospitable ecosystem for consumers to experience mobile games. It's given Nokia a first-mover advantage and I think it would take a company at least a couple of years to replicate what Nokia is only starting to roll out now. If anyone were to challenge Nokia, then it would be SonyEricsson or Apple. The players are established and I hesitate to pick a winner. I will say the device will be a handset. The success of the Nintendo DS is mostly among younger kids, but when those reach their teens and they're on the move they will privilege the mobile phone.

Smartphones are great, but the goal for the industry is to reach the mass market. Casual gaming, for example, doesn't require all the wizardry that a smartphone brings. There are some games, such as racing games, that require 3-D, but effects alone don't make a gameplay experience great. There is a place for these

In-game advertising is a challenge because there is no pragmatic way to sort out who gets what between the publisher, the IP owner and the carrier.



games and devices, but it's not mass market and it's not now.

Will casual games be the genre of choice on a mobile device?

This year will mark an important industry transition, seeing more original games - such as *Cake Mania* - on the top-sellers list in place of generic games, such as bowling or solitaire. It's akin to the PC space, where the first games to excite us were the ones that came bundled with the PC like chess and minesweeper. After the novelty wore off, consumers began to explore other titles and genres and we've reached this point in mobile. At first, generic games were the best-selling games, but now the trend is towards branded games and original gameplay games as opposed to commodity games. Casual games have dominated the platform for the past four years, but this is now set to broaden out to a wider range of genres.

Can the concept of MMORPG (Massively multi-player online role-playing game) be extended successfully to mobile?

I think it's a niche. Multiplayer gaming hasn't taken off, and user surveys confirm this, because most people play games to kill time. They don't do it to connect to other people and they don't do it for a sense of achievement or to become a grand wizard of some guild. So the challenge for publishers and game developers is to deliver fun gameplay with intuitive controls that consumers can play in short bursts, on the move.



Taking Games To The Next Level

Michel Guillemot, President and CEO, Gameloft

Gameloft, the established number one mobile games publisher in Europe, recently reached the impressive milestone of 100 million mobile games sold worldwide. Gameloft counts partnership agreements with leading licensors and personalities, and operates such brands as Block Breaker Deluxe, Asphalt: Urban GT and New York Nights. Michel Guillemot, Gameloft President and CEO, discusses market growth, business models and leading trends that will impact the industry.

Currently, mobile games account for roughly 10 percent of sales in the overall games industry. It was at a similar inflection point in the music industry that the major labels sat up and took notice of the opportunity to cash in on mobile music. Has the games industry reached this same point in its development and should mobile therefore be at the center of game publishers' strategies?

Music is content that transcends platforms and devices. Unlike games, there is no need to tailor the experience to the device, be it console or mobile, and there is not the headache of porting the content to thousands of makes and models of mobile phones. Put simply, the content consumers buy in a physical store is pretty much the same music they can purchase as a full-track download direct to their phone. As a result, distribution costs are low and audience reach is high – so it makes perfect sense for publishers and labels to embrace mobile early on as they have. In this scenario, mobile is a natural extension of physical retail and a perfect complement to the Internet experience users might have on their PC.

Games are a different story. For one, the content doesn't simply transcend platforms and devices. Games and gameplay is decidedly different on each platform. A video game is a different experience to playing a game on

a console or on a mobile device. Another difference is distribution, more specifically the work games publishers must undertake to port the game to all mobile platforms and adapt it for the thousands of handsets available on the marketplace. A console game, on the other hand, needs only to be adapted to run on between three and six platforms. A perfect fit between both is also ensured as the user is required to buy the console on which the game is developed.

To be sure, the proliferation of mobile handsets has led to a fragmentation in the industry. Music is akin to write-once-run-everywhere content. The variety of handsets is not a barrier to broad distribution in any way. Not so for games. Publishers are obligated to adapt the content to run on a variety of handsets because the user will certainly not appreciate – let alone purchase – a game that doesn't deliver a great experience on the handset of their choice.

Mobile game distribution costs are even higher than physical products, which is very unusual when we consider digital distribution.



The days when Henry Ford proclaimed a customer could have any color car as long as it was black are long gone.

Although some games companies claim that annual growth in mobile games will hover at 25 percent for the next five years, analysts forecast the mobile games market is slowing, even shrinking. Is platform and device fragmentation really the root cause for the slow-down?

First, I do not believe that there is a slowdown in the mobile games market. The estimates offered by analysts are just that: estimates. There is market growth and it will continue for years to come. At Gameloft, we have just reported a 51 percent jump in revenues and this confirms, in my mind, that the market is hardly shrinking.

Nonetheless, it is true that high distribution costs and expensive data tariffs are impacting the size and growth of the mobile games market. Mobile game distribution costs are even higher than physical products, which is very unusual when we consider digital distribution needs no shelf space and is only limited by the supply of content. What's more, distribution costs also impact the marketing budget and the efforts many publishers can invest to make more and better games. It is a vicious cycle that ultimately limits mobile games usage and industry growth.

Data charges are another barrier to the market development. Pre-paid customers, for example, can pay up to twice the cost of the mobile game if you add the data costs associated with the download. Clearly, high data rates may well discourage consumers from buying mobile

The ability to create custom-made games that match the device capabilities is key to our own success.

games and this can obviously have a negative impact on the games industry as a whole.

Clearly, the proliferation of handsets poses a barrier to market growth. Will handset platform standardization happen to solve the porting costs?

Handset fragmentation is proof that mobile is a global and mass market industry. The days when Henry Ford proclaimed a customer could have any color car as long as it was black are long gone. Consumers expect and demand to choose their mobile phone from a wide variety of makes and models.

As an industry, we have to accept this and adapt as fragmentation will surely be with us for years to come. This is why Gameloft has 4,000 employees [around the world] to enable games to be ported successfully to each platform and device on the market. The value of a game is the quality of gameplay and the end-user experience it delivers, and we take great care to ensure the versions we deliver will work perfectly on the user's device. Of course, porting to each platform costs resources but this is table stakes for any serious games publisher. For Gameloft, the ability to create custom-made games that match the device capabilities is key to our own success and the growth of the market.

Will users play location-based and /or multiplayer games through short-range or 2G/3G networks? What is your view?

This will depend on cost. Today, multi-player gaming is possible - we offer online multi-player games to consumers and they are a great success - but only in the markets where data costs are not prohibitive for the consumer. Fortunately, some mobile operators are introducing flat-rate data packages that charge for data access by the day or month. This is a development that can encourage innovation in this area.



Today, 80 percent of mobile games distribution is done by the mobile operators. Can mobile publishers develop the capabilities necessary to become successful D2C [direct-to-consumer] games retailers?

Distribution will be controlled by the players who are resolved to offer a favorable quality/price ratio to the consumers. Operators are in a good position, but the challengers are also well-equipped to compete against them. Companies including Nokia, Apple and even Google and Microsoft will no doubt be present in this market, along with publishers that can offer their games D2C. The market is wide open and the most dynamic players will prosper.

What will be the dominant mobile console? Sony PSP or Nokia N95? Do you see competition or synergy between these mobile gaming platforms?

The gaming space is huge and there will be space enough for a variety of platforms. The mobile phone has the clear advantage that it is the device carried by over 2 billion consumers worldwide, a number forecast to grow to 4 billion by the year 2010. On the other hand, gaming consoles target a small but very loyal audience of gamers. In the end, I expect consumers will play games on all these platforms, switching from one to the other according to their context. Put another way, the gaming experience will determine the choice of platform and the consumer will play games across them all.

What will drive positive results in the mobile games market in 2008? New marketing and purchasing models such as "try-before-you-buy" and ad-supported? Social communities? New features and functions such as 3D and Flash Lite? Something else?

From a marketing perspective, the 'try-before-you-buy' model is interesting. Considering many of these games cost just a few euros, it's

not a huge investment on the part of the consumer. Therefore we don't need to give them a long testing period before they make a purchase decision. We should limit this so the offer is more of a tease than an invitation to test the games for weeks or months.

New marketing models are welcome and clearly missing today in our industry. It's important to keep in mind that consumers prefer good games to bad – and good quality games have their price. If the publisher reduces the cost of the game, then quality is reduced. When that happens, then the value consumers see in the game itself is likewise reduced and so is any revenue associated with the sale and promotion of the game.

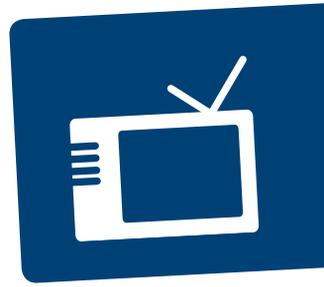
On the other hand, communication innovations and 3D are a positive impetus for games sales and will likely grow the overall market, particularly as barriers to adoption, such as high data charges, fall.

Can the concept of MMORPG (Massively multi-player online role-playing game) be extended to mobile? Please explain your reasons.

This kind of game requires a large audience that can easily and affordably interact with each other. PC is perfectly adapted to create this large audience. The same will be true for the mobile phone when there is less fragmentation in the marketplace and a clearer idea of the data charges involved. Today, we are still charging data on the mobile as we did in the 1990s before the arrival of all-you-can eat broadband access. That revolutionized access to the Internet and we need a similar development to jumpstart usage of these games on mobile. Once this happens, then the sky's the limit.

The gaming experience will determine the choice of platform and the consumer will play games across them all.





WATCH



THE WHOLE WORLD IS WATCHING

With nearly 100 mobile TV trials worldwide and a raft of services launched in 2007, one would assume the pieces are falling into place to spur significant mobile TV uptake. However, while the outlook is positive, with a new report from global technology consultancy Informa Telecoms & Media pegging global mobile TV revenues at \$736 million in 2007, set to climb to \$4.8 billion in 2012, serious hurdles remain. Indeed, a number of issues have yet to be resolved: the value chain, ways of generating revenues, content rights, levels of handset subsidies, spectrum availability and regulatory disputes, to name a few. Add a clear lack of public enthusiasm for mobile TV services outside Korea and Japan, and it's understandable that many in the marketplace wonder what direction mobile TV will take moving forward.

It would help if the industry had a clear definition of mobile TV, but that debate is likely to continue throughout 2008. Generally speaking, mobile TV refers to live simulcast TV on mobile devices that provides the same content as seen on regular satellite, digital or cable TV at home. But mobile TV also encompasses on-demand video or short clips that a user could download or that could be broadcast to a large number of users.

Agreement on broadcast mobile TV technology standards would also be a boost, but that is highly unlikely as mobile TV technologies – which include DVB-H (the European standard supported by Nokia), DVB-SH (developed and endorsed by Alcatel), the Korean DMB standards, Japan's ISDB-T, Qualcomm's MediaFLO and China's STiMi - will be regional for years to come. IMS Research figures that, by 2011, 60 percent of worldwide MediaFLO subscribers will be in the Americas; 61 percent of worldwide DVB-H/DVB-SH subscribers will be in Europe; most T-DMB subscribers will be in Korea; and the majority of ISDB-T (OneSeg) viewers will be in Japan.



In November 2007, the European Union (EU) made it official and named DVB-H the European standard for mobile TV broadcast effective February 2008. While member states are required to support the implementation and use of DVB-H, they are not required to ban other standards. In the same month, China made some progress in sorting out its mess of mobile TV standards. The China National Standardization Administration (CNSA), in association with the National Development & Reform Commission, the Ministry of Information Industry (MII), the State Administration of Radio, Film & Television (SARFT), and a number Chinese enterprises banded together to assess and formulate a national standard for mobile TV.

The problem is that China has 5 home-grown standards—the DMB-TH standard from Tsinghua University, the T-MMB standard from Beijing Coastline, the CMB standard from Huawei Technologies, the CMMB standard from SARFT, and the CDMA standard from the China Radio Standardization Association. Each organization is pushing its own standards and the Chinese government is under pressure to find some common ground. With the approach of the Beijing 2008 Olympics, a delay in the deployment of mobile TV would be a significant setback for the companies lining up to cash in on this mega-opportunity.

The stakes are high and so are the chances that mobile operators around the globe will miss their launch dates, according to a 2008 forecast by Screen Digest. And even if operators manage to go live with their offers, coverage in many cases will be far from nationwide when key sporting events – namely the 2008 Olympics and the UEFA Euro 2008 Championship soccer games – kick off.

USERS, NOT PROFITS?

Against this backdrop, the Digital Video Broadcasting Project (DVB) - an industry-led consortium of over 270 broadcasters, manufacturers, network operators, software developers, regulatory bodies and others in over 35 countries committed to designing open technical standards for the global delivery of digital television and data services - has adopted a more realistic outlook on the true potential of mobile TV after years of hype. In a recent interview, Peter MacAvock, executive director of the DVB Project, remarked that the tipping point for mobile TV services will likely be 2009, when more full commercial services are rolled out.

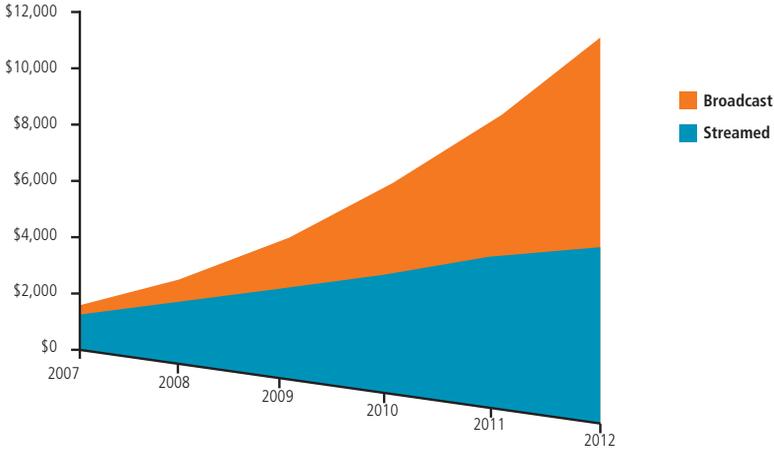
This jives with the view of Juniper Research, which predicts a significant jump in the number of viewers beginning around the same time. Altogether Juniper estimates nearly 120

Coverage in many cases will be far from nationwide when key sporting events – namely the 2008 Olympics and the UEFA Euro 2008 Championship soccer games – kick off.



TOTAL END-USER GENERATED REVENUES (\$M) FOR MOBILE STREAMED AND BROADCAST TV SERVICES 2007-2012

Source: Juniper Research



million people will be watching mobile broadcast TV in more than 40 countries by 2012. Juniper bases its buoyant forecast on the wide availability of spectrum and handsets. Streaming TV, on the other hand, will “gradually evolve to complement mobile broadcast TV, functioning as an outlet for the long tail of minority viewing TV channels.” The research firm reckons that the combined value of revenues from end-users of streamed and broadcast mobile TV services will rise from just under \$1.4 billion in 2007 to nearly \$12 billion in 2012. However, due to the slower than anticipated deployment of mobile broadcast services in some key markets, Juniper is not convinced broadcast TV revenues will overtake those from streamed services until 2012. Asia leads the pack with the largest number of mobile TV viewers by far, but the return on investment is another story. Screen Digest estimates there are 15 million mobile TV subscribers in Asia, but the revenues from the industry are “miserable.” Japan has 6.5 million users of free mobile TV, and South Korea’s free T-DMB service has 4 million registered users while its pay S-DMB service has about 2.4 million subscribers. BusinessWeek reports South Korea -- the country that pioneered mobile TV services in 2005, largely with a push from the government -- counts 7 million viewers, or one out of every seven residents of the country. However, none of the operators is in the black. An examination of the six terrestrial DMB operators shows they have an accumulated loss of

Streaming TV will “gradually evolve to complement mobile broadcast TV, functioning as an outlet for the long tail of minority viewing TV channels.”



between \$22 million and \$33 million. The only mobile TV operator that charges for its service is SK Telecom-owned TU Media, which offers its DMB service over a satellite-based system. It has 1.2 million paid subscribers, but TU says it needs at least 2.5 million to break even in operation. That's before it can even start to recoup its \$435 million investment in satellites and networks.

Short clips and sports content have been most popular in trials.

Outside Asia the number of users watching TV on their mobiles is considerably smaller, according to research released by M:Metrics in August 2007. At that point, U.K. mobile operators Orange and 3 each managed to attract only 30,000 users to their services, while Vodafone counted an impressive 125,000 active viewers. In Italy, mobile operator 3 Italy announced it had 600,000 users on its broadcast mobile TV services but M:Metrics, which measures actual usage, counted only 190,000 viewers. France, meanwhile, appears to have the most promising market in Europe. Mobile operator Orange gained 2 million mobile TV users since it launched the service in 2004. M:Metrics, however, counted only 373,000 active viewers.

TUNING IN

Despite the slew of doom-and-gloom reports, Datamonitor forecasts the outlook for mobile TV is vastly more positive moving forward – particularly if mobile operators and content companies tailor programming to the mobile device and stop seeing it as a substitute for the living room TV set. Indeed, Datamonitor reckons mobile TV take-up worldwide will increase from 4.4 million in 2007 to 65 million in 2010. Analysts point out that short clips and sports content have been most popular in trials, but content must also be adapted to people's lifestyles and life stages. The takeaway: the long tail of mobile TV is just waiting to be tapped.

Users aren't satisfied with just a handful of top-brand channels.

A confirmation of this key observation comes from mobile TV viewing figures released by U.K. mobile operator Orange. It found top channels accounted for only a third of total viewing time. Put another way, users aren't satisfied with just a handful of top-brand channels. Orange's stats for the most watched video clips also reinforced a growing appetite for niche content: The category most watched by Orange subscribers was "other," indicating that 27 percent of video clips viewed fell outside the most common categories such as news and sports.

This jives with the answers you, the Netsize survey respondents, offered when asked what the dominant choice in mobile TV entertainment will be.



The crowd-pleaser is made-for mobile TV snacks (60.5 percent). A distant second is existing TV programming on a mobile device.

Results from a user survey commissioned by the GSM Association shed some light on the content users would likely appreciate. Globally, news tops the list, followed by weather, comedy, documentaries, sports highlights, music videos, made-for-mobile programs, previews/behind-the-scenes shows about mainstream TV programs, sports games and quiz shows. Ironically, many content companies complain they are finding it hard to sell operator customers on made-for-mobile content because operators are primarily focused on getting big brand names in the mobile TV line-ups.

You, the Netsize survey respondents, predict the iron-grip operators currently have on the pick and presentation of mobile TV programming will be replaced by other more flexible models. Specifically, when asked what the mobile TV consumption model will be, a whopping 78.5 percent replied it will be “on-demand determined by the users,” rather than “one-to-many broadcast controlled by the operators.”

No matter which consumption model dominates, the sobering fact is success hinges on the ability of mobile operators to attract enough subscribers to pique the interest of advertisers. To reach critical mass, operators will need to be clever about how they package and price their mobile TV services. To date there seem to be three main payment models: subscription-based, per-view and advertising-supported. However, there are also a number of variations appearing on the horizon including one-day access, impulsive pay-per-view and pay-per-time.

AD-FUNDED OPENS POSSIBILITIES

There is a lot of scope for new advertising models, but not until the economics stack up. That was the view expressed by major industry executives during the last Mipcom, the largest international audiovisual content trade show. They point out the industry is caught in a Catch-22 situation where providers can only get advertisers if they have reach, and they can only attract enough viewers if they can finance their mobile TV offers with advertising.

Without advertising support, mobile TV providers must charge their viewers and, so far, mobile TV has not shown to be a service a critical mass of users are willing to pay for. And price is a significant factor, according to a recent survey of 2,000 Americans by research marketing company comScore. It found that “cost of service” price was at the top of the list for 71 percent of

The sobering fact is success hinges on the ability of mobile operators to attract enough subscribers to pique the interest of advertisers.



respondents when choosing whether to subscribe to a mobile service.

Speaking at CTIA Wireless 2007, the mobile industry trade show, Cyriac Roeding, executive vice president of CBS Mobile, said that mobile TV needs to be ad-supported before it really takes off, but he doesn't expect that to happen before the end of the decade. In 2007, CBS and U.S. mobile operator Sprint teamed up to offer live mobile broadcasts and mobisodes supported by advertising.

But it's not all bad news. A trial by Ericsson and the Norwegian Broadcasting Corporation (NRK) proves users will accept mobile TV ads – if the pitch is personal. The results of the three-month trial show that the average click-through rate was 13 percent. Moreover, the average viewing time of each mobile TV user more than doubled - to seven minutes per session - when users interacted with ads tailored to their interests. Ads tested in the trial were interactive and tailored to the user's age, gender, location, and personal interests.

FAST FORWARD

A lot of question marks surround the future of mobile TV. Last year saw more hurdles than successes. Notwithstanding the challenges in marketing and business models, the real challenge ahead may center on delivering a good end-user experience despite a lack of capable devices. There is an argument that decent handsets are vital to the success of mobile TV. U.K. mobile operator Virgin pulled its mobile TV service, which was unfortunately linked to only one handset model, the Lobster. Over in the Philippines, Smart Communications and Globe Telecom admitted their 3G networks haven't seen the uptake they hoped for and put the blame on handsets, or specifically the high price of them.

However, a huge barrier may be cleared in 2008 as mobile operators move to offer flat-rate data services. In anticipation of a positive knock-on effect for mobile TV, major broadcasting companies in the U.K. are ramping up their mobile strategies. The mood is also upbeat in the U.S. where attractive data tariffs and successful ad-funded schemes bode well for mobile TV take-up.

The strategy chosen by NBC Universal speaks volumes about the importance of customer analytics in the next years. Frustrated by the inability – or unwillingness- of mobile operators to provide insight into viewer demographics (information vital to advertisers), the company shifted to off-portal mobile programming, launching its own WAP sites for NBC, USA Bravo and NBC Sports channels. With complete control of the customer data and the experience, NBC says it is better equipped to make decisions about programming and content production. In the U.K., content company Endemol is also exploring an off-portal presence as an alternative route to market.



NETSIZE SURVEY RESULTS

What will be the dominant choice in mobile TV entertainment?



Will the mobile TV consumption model be:



Will mobile video chat see a similar growth trajectory to SMS?



* About the survey, please refer to pages 13-14



The vast majority of people want to be entertained, meaning that they don't want to make the choices. They want to flick and see what's on rather than becoming their own program director.

Guido Brockmann, Emobilo, Hoeilaart, Belgium

Why would I want to see the person I talk to? A nice gimmick for absent parents talking to their children, but for me, on the train or walking down the street talking to a friend or colleague, it would simply be an annoyance having to watch them on screen, point my camera at me, watch where I'm walking and maintain a conversation all without getting mugged.

Matthew Tapson, CMS, Chesham, United Kingdom

Mobile TV consumption will be 1 to many in the case of live events (news, sports), and on-demand for regular entertainment.

Kaushal Modi, Sony Entertainment Television India Pvt Ltd, Mumbai, India

The big growth will come from one-individual-to-millions TV. People want to see real people, in real time, in real places. There are enormous barriers to this but it will be unstoppable when money enters the game.

Frank Rigal, Runa.tv Holding AS, Oslo, Norway

Mobile TV consumption will be made of One 2 Many content combined with One 2 One Advertising features.

Florian Stenke, Arvato mobile, Germany

TV for mobile is massively over-hyped. I cannot see it getting much beyond highlights and clips. As for video chat, other than for certain «special interest» users, most people use chat because it is anonymous.

Alex Hampson, Carphone Warehouse, United Kingdom

I would certainly not discount products like the Slingplayer, which provide a means of accessing television that is already being paid for or coming free to air, versus buying a very limited mobile television offering from operators.

Anonymous



Everywhere, All The Time

Yannick Levy, President and CEO, DiBcom

The emergence of mobile TV applications paves the way for media companies, mobile operators and content providers to offer new services on a variety of devices ranging from mobile phones to in-car communications and navigation systems. DiBcom, a fabless semiconductor company that designs high-performance chipsets compliant with the current worldwide Digital Video Broadcast standards, DVB-T and DVB-H, has earned an enviable position at the heart of mobile TV. Its patented technology, algorithms and architecture enable low-power mobile and portable TV reception everywhere, and at the highest performance. Yannick Levy, DiBcom President and Chief Executive Officer, discusses the models and mindset that will make mobile TV a must-have feature on all devices moving forward.

To what extent is a lack of standards a barrier to the large-scale uptake of mobile TV services?

There have been issues around standards - reminiscent of Betamax vs VHS or currently with Blu-ray vs HD-DVD. But we are now seeing movement because major forces in the industry, such as Nokia, with a 40 percent market share in the mobile phone world, are promoting DVB-H. That for me is the number one factor that by far will push this standard to the fore. Qualcomm has not really been able to convince many countries outside the U.S. to go with MediaFLO. Overall, the standards are evolving, although we also have to consider geographic issues and aspects such as China's decision to have its own standard for mobile TV.

DiBcom solutions are used in automotive, portable LCD TV, PC, and mobile phone applications. What is the key growth opportunity and are there any difficulties?

It's natural to think of the mobile phone first because it is the largest market opportunity with potentially 1 billion phones sold every year which could at some point have TV built in. But there are other opportunities, such as automotive, where we have almost 100 percent market share. Now we are looking beyond in-car to embedding TV on portable navigation devices. In this scenario, a consumer who is not using their navigation device could simply hand it to the children and let them watch it as they would a TV. Indeed, any device with a color screen can be enhanced with mobile TV. It's a huge opportunity if you count portable media players, for example, and one we find very exciting.

The difficulty, however, is the lack of universal reception. These networks until very recently have not been designed for mobile TV. So, although we can and will embed mobile TV in a wide range of devices, there are issues that arise around coverage. Put simply, consumers think that a mobile TV-enabled device should be able to receive TV pretty much anywhere. For sure, as more consumers become aware of mobile TV and demand to access it anywhere,

Any device with a color screen can be enhanced with mobile TV.



mobile and broadcast operators will bring their expertise to bear and find a solution, just as they did when they tackled voice communications and the problems associated with poor reception areas. A network needs to be in place to support all these devices and use cases, but the business model may be difficult since many mobile operators may not necessarily have the same business interests as an automotive manufacturer, for example, in making all these devices TV enabled.

Will the business model be ad-supported or will operators offer mobile TV as a subscription-based service?

From the manufacturers' standpoint, ad-supported models are beneficial because they drive the market. Consider the advance of mobile TV in Japan and Korea, where the service is offered for free and supported with advertising. Both countries expect more than 10 million people with devices supporting mobile TV, and that is just a year and a half after the launch. So, it is a very significant success. If you look at Europe or the U.S., it's more about the subscription-based model and so not as many consumers have bought a mobile TV-enabled device.

The main debate centers on whether mobile TV be free-to-air and ad-supported or delivered as a subscription-based service. In the home both co-exist – you have channels that are free and you have paid TV with premium content – and I think we'll see a similar mix of models succeed in mobile TV. In the home you buy your TV, but in the case of mobile TV, the devices are often subsidized. The question is: Could this cost be split between the network operator making an investment on the one hand and the broadcaster getting revenue from advertising on the other? It's a difficult question, but I think the success of mobile TV in Asia has shown that it will become a requirement.

Which types of programming will work on mobile TV?

It is difficult to say. At first, when the quality of the networks wouldn't allow high quality TV, we saw the emergence of content that had been adapted for mobile and only lasted a few minutes. As DVB-H advances and we see mobile devices with larger screens and better quality resolution, we see consumers are able to watch mobile TV for longer periods of time. They also seem to be interested in watching much the same programming they watch on TVs in the home. Not only that: studies show consumers watch TV programming on their mobile devices as they move around their homes. They see it as an extension of that viewing experience.

What were the key achievements in the industry in 2007 and what will 2008 mean for mobile TV?

I think 2007 will probably be remembered as the "year of disillusion." There was a lot of hype about mobile TV in 2006, and 2007 was the year that we realized it's all going to take a bit longer than we initially expected. This actually happens with the majority of new technologies by the way. As we've all seen, it takes more time to develop the handsets, to work through the regulatory aspects, and to get the networks up and running. It's a lot of work and that's what 2007 will be remembered for. With the groundwork laid, I think 2008 will be the year we see the pieces fall into place; the handsets are there and consumers will start buying them; and the TV broadcasters will start thinking about what they should offer. In a word, 2008 will be the year the industry gets down to real business.

Studies show consumers watch TV programming on their mobile devices as they move around their homes.





SHARE



COMMUNITY DRIVE

A flurry of activity marked 2007, as established Web brands, brash start-ups and traditional mobile operators fine-tuned their strategies to claim a piece of the social networking pie. Their determination to take a top-notch spot in this nascent market was reinforced by a raft of buoyant market predictions and bold moves, by the likes of MySpace and YouTube, that set the stage for a land grab bound to continue through 2008.

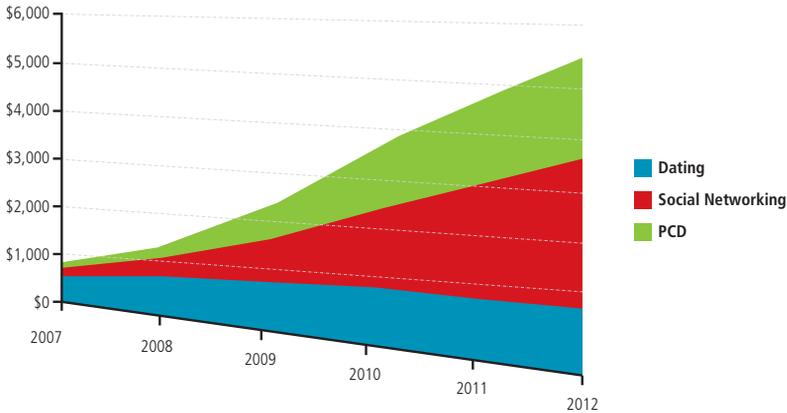
While few social networking services are generating substantial revenues, the migration of these services, together with the full-force arrival of user-generated mobile content creation and distribution, is widely seen as a combination that will yield compelling content while driving data usage. This is the view of technology consultancy Juniper Research, which has also tackled a chief problem to predicting the market: defining what mobile social networking is – and isn't. To be clear, social networking revolves around sites or services that enable individuals with shared interests to interact. Typically, this communication centers on messaging between members and inviting other like-minded peers to join in the community. In the Internet, top destinations include MySpace and Facebook; in mobile, itsmy.com, an ad-financed mobile social networking service, counted its first half million registered users just 14 months after launch.

User-generated content, often simply referred to as UGC, is often at the core of social networks as it is basically the “stuff” that members connect to discuss and distribute in the first place. According to Wikipedia, UGC encompasses the various kinds of media content that are produced or primarily influenced by end-users, as opposed to traditional media producers, licensed broadcasters and production companies. It reflects the expansion of media production through new technologies that are accessible and affordable to the general



END-USER TOTAL REVENUES (\$M) FROM MOBILE UGC (SOCIAL NETWORKING, DATING AND PERSONAL CONTENT DELIVERY) 2007-2012

Source: Juniper Research



public, including digital video, blogging, podcasting and mobile phone photography. Prominent examples of Internet websites based on UGC include Flickr, YouTube and Facebook.

A final ingredient in the mix is mobile dating and chatroom services, which represent a highly specialized form of social networking that subscribers join in the hopes of meeting – or at least communicating – with other members of the group.

Pierrine Griffiths Delabarre, head of mobile services at Meetic, the European online dating leader with €78.8 million sales in 2006, reports this combination has worked well for her company. “We have launched Premium SMS services for alerts and mobile Internet services across nine countries, with positive results. We already have 100,000 mobile subscribers, each paying between €2 and €5 per month to access our service from their mobile devices. Our target is to develop a service that offers converged authentication, applications and billing, providing users an optimized experience regardless of how they access service or the device they use.”

Altogether, Juniper anticipates the total value of the market will rise from \$576 million in 2007 to more than \$5.7 billion in 2012, a more than tenfold increase over the forecast period. To date, the largest contributor to UGC

The largest contributor to UGC revenues is mobile dating, followed by social networking and personal content delivery.



USER-GENERATED CONTENT AND SOCIAL NETWORKING APPLICATION* USAGE: OCTOBER 2006

Country	13-17	18-24	All Mobile Suscribers
France	58.0%	48.9%	29.6%
Germany	44.0%	44.1%	31.0%
Italy	69.7%	63.6%	43.6%
Spain	63.2%	60.9%	44.6%
UK	63.5%	65.9%	41.0%
US	36.7%	45.0%	23.3%

Source: M:Metrics , inc., Copyright © 2006

Survey of mobile subscribers. Data based on three-month moving average for period ending 31 October, 2006, n=101,893 mobile subscribers.

* includes IM, chat, dating, photo messaging, video messaging, created own ringtone, watched video sent by friend.

revenues is mobile dating, followed by social networking and personal content delivery. This breakdown reflects the fact that dating destinations, particularly in Japan, already enjoy long-standing popularity while most mobile social networking sites are relatively new. Moving forward, Jupiter expects UGC to account for 50 percent of revenues.

Much of the action may be in Europe and North America, but interest in Asia is set to explode, according to ABI Research. It estimates there were 50 million members of mobile social networks worldwide in 2007, a figure it reckons will rise to 174 million by 2010. Asia Pacific will account for a whopping 99 million members alone.

TEENS DOMINATE UGC

The creation and exchange of UGC is well on its way to being part of the daily routine for teenagers the world over. An earlier survey, conducted by M:Metrics in December 2006, speaks volumes about today's mega-trend. It found that young people use social media and other UGC disproportionately more than other age groups.

Phone-to-phone photo messaging led the pack, with between 19.9 percent of American and 49.9 percent of Italian teens reporting they sent a photo to another phone in the month surveyed. Sharing video was also popular, and video messaging had a direct correlation with 3G penetration, which bodes well for mobile operators that have made video sharing the central focus of their UGC strategies.

The creation and exchange of UGC is well on its way to being part of the daily routine for teenagers the world over.

The concept of video sharing – and rewarding content creators for the videos others download – was pioneered by mobile operator 3 in the U.K. Its SeeMeTV service regularly reported



over one million downloads and chalked up an impressive €1.5 million in revenues within three months of launch. Since then, a slew of other video sharing services have followed including Rough or Buff offered by Orange in the U.K., MeTV offered by M1 in Singapore, and FunkySexyCool offered by all the major Australian mobile operators - soon to be extended across Europe.

Samsung announced plans to make uploading video to mobile UGC sites easier by adding a dedicated "UGC" button to the keypads.

The growing popularity of video underlines the central role of the devices in UGC and social networking. Riding the UGC tide, Samsung announced plans to make uploading video to mobile UGC sites easier by adding a dedicated "UGC" button to the keypads of its new generation of mobile WiMAX devices. Motorola is also bullish on the pivotal importance of devices in the UGC mix. Ed Zander, former Motorola CEO, remarked at a 2007 industry trade show that personal video creation and sharing will be at the heart of a new form of communication he dubbed "personacast." To this end, Motorola also sealed a deal with ShoZu, a provider of mobile social media services, to pre-install the application in selected handsets, letting users upload videos from their phones to a variety of communities including YouTube, Flickr, and Buzznet.

Nokia not only believes in the pivotal role of mobile devices in social networking; it produced research in December 2007, based on interviews with 9,000 active users of technology, to confirm this view. By 2012, up to a quarter of the media people consume will be generated by their peers and friends. And the production cycle will quite literally resemble a circle, with users remixing the content, mashing it up as they please and then passing it on.

But is the handset really to be regarded as a new kind of audio/visual production studio? You, the respondents to the Netsize survey, aren't convinced. When asked the purpose of the mobile device in mobile social networking, 75.7 percent answered it is a communications tool that allows users to connect with members of their community on the go. Only 24.3 percent think users will use their mobile devices to capture and publish their photos and experiences to enhance their online profile.

EXTENDING THE INTERNET?

Last year saw a stellar rise of social networking providers and services focused on mobile, including Twitter, Radar, Zannel and Loopt. But they were not alone. Internet companies also hatched plans to extend their reach to mobile. MySpace,

By 2012, up to a quarter of the media people consume will be generated by their peers and friends.



which inked deals with mobile operators including Vodafone, AT&T and Helio, recently introduced an ad-supported mobile version of its site. T-Mobile in the U.K. would later reveal that 85 percent of the Web page views on its youth-oriented Sidekick devices were from MySpace. Perhaps driven by that demand, the operator has launched a MySpace Mobile application that has real-time alerts and a custom interface.

Meanwhile, Facebook expanded into mobile, in part through deals with mobile operators including Vodafone, Virgin in the U.S. and O2 in the U.K., enabling users to update their profiles from mobile devices and to be alerted when they receive messages from their friends. Facebook also recently unveiled a mobile platform to encourage its 80,000 developers to extend applications to phones, and teamed up with Research in Motion (RIM) to put its service on BlackBerry smartphones.

Social networking company Bebo also gained traction, announcing the availability of Bebo Mobile and a deal with Orange in the U.K. to offer the service to the operator's subscribers.

But the mobile operators quickly got company from some unexpected brands. Sensing a business opportunity in mobile social networking, Google went on a spree, buying mobile social networking startup Zingku and blogging site Jaiku. The acquisition adds significantly to Google's stock of social media assets which include Dodgeball.com, another mobile service it bought in 2005, that shares information about a user's location and helps them find buddies nearby.

Community applications and communications were also a major focus for Nokia, which acquired Twango, a company whose flagship technology is a platform that enables users to organize and share photos, video and other personal media. For an encore it launched Mosh (stands for mobilize and share), its own social network across PC and mobile. Mosh, which is accessible over any WAP- or Internet-enabled device, including other handsets and PCs, enables users to upload and share a variety of files – audio, video, images, applications, documents and even games. More importantly, it represents another quantum leap in the handset maker's strategy to morph into a services provider.

Social networking has become the big buzzword of the Web 2.0 world. But will Web 2.0 companies dominate mobile social networks? Antonio Vince Staybl, CEO of Gofresh, the company behind the market-leading off-deck mobile social networking community site itsmy.com, is convinced Internet companies cannot hope to close the gap to nimble newcomers that know the mobile space. In his view, Internet giants are hampered by

Their singular focus on the PC has blinded them to what they need to do to be success in mobile.



their corporate DNA. “Their singular focus on the PC has blinded them to what they need to do to be a success in mobile. Put simply, I think it may even be too late for many Internet companies to make an impact; they don’t have a mobile service let alone a coherent mobile strategy.”

And he could be right. While many view mobile social networking as simply an extension of the Internet experience, AirG, a company that manages social networking communities on Sprint Nextel, AT&T, Virgin Mobile, Boost Mobile and other carriers, reports 59 percent of its 20 million users around the world don’t own or have easy access to a home PC.

However, you, the respondents to the Netsize survey, don’t believe the mobile industry can write off companies such as MySpace, Facebook, YouTube and Flickr just yet. The majority (67.6 percent) of respondents said Web 2.0 companies will indeed dominate mobile social networks; 32.3 percent believe mobile companies will have the edge in the end.

THE SEARCH FOR MONETIZATION MODELS

Recently, both the social networking industry and telecoms and media industries have started looking at ways to monetize their networking services and the avalanche of UGC that subscribers turned publishers have produced. The jury is out on the appropriate model to monetize eyeballs and interest, but a raft of announcements point in the direction of an ad-funded scheme. Jumbuck Entertainment began testing ads on its WAP Spanish-language chat and picture sharing community, Chat Del Mundo; itsmy.com launched the world’s first mobile social ad-network offering mobile advertising formats including banners, click-to-call, in-game advertising and WAP site branding; and MySpace rolled out its ad-funded mobile version.

Against this backdrop, is it safe to assume that the ad-funded model will be the norm in mobile social networks? You, the respondents to the Netsize survey, are unanimous. A whopping 72.5 percent answered ad-funding will be the dominant model; 27.4 percent disagree.

Meanwhile, MySpace executives are particularly bullish on mobile advertising, hinting that location and the ability to target messages and offers to members on the move may transform mobile communities into gold mines. And they are not alone. South African operator Vodacom made headlines in 2007 for its ambitious plan to launch The Grid, a social network service that will merge MySpace, Facebook and MXit with location to deliver a truly mobile social network on its own mobile platform. The idea is to location-enable all the usual networking facets – blogging, messaging and video uploads & downloads – and fund it through advertising.



Is location the next big thing? Location-based functionality is often cited as a key factor in enabling mobile technology to add value to social networking communities. Using a mobile, members could reach a community anywhere and at anytime, and the technology enables them to instantly upload pictures and video to share. It also offers users the chance to locate and meet up with online friends in the real world. The ability to look up the whereabouts of community members can also be a powerful draw for retailers looking to push offers to subscribers in their area, a privilege for which they might be prepared to pay a significant amount.

But not everyone is convinced that location is necessary for, or even desirable in, mobile communities. And there are still serious doubts about the business case for enabling such services with positioning technology. You, the respondents to the Netsize survey, are split down the middle. Just over half (53.7 percent) agreed that knowing members' whereabouts is the key differentiator between mobile and Internet social networks, while 46.2 percent felt the opposite.

The idea is to location-enable all the usual networking facets – blogging, messaging and video uploads & downloads – and fund it through advertising.

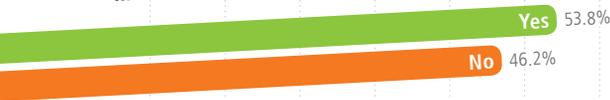


NETSIZE SURVEY RESULTS

Will Web 2.0 companies dominate mobile social networks?



Is knowing members' whereabouts the key differentiator between mobile & Internet social networks?



What is the purpose of the mobile device in mobile social networking? Is it a communication tool allowing users to connect with members of their community on the go, or simply a means to capture and publish photos & experiences to enhance their online profile?



Will ad-funded content, which potentially captures the most traffic in mobile social network, be the dominant advertising model?



* About the survey, please refer to pages 13-14

0 10 20 30 40 50 60 70 80



Knowing a member's whereabouts is not the key differentiator, but it is a key differentiator between mobile & Internet social networks.

Dan Melinger, Socialight, New York, USA

Taking pictures and videos is impulse. How many 'actually' 'really' maintain a library - and then take the pain of sharing them with family/friends?

Praveen Kumar Sattarapu, Ohal, Asia Pacific, Singapore, Singapore

The telephone was, and still is, primarily a communication device. It was for this reason that SMS took off so easily. Social Networking will enjoy a similar success as it ticks the right boxes and will in turn drive a change in device usability.

Morgan Bryan, M3Media, Shalford, United Kingdom



Strength In Numbers

Antonio Vince Staybl, CEO, Gofresh

Gofresh, the company behind the market-leading off-deck mobile social networking community site [ismy.com](#), continues to break records and new ground. The mobile Web-only community, which is ad-funded and therefore free to users, offers members a free homepage and a range of tools to create and share user-generated content (UGC). The destination doubles the amount of user-generated content created by its one million registered users every two months and counts over 200 million page views to date. The company recently extended this capability, allowing users to mash up their own content with noteworthy results: just five months after the launch, 400,000 users had created over 3.1 million pieces of mash up content. Antonio Vince Staybl, Gofresh CEO, talks about the release of his own mobile social ad platform and network, the role of Web 2.0 companies and the rise of mobile communities.

2007 saw a flurry of deals between mobile operators and Internet social networks such as MySpace and Bebo. Will Web 2.0 companies from the Internet dominate mobile social networks?

No. The assumption has been that Internet giants will dominate the mobile, but this view has been proven wrong several times already. Think of the devices and the operating system, for example. We have seen that the PC model is not the access model for mobile and the dominant operating system, Windows, has also not been able to claim the number one spot. Now when we look at the Internet names, companies like Facebook and MySpace clearly lead on the Internet but that strength is in reality a weakness. They have the online Internet in their corporate DNA and have set out to develop a service that consumers can use online at their PC. If you want to register, for example, you have to do so on your PC. Other sites offer little mobile content and some still don't offer a WAP site. Their singular focus on the PC has blinded them to what they need to do to be a success in mobile. Put simply, I think it may even be too late for many Internet companies

Their singular focus on the PC has blinded them to what they need to do to be a success in mobile.

to make an impact; they don't have a mobile service let alone a coherent mobile strategy.

What are the components of a successful mobile strategy?

That's just it; it is a mobile strategy, which means it harnesses the mobile device for more than communication. It encourages – even empowers – users to create and share content. You also need to understand that mobile social networking sessions – as you would expect of users on the move with some time to spare – are shorter. In a way it's a lot like a BlackBerry session. Users check in and check out what is new and then check back later. So speed has to be at the center of the service. People have to be able to get in and out quickly and, more importantly, you have to make it possible for users to make and share content quickly.



In the online world, users might look at content that is hours even months old, but this definitely does not happen in mobile.

They capture a photo and want to share it on the spot, so it better be possible for everyone to access this in a matter of minutes. In the online world, users might look at content that is hours even months old, but this definitely does not happen in mobile.

How important is location in delivering and promoting social networking services?

Ironically, we asked our customers what they wanted and location wasn't a major focus. If location does take off, then we're convinced the selling point won't be the ability to find buddies nearby. If they are buddies, then you can see that [through presence] and you're on mobile anyway, so you can interact with them, send a message, a photo, whatever. Knowing someone is nearby doesn't mean you'll want to go off and meet them in-person. A more popular service – and business model – might be around mixing location with a kind of smart search, to let users know when new people who are on their wavelength are nearby.

Do you believe ad-funding will be the dominant advertising model?

Definitely. There will be variations on the ad-funded model and there will be a premium service model where users pay to have a clean service without spam and other things I find annoying. Ad-funded works, we see this at itsmy.com, but we're also careful not to overdo

Mobile social networkers want to have everything on their terms and they expect to have a say in what advertising they are exposed to.

the advertising. The mobile screen is small and therefore it's important to have a clear strategy. More is not better and so we only show one advertisement per page. It may be less money [revenues] than is possible in online [advertising], but it is a much cleaner service. In the future we believe that 60 percent of the revenues will come from advertising and 40 percent from premium services, as I have defined them, not ringtones, wallpaper and the usual mix of mobile content. In fact, our users have told us in surveys that they will not take our service seriously if they even see too many ads for ringtones on our service. A Britney Spears ringtone, for example, is right out!

Your company recently launched its own ad-platform, developed in-house by Gofresh, which supports a range of mobile advertising formats. But you also allow members to choose the advertising they see. Why is this important?

The ad-platform we've launched is not a competitive service to known mobile advertising networks: it is much more an enhancement for advertisers and media agencies. It offers them for the first time the opportunity to integrate targeted user profiles within campaigns and the existing channels of the ad-networks. This is critical since mobile will be much more of a direct-to-consumer advertising channel. In other words, advertisers will have to direct the message to the individual consumer - and that message will have to be relevant and targeted. This is what we have achieved and now advertisers are just addressing the broad category of "community". We have allowed our members to choose the channels of advertising they want, so now when Nike wants to advertise for example, we have a self-defined group of sports enthusiasts who want to hear what this brand has to say. Mobile social networkers want to have everything on their terms – the content, the communication, the tools to create



and share – and they expect to have a say in what advertising they are exposed to. And if you don't give them that they will leave the space altogether.

What's next for your company?

Three things: give users more flexibility through widgets to create their space the way they want it; provide more and better tools for users to mash up content and create their own affinity groups around content; and move aggressively into mobile TV so we can provide users much more than a mobile site. We want itsmy.com to be a kind of interactive mobile TV and broadcasting station that gives users a new kind of communication channel and the chance to broadcast information about themselves to the community. We already have channels where we introduce and promote the coolest people in the community, and we want to extend this in the coming year.

60 percent of the revenues will come from advertising and 40 percent from premium services.



The Winning Bid

Henri Moissinac, Head of eBay Mobile

Founded in 1995, eBay Inc. connects hundreds of millions of buyers and sellers by providing a global platform for commerce, payments and communications. Over the years the company has expanded to include brands and activities including PayPal, a provider of payment solutions and Skype, a voice over IP communication service. With an increasing demand from users to access eBay wherever they are and whenever they wish, eBay launched a new set of mobile services, including eBay Alerts, to receive updates through phone calls; text messages; a new eBay mobile site, which enables users to search, browse and bid on auctions and purchase fixed price items; and an eBay mobile application with advanced features, available for download or pre-installed on phones. To date, the company has forged major alliances with leading mobile operators such as 3, AT&T, SK Telecom, T-Mobile, Verizon and Vodafone, as well as handset manufacturers including Nokia, to increase distribution of eBay Mobile and collaborate to build optimized mobile services. Henri Moissinac, Head of eBay Mobile, discusses the importance of mobile and the role of location.

Your company is an Internet giant with operations in 38 countries and some 248 million users worldwide. There are expected to be 3.5 billion mobile users by the end of 2008. Mobile is clearly a huge and growing market - do you expect to see more mobile users accessing your service than via PC?

The mobile generation is 'already' here and we see a significant and growing usage of eBay Mobile, but it is still a small subset of our users. Some say that mobile will replace the desktop, but we don't think so for now. We believe the mobile experience complements and enhances the desktop Web experience. These two experiences live together. Mobile will be used for small, fun and quick interactions and be an extension of what users want to do on the Web.

eBay is a marketplace where users can buy and sell items through auctions and fixed price items. This requires you to support interaction between users, some of it in real-time. Please provide an update

on your current mobile services and activities. How central is mobile to your strategy and how will it likely evolve going forward?

Specifically on eBay, there is significant activity in the last few minutes of each auction and we have seen how much our users want to participate in these auctions when they are away from their desktop. To fulfill that need, we deployed mobile services such as SMS alerts, mobile sites and mobile clients, for download and pre-load. Some of this requires re-inventing eBay for mobile and that's quite fun and challenging. We also work with leading mobile players, carriers and handset manufacturers to increase the reach of eBay mobile products and together build even better products. PayPal and Skype are also going mobile. We are quite excited with the opportunity and growth of the mobile market so we plan to invest more.



Mobile alerts are clearly a pivotal part of your mobile offer to date. Are you also considering extensions such as allowing sellers to sell on the go? Some classified services have already begun to harness MMS as a tool to display goods for sale and engage mobile users on the fly. Do you have plans to implement MMS in your strategy?

eBay Mobile is currently focused on buyers, enabling them to browse, search and buy on eBay when they are away from their desktop. We do have future plans for specific services dedicated to sellers, and MMS will be part of that. It's also interesting to note that a lot of our mobile traffic comes from sellers who are checking their own auctions or buying stuff from other sellers.

What is your view of location-based services supported by a slew of devices with built-in GPS? How do you see this capability enhancing your offer? Do you view it as a huge opportunity? How could it be used to better connect buyers and sellers, for example?

We think location-based services will boost the growth of the mobile market in general and therefore will increase the growth opportunity for eBay. There are specific eBay categories and services for which location is quite important, for example with eBay Motors, real estate and our Classified businesses such as Marktplaats, Kijiji, and Gumtree. So there are a lot of upcoming benefits for the consumer and we plan to participate in this market.

It's also interesting to note that a lot of our mobile traffic comes from sellers who are checking their own auctions.



Pushing The Boundaries

Javier Pérez Dolset, Founder and CEO, Zed Group



LaNetro Zed Group, headquartered in Spain, develops and markets entertainment and community products and services for mobile and the Internet worldwide. Following the acquisition of Monsternob, a mobile entertainment and content provider, in 2007, Zed now operates in 38 countries, including Europe's largest markets, the U.S. and China. Another milestone was the company's decision to build a truly Web 2.0 platform, bridging the PC and mobile to provide users anywhere, any device access to user-generated content, social networks and a range of communication tools. Javier Pérez Dolset, Zed Group Founder and CEO, discusses its portfolio and strategy to deliver a new and integrated user experience that spans the mobile and PC environments.

What are the noteworthy differences between the U.S., European and Asian markets? What are the challenges and opportunities specific to each, and how has the company structured itself to benefit?

Europe and Asia have been the strongest markets for the MVAS [Mobile Value-Added Services] industry over recent years - in fact some of the pioneers of this industry such as Zed were born in Europe. However, the U.S. market has been catching up fast during 2006 and even faster in 2007. Even the usage of data is increasing and this will open the door to a new group of products and services such as those developed by Zed.

Zed's subsidiary in the U.S., 9 Squared, has had a long and successful experience in the B2B [business-to-business] area through agreements with major and independent record labels, music publishers and entertainment companies. The U.S. market accounts for around 25 percent of our business, with Europe representing

40 percent and the rest of the world 35 percent. The objective of the company is to aim for a 33 per cent split of all three areas.

Regarding the company's structure, our headquarters are based in Europe from where we manage the operations of the 38 countries where we are active. Internally, the organization is divided into five regional divisions: Western Europe, Eastern Europe, Iberia and Latin America, the U.S., and South East Asia. Subsequent to the acquisition of Monsternob, the company has strengthened its position in key markets such as the U.S., Russia and South East Asia.

You have recently announced a significant milestone: \$100 million in monthly revenues. Do you attribute this stellar growth to your own company strategy? Or can it be read as a sign that the mobile content and media market itself is on the upswing?

Zed's growing business in the mobile marketing area has increased dramatically with great success in countries such as Italy, Russia, Spain and Mexico, together with the launching of new products across Europe and the U.S.

In four to five years between 40 and 50 percent of users accessing the Internet will do so from a mobile device.



which played a significant role in our success during the month of September. We are very proud of this milestone since it must be the first time that a pure mobile content company earned such a figure in one month. Zed now has over 35 million paying customers around the world, so these revenue figures illustrate the rising global consumer demand for mobile services and entertainment.

Some observers would say that both mobile and PC communities are fundamentally different. That is, a mobile community should be made-for-mobile and not just be the extension of an Internet community. What's your view of what works and what doesn't?

A community is a network of members with common interests who value keeping in touch, and sharing and enjoying content. Mobility is also important to individuals. Functionalities that have more success in the mobile social community are those related to communication such as instant messaging and chat. Communications that are primarily PC-based, for example blogs, are more difficult to take to the mobile. However, users have the possibility of uploading content and updating their post through their mobile wherever they are and this is an appreciated feature.

Multiplayer games are a component of your social community. On what have you based this decision?

They give you the chance to get to know new people outside your community of friends, who can then be added to your list of online friends. For example, one of our latest games, Zed Texas Hold'em Poker, has a ranking of the best players. This gives a chance for all players to compare their results against current friends as well as others they had not known before, as well as the opportunity to play poker against anyone from Zed's community – one of the

most successful features.

Will Web 2.0 companies dominate mobile social networks?

We don't think this will happen, or at least not in the next months. Today, the penetration of mobile is far higher than that of the PC. In four to five years between 40 and 50 percent of users accessing the Internet will do so from a mobile device.

Zed currently holds agreements with more than 110 mobile network operators. These agreements take a long time to be endorsed, as each company has its own characteristics and ways of working. We think it will take several years for companies such as Facebook or MySpace to complete such agreements, since each mobile operator has its own standards. There is also much technical work behind the adoption of each of the portals to the numerous terminals available in today's market. However, without this relationship it is impossible to reach the customer.

What is the purpose of the mobile device in mobile social networking? Is it a communication tool for members of the community, or a tool to capture and publish content such as photos?

Both options are possible. For example, with Zed StatiOn, a PC and mobile application, users can be connected wherever they are. From there they can manage their mail, blog, and also talk with all their friends via a unique instant messenger service that is compatible with MSN, Yahoo, AIM/ICQ and Google Talk.

It took Google almost 14 years to make its business work thanks to advertising.



There is a lot of excitement about ad-supported content and services. What is your experience with the ad-funded model?

At the moment it is not very relevant, but in 2008-9 we may well see a big improvement in this area. We have to bear in mind that it took Google almost 14 years to make its business work thanks to advertising and it will take some time for the same to happen in the mobile sphere. We don't think this will be the general approach for at least another four to five years.

Nevertheless, Zed has already has put forward certain initiatives to lead the mobile marketing area. One of the first steps has been the launching of a new range of products with the aim to keep providing added value services to the users. One such product is Zed Free SMS, a service that integrates mobile and PC. To enjoy this service, users can sign up for free to the Zed community, allowing them to send a maximum of five SMS per day without any cost. Premium users, who pay an amount that varies depending on the market, can send ten SMS per day. The system allows the user to send an SMS containing 100 characters maximum, leaving 60 characters for advertising.

At this moment, Zed is the only advertiser in FreeSMS and in this first stage the company wants to promote its own services, especially those related with mobile 2.0 and launching of new games. Zed will later open this opportunity to third parties.

and business opportunities are huge. That is why we are so excited at Zed.

What was the milestone development that marked 2007? What are the trends for 2008?

2007 was the year of iPhone and social networking, but the dissolution of boundaries between ISPs, telcos, media, handset manufacturers and content providers is creating a new environment for 2008 and beyond, defined by innovation, customer centric marketing, convergence and openness. It is an exciting time







DISTRIBUTE



LET US ENTERTAIN YOU

Digital convergence is about more than combining access technologies; it's also the catalyst for new services that marry broadcasting, personal communications and the wider Web. As these factors come together to create new businesses, new markets and new industries, they also create new challenges for media companies seeking to deliver content across a plethora of devices and platforms. The dream of cross-platform has been replaced by the reality of multi-platform as media companies, content owners and mobile operators recognize the business imperative of enabling the so-called "fantastic four" scenarios that bring together communications and content via video, TV, Internet and mobile.

Whereas before the industry was driven by killer-apps; now the focus is on creating killer experiences. The industry is beginning to follow the vision of this convergence that ties everything together – connectivity, communications and content – for the user everywhere.

In line with this vision, companies are revamping their content distribution strategies to deliver content in new ways that literally push the boundaries of ubiquitous access, to deliver users what they want, the way they want it.

Traditionally, a huge barrier to this convergence of content has been Digital Rights Management (DRM), the mix of tools and technologies that control access to copyrighted material. In February 2007, the public debate around DRM took a dramatic turn when Steve Jobs, chief executive of Apple, publicly called on the big four record labels to abolish DRM for portable devices. Jobs claimed that less than three percent of the music on an average iPod is purchased from the iTunes store and protected with DRM.

A huge barrier to this convergence of content has been Digital Rights Management.



The way he saw it is that with an estimated 90 percent of all music worldwide sold in a DRM-free format, the remaining 10 percent in a DRM-protected format is counter-productive. Not least because the lack of interoperability is frustrating to music fans and hampering the logical increase in the sales in digital music content that would occur if consumers had the opportunity to buy higher quality music tracks – unrestricted by DRM controls – and the freedom to listen to them on the device or platform of their choice.

A month later, independent record label EMI announced a landmark decision to remove all copy protection software from downloadable music. It also pledged to make its existing digital music catalogue available via iTunes without DRM, paving the way for users to freely copy the songs they download onto all of their devices, including mobile phones, without restriction.

Another company that seeks to deliver content across devices and on users' terms is Microsoft. In 2007, it took the wraps off PlayReady, a new DRM system that allows users to utilize commercial content on multiple different mobile devices for a single fee. The technology enables a broad spectrum of business models such as subscription, rental, pay-per-view, preview and super-distribution and can be applied to many digital content types and a wide range of audio and video formats. Microsoft's new multimedia content access technology was optimized to meet the needs of mobile operators and handset manufacturers for digital entertainment and commerce, and quickly won the support of major mobile operators worldwide, including Telefónica, O2, Bouygues Telecom, and AT&T.

Microsoft also signed up Nokia, which committed to implementing PlayReady content management software in its two most popular mobile operating systems, the S60 for premium phones and the Series 40 for lower-end devices. These PlayReady devices are set to hit the market in 2008. Nokia's deal with Microsoft extends an agreement from 2005 between the two that saw Nokia support the Windows Media platform.

When asked if DRM-free with subscription will dominate mobile content distribution, you, the respondents to the Netsize survey, believe this will have a significant impact on distribution models. The majority (66.1 percent) answered yes; 33.8 percent disagreed.

THE SHOW MUST GO ON

However, DRM isn't the only obstacle to digital content distribution across an array of devices and platforms; ironing out the legal and contractual details with rights owners for content and events, such as concert festivals and championship soccer games, can be an even bigger headache. A prime example of how these



tensions can erupt, and thereby disrupt the content industry, is the decision of the Writers Guild of America (WGA) to strike for more compensation from DVD sales - an online distribution of their work. Their action affected several popular late night talk shows and news programs. Traditionally, writers have received just 1.8 percent of the nearly 20 percent of wholesale DVD revenue that is generated. The WGA would like to see this percentage doubled, or more. Studios have maintained that higher residuals on DVDs and Internet downloads would stifle industry growth. The strike speaks volumes about the important and unpredictable role that rights and rights-holders can play in content distribution.

In the music industry, companies understand that an event is about more than music; it's about the artists, the fans and the feeling, and the range of related products reflects that. With this in mind, music publishers, agents, labels and aggregators cooperate to package content around artists and events and even bundle content including demos, acoustic sessions, backstage outtakes, artwork and video.

Analysts warn that this is the direction sports rights-holders have to go, or risk missing out on huge opportunities around blockbuster events such as the 2008 Olympics. Meanwhile, critics in the industry complain sports rights-holders have yet to understand the benefits of bundling content. Additionally, rights-holders would do well to stop offering rights on an exclusive basis, a practice the mobile industry claims is holding up the show.

As a recent report from U.K.-based consultancy Juniper Research points out: "Rights for the distribution of digital content though the mobile channel have been something of an after thought, following TV and broadband in many cases, but they are now becoming big business." Indeed, there is something of a chicken and egg situation with rights for mobile distribution acquiring greater value as demand for mobile content increases. Demand for mobile content is also heavily dependent on the range of content available. Lack of licensed content in some markets will be a constraint on services requiring branded content, such as sports and celebrity images and video, for some time to come.

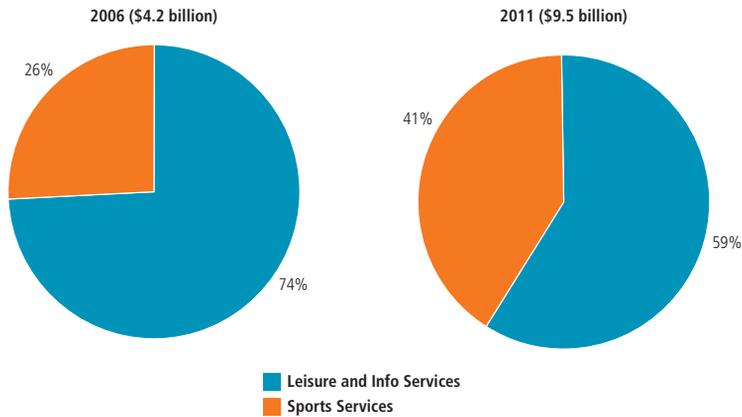
Juniper estimates the total global market for all forms of mobile sport, leisure and information data services, including alerts, SMS and MMS messaging and information services, chatting, wallpapers and images, video clips and streamed video, will rise to just under \$9.5 billion by 2011, up from \$4.17 billion in 2006.

Sport is expected to be the fastest growing sector within the sports, leisure and information data services and content sector. Sports content and services are expected to grow to nearly \$3.9 billion in 2011, up from just over \$1 billion



TOTAL REVENUES FROM MOBILE SPORT, LEISURE & INFORMATION CONTENT AND SERVICES. PRODUCT SPLIT (%) 2006 AND 2011

Source: Juniper Research



in 2006. The growth drivers are increasing 3G penetration in all regions and increased licensing of sports content for mobile.

CONSUMABLE CONTENT

The variety of content formats is almost as broad as the choice of content. In the case of mobile TV, for example, providers can serve content in easy to digest “snacks,” made-for-mobile mini-episodes also known as mobisodes, or as full-length programs that deliver an end-users experience identical to TV viewing – only on a much smaller screen. There is no right answer. Some companies, such as cable broadcaster HBO International, have chosen to distribute mobile TV programming as part of a pre-packaged video-on-demand bundle. The company is convinced the service, which remembers where users left off watching the program and allows them to pick up at that point, is perfectly in tune with users’ TV snacking behavior as well as today’s technology and tariffs. Meanwhile, NBC Universal, which has developed two channels using the MediaFLO standard for broadcast, isn’t sold on TV snacks. Its distribution model lets consumers watch full-length shows as well as short-form content.

However, the textbook example of *Afterworld*, a world-first interactive, animated, multi-platform series consisting of 130 two-minute segments produced by Sony Pictures Television International, could set the benchmark in new and convergent forms of content. The *Afterworld*

Sport is expected to be the fastest growing sector within the sports, leisure and information data services and content sector.



series, which combines the passive consumption experience associated with TV and the more active interaction encouraged by mobile, has been designed to be delivered via mobile as 2-minute mobisodes and can also be strung together to be shown as a 30-minute TV show. To round out the offer, it is also the focus of PC and mobile sites, which encourage users to discuss the series and co-create local episodes, and a multi-player Playstation game.

GAME-CHANGING COMBINATIONS

New distribution models are paving the way for content providers to explore new territory and claim new turf. Jamba, a global content provider perhaps best-known as the inventor of the Crazy Frog ringtone, is a pioneer in full-track music downloads, software that enables users to sideload content between their mobile and PC, and a single interface approach to content that will ultimately pave the way to on all-encompassing digital experience.

Lee Fenton, Jamba Chief Operating Officer, sums up the offer this way: “Our music store, which is live in Germany and with beta versions in 17 other countries, offers single downloads, download subscriptions and all-you-can-eat monthly rentals. We also offer streaming video clips over the Web, in the form of produced content, as well as the ability [for users] to upload their own clips from their PC or mobile phone. This year will see us deliver availability of service wherever our customer demands it - Web, mobile, TV, set-top box or any other means.”

And Jamba continues to grow its stockpile of games, music and video content, adding both blockbuster content, such as the Simpsons, and its own IP content. According to Fenton, Jamba has some 1,000 games live and adds another 1-2 per day. “The breadth and depth of our portfolio, along with our sharp focus on quality, ensures our customers will come back to us because we offer them choice. They recognize they can find what they are looking for and this provides us with long-term revenues.”

Against this backdrop, distribution is no longer only about technology and issues such as DRM; it’s increasingly about empowering consumers to experience new content types and combinations across a multitude of platforms and devices. The goal is to create a new kind of digital exchange that involves all content across all networks and devices.



NETSIZE SURVEY RESULTS

Which will have greater impact on how your company organizes itself and its content for distribution to customers?



Will free-DRM with subscription dominate the mobile content distribution?



Concerning user super distribution:



* About the survey, please refer to pages 13-14

0 10 20 30 40 50 60 70 80

There is no such thing as DRM-free content, only perception of such.

Thor-Arne Pettersen, the24 ltd, London, United Kingdom

I think that the idea of super distribution is nice but it is too complicated. I think that recommendations via a shop GUI will be the way to go.

Dirk Markner, Vistream GmbH, Dortmund, Germany

Access to content and applications should be ubiquitous using personal keys. Consumers should only pay for licensing rights once and then use their "keys" to access their licenses from anywhere. Car, phone, home etc.

David Hudert, Rockitz Inc., Alexandria, USA

As the PC is shifting from the study to the living room, it will become the central home device where all multimedia is taking place (entertainment, communication). The mobile will then be the extension of the PC to access music, games, TV and video.

Jonie Oostveen, Beatbrew, Maisons Laffitte, France

Convergence is slowly but steadily coming alive. One single instrument is helping us to talk to wife and bank (albeit not at the same time), and allowing us to play music and games. And with the increasing capacity of memory chips, why should I carry my laptop if I can do a PowerPoint on my way home on the train? Why should I invest in a gaming console if my mobile can do it equally efficiently?

Praveen Kumar Sattarapu, Ohal, Asia Pacific, Singapore, Singapore



Combining Content, Platforms & Communities

Lee Fenton, COO, Jamba

Jamba - a joint venture between News Corporation and VeriSign, Inc. headquartered in Berlin and Los Angeles - is perhaps best known as the company that produced the Crazy Frog, the most successful ringtone of all time. In addition to offering its own original mobile content via its mobile and Internet D2C destinations, Jamba also provides a wide portfolio of popular digital content ranging from The Simpsons to ringtones from top music labels to mobile games from renowned game developers. Jamba services are available in more than 35 countries and reach one in six consumers around the globe. In Germany Jamba also offers Jamba Music, a portal complete with a download player that allows users to simultaneously rent and play music on PC and mobile. Lee Fenton, Jamba Chief Operating Officer, talks about convergence, community and the company's wider D2C strategy.

Your company, which has strong European roots, has announced plans to increase focus in the U.S. What are the noteworthy differences between the U.S. and European markets? What are the challenges and opportunities specific to each, and how has your company structured itself to benefit?

It's true that we have strong roots in Europe, we were founded in Berlin and have most of our staff in Europe. However, the U.S. is a large market and represents a significant opportunity for us. Since Fox Mobile Entertainment and Jamba came together earlier this year, the influx of exclusive Fox content such as Mobisodes with programs such as 24 and Prison Break through to content from the Simpsons has helped us to be even closer to the U.S. market whilst also satisfying demand in other markets.

The U.S. market is more fragmented with different standards, poorer quality handsets and more closed carriers. At the same time, the U.S. does have better data tariffs and customers are much more open to exploring different entertainment sources. In Europe, there are common standards and the roll out of higher

bandwidth has been quicker than in the U.S. But we also see consumers suffering from high data tariffs and this limits the access to content. As the U.S. market evolves, we see a significant growth opportunity because the culture there encourages consumers to seek out [mobile] entertainment on a much higher scale. If you add that to the easy access to data and better handsets coming into the U.S. market, the potential growth is much larger in that market. That said, the European market will remain a very important and big market for us.

Music, games, video on one side; mobile communities and dating services on the other. Jamba is a company with a broad service portfolio. What is your future focus? Do you consider yourself as a merchant selling digital content, or a social network based on an ad-funded approach?

As the industry's only vertically integrated digital entertainment company, Jamba has the unique capability to produce, market, sell and distribute mobile phone entertainment and we currently reach one in six consumers worldwide.

We already are and will become an even bigger competitor to Amazon and iTunes.

We are also part of the social network market, but you won't see Jamba as the home site of the social network member. We will be integrated there as a provider and platform for digital content. Put another way, we develop strategies to embed into social networking sites and cross pollinate content across sites. We already allow consumers to develop music playlists and integrate as a widget into MySpace or cross pollinate through games high scores and mashups of videos on others sites. This mobile commerce partnership with MySpace has already been launched in the U.S. and will be launched in Europe in 2008.

We are also exploring ad-funded and believe it has an important role in social networks. We have proven this by pioneering ad-funded Mobisodes such as Prison Break and 24. In addition, we already offer ad-funded games.

As the mobile and PC worlds converge, observers note online giants are the key competitors to mobile merchants and media companies. Moving forward, do you see yourself competing as a mobile content retailer against the likes of Amazon and iTunes? Or do you see yourself competing more as a social networking company against the likes of MySpace and Facebook? Or are you competing in both market segments against these and other Internet destinations? Please explain.

We don't see social networks as competitors. Rather they are a space where we need to be to integrate our offer and interact with our customers because that's where they want us.

They will all face the challenge of delivering a quality service to the range of handsets and access networks.

We already are and will become an even bigger competitor to Amazon and iTunes. They have both shown tremendous growth, but as customers continue to live their lives on mobile we believe that we have an opportunity to deliver a great service to an ever-growing customer base.

We currently do a large amount of our business on the Internet, both in terms of marketing and service delivery – we expect that to continue to grow. No matter how the customer chooses to access the Web, the key is to keep our offering both relevant and enjoyable. There is no doubt that new players will come onto the market as more users utilize mobile devices to access the Internet. Some [of these Internet players] will have success, but they will all face the challenge of delivering a quality service to the range of handsets and access networks that we have learned to serve successfully over the past 7 years. Today we optimize our services across 2,000+ handsets and we connect to 125 networks round the world. To deliver a quality product in this market today you have to have the capabilities and expertise to do this, and you have to do it for an ever richer catalogue of content.

You are sharply focused on bringing together the mobile and PC worlds, paving the way for users to have more of a say in their content consumption. What are your plans over the next months?

We are proud of the progress on our full-track music download offering, where we see the PC client and player as fundamental to the proposition. This offer lets the customer decide how they want to access and enjoy the content. Our music store, which is live in Germany and with beta versions in 17 other countries, offers single downloads, download subscriptions and all-you-can-eat monthly rentals. We also offer streaming video clips over the Web, in the form of produced content, as well as the ability [for users] to upload their own clips from their PC



or mobile phone. This year will see us deliver availability of service wherever our customer demands it - Web, mobile, TV, set-top box or any other means.

Sales in the ringtone market are definitely lackluster. What other music content products can fill this gap? What mobile music products do you have on the radar? Which are the most exciting/promising? Why?

Contrary to a lot of reports out there, the ringtone is not dead. Our absolute sales of ringtones showed an increase throughout 2007. However, it is also true to say that ringtone sales have gradually slowed a proportion [in relation in sales] to other products. While we acknowledge that most customers know us as “the ringtone guys,” this is a perception we will evolve over time.

To underline the breadth of our offer, we have expanded to provide full-track music downloads. Although the market for full-track downloads is still in its infancy, growth was very strong in 2H2007. Mobile games continue to perform strongly, with five of our top ten downloads in 2007 being games, including the Simpsons Minutes To Meltdown game. This was the top seller worldwide in 2H2007, a position that was occupied by ringtones over the last five years.

Your company has been very successful with content users recognize, such as the Simpsons. Do you believe in blockbuster entertainment? Or are you also pursuing ways to better monetize the Long Tail of hit-and-miss content?

We’re continuing to offer a mix of our own IP content, along with blockbuster material under license, such as The Simpsons and Prison Break from Fox. Currently, we have 840 license contracts [for content] in place across our portfolio. Naturally some content flies quicker off the shelf than other content. Content that users

recognize is generally more successful, but we aim to offer a full mix of content – there’s a great deal of people who don’t want just blockbuster material and we cater for them too.

We want to provide our customers the best content regardless of where it comes from – so long as it meets our standard for quality and the business model makes business sense. For example, we currently have some 1,000 games live and we add another 1-2 per day. We also reject around another 20 per day because they either duplicate content we already offer or they have low quality. The breadth and depth of our portfolio, along with our sharp focus on quality, ensures our customers will come back to us because we offer them choice.

This year will see us deliver availability of service wherever our customer demands it - Web, mobile, TV, set-top box or any other means.

Your company is a D2C play. What strategies and partnerships are you exploring to extend your reach and increase visibility? What role will alliances/partnerships play in your wider strategy?

Jamba will remain a direct-to-consumer business. Partners are key to our growth and we currently have 125 carrier partners and 840 content partners worldwide. Over the next year, our list of other partners will also grow.

Partnerships with handset manufacturers, ISPs, advertisers and portals are all an increasingly important part of our evolving business. For example, we have made several announcements with Nokia in 2007, the latest being that Jamba Music is now available in Download! on the Nokia 5310 XpressMusic and Nokia 5610 XpressMusic devices. Download!, the content distribution service found on a variety of Nokia devices, lets customers personalize their mobile

Ad-funded content will transform the market and pave the way for further growth as it enables us to reach customer segments that normally would not have paid.

devices with content such as music, games and applications. Consumers purchasing applicable handsets can now access a comprehensive catalogue of up to 1.5 million music tracks.

In addition, we have also created dedicated portals for iPhone customers, allowing them to access a broad music offering as well as a varied mix of music videos, amusing videos, movie trailers and bonus material for selected films. Original excerpts from all episodes of the fourth season of the popular SKY ONE TV series “24” will also be available, as well as a variety of games such as the popular mobile game “Bejeweled” from PopCap and “Bowling” and “Black Jack” from MyNuMo and HandyGames.

Please provide details on your mobile TV/video strategy. Your executives have been quoted as saying that you would like to target early adopters who tend to like mobile television and related content. What is your future roadmap?

TV/video is still in its infancy and certainly hasn't developed as many analysts expected or forecast. However, as user handsets - and the networks on which they are used - become more capable we do believe that consumers will view more video on their handsets. When growth reaches this point then TV and video are a natural fit with what Jamba and Fox offer. In the U.S., Fox Mobile Entertainment already offers home-style television viewing on mobile phones via [the] MediaFLO [mobile TV standard] so we already have the experience in this [offering mobile TV services].

We do expect that the larger demand over the

coming period will be for short-form video of up to four minutes, and we already have this in our growing video portfolio with everything from music, comedy, Mobisodes, user-generated and much more. Across all video we see growth, although it is small as a percentage of use today and we expect that to be true in 2008 as well.

Jamba will continue to experiment and look at different models such as the ad-funded mobisodes which we have in the U.S. and have been successful with, for example the 4th season of 24 being fully available as a Mobisode. In addition, we also have a subscription service in Europe which gives consumers between one and three videos per week, and iPhone portals in three countries which also allow consumers access to video.

Many observers argue there is a trend away from content sales strategies that emphasize print/radio/tv promotion and enable billing via Premium SMS, to an online model where both promotion and payment are delivered via online and mobile. What is your view? What are the implications of such a trend on your business?

Promotion and payment via online and mobile is nothing new and we have a lot of experience in this. We had our first WAP portal running in 2000 and payment via that method continues to grow. Jamba will always continue to use the payment model that is easiest for the consumer to use and understand. Granted, many consumers still don't entirely understand how billing works via their mobile phones, but we are confident we will get there as commerce converges on mobile.

Many companies have positive experiences with the ad-funded model. What are your experiences and ambitions in this direction? Will ad-funded be the dominant advertising model? What other business models are on your radar?



We have taken our first steps in this direction and found it to be a positive experience. We had great interest in the sponsorship of our Mobisodes in the U.S. where American Express and Toyota signed up to sponsor 24 and Prison Break respectively. However, it's very early days and both metrics and industry standards must still be developed so that all parties can measure the results [of the ad campaigns] and have a better idea of what they can expect to achieve.

Moving forward, we're trialing other approaches as well. An example is in-game adverts which regularly update within mobile games so that the ads in the side of the pitch or the back of the net change every time users play the game. It's a great way to keep products looking fresher and it ensures users are exposed to truly non-intrusive ads. Ad-funded content will transform the market and pave the way for further growth as it enables us to reach customer segments that normally would not have paid to access mobile content. Ad-funded brings more content to more customers. But it's not the only model we see. We expect the market will see a mixture of [models] including subscription, single purchase, gifting and ad-funded.

We all agree that stickiness and building customer loyalty are key to long-term sustainable high performance. Achieving this requires a company to excel in branding, in the choice and delivery of quality content, and in understanding and delighting the customer through superior CRM. What is the most difficult task for a mobile content retailer and why? Which is essential to success? Why?

The best and widest choice of content, superior customer experience and brand are all important in building customer loyalty. Perhaps the most difficult aspect to control for a content and service provider is the customer experience. We go to tremendous efforts to ensure that our

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customer offer is the best it can possibly be across thousands of handsets and hundreds of networks, all bringing with them their unique attributes. Over time, standards will evolve and reduce this fragmentation, allowing consumers to realize the full scope of the opportunity for discovery, viewing and interacting with content on their mobile phones.

We already have hundreds of millions of people around the world using content on their phone every day, but it is still not as simple and intuitive an experience as it should be. When the industry tackles this hurdle then the next wave of growth can be realized.

What was the milestone development that marked 2007? What are the trends on your radar for 2008?

In 2007, mobile content evolved with consumers showing a bigger appetite than ever before for content beyond ringtones. In Europe, the evolution of more affordable and understandable data tariffs is now starting to help mature users use more and new users try more, without fear of excessive charges. The arrival of the iPhone has also made consumers aware that mobile phones are for more than talking. After replacing the alarm and the camera, the mobile phone is now seen as a means to access the Internet and music. 2008 will see this trend accelerate as we see a number of factors play in favor of more Internet use, including a new generation of sophisticated devices from handset manufacturers, the spread of high-speed networks and the advance of lower tariffs making mobile data services and content more affordable.



At The Crossroads Of Content & Context

Nicolas d'Hueppe, CEO, Cellfish Media France

Cellfish Media creates original branded content and also distributes third-party content including ringtones, wallpapers, videos, animations, games and applications, via its proprietary platforms to more than 350 million consumers through its direct-to-consumer channels. The company, which is a leading content provider in Europe and North America, recently took a significant step in the direction of cross-platform entertainment with the launch of Cellfish.com, a social network and entertainment destination portal allowing consumers to play, store, and share music, videos and art between their PCs and mobile devices. The portal also allows users to broadcast content from their mobile phones to other wireless devices, thereby creating a community around a new generation of mobile bloggers. Nicolas d'Hueppe, Cellfish Media France CEO, talks about the trend to user-generated content, and the role of mobile communities.

Do you believe ad-funded will be the dominant model? What role does advertising play in your content distribution and sales strategies?

We have already demonstrated that consumers are willing to pay for premium content, so we shouldn't seek to change this behaviour by replacing premium with ad-funded. There should be a combination of the two [models] and the mix depends on market characteristics.

If we examine the French market, for example, we see that there are 45 million handsets and roughly 10 percent of this total purchased premium content last year [2007]. So if we want to get another 20 or 30 million consumers [to purchase premium content], then we need other products and approaches. Maybe it is indeed the case that mobile content must be free to jumpstart this larger market and in this case, of course, ad-funded would be the answer.

Cellfish offers both original content and content from big brands. What is your primary focus moving forward?

At the beginning, in Mobile 1.0 so to speak,

we started out with poor products and poor quality experiences. There was no need to develop real brands because there was not a real market. Now we are entering a new phase, and if we want to address the market and satisfy the customer then we have to employ marketing techniques. This means having a destination, a URL, that users can input and recognize. More importantly, it means building consumer trust in the brand and the offer.

We are developing a brand; we want to be known by customers as a destination for lifestyle products. A big part of this new push is our focus on offering services, such as our cross-platform offer, that links the Web and WAP worlds.

With convergence comes the complex task of integrating a plethora of payment solutions and systems. What challenges does this present Cellfish as it seeks to promote and market its broad portfolio of content and community applications?

Mobile users are ready to pay and they are quite comfortable with Premium SMS. Users coming to mobile from the Internet, on the



other hand, know PayPal and credit cards and want to use the same mechanisms on mobile. However, they are also not used to paying for content because content on the Internet –the model is supported by advertising.

Put simply, the question is not so much about integrating payment solutions and systems as it is about shaping user habits. Should we integrate every type of payment [system]? Perhaps everyone should be willing to pay for mobile content first. And this is perhaps where ad-funded and advertising fits in as a way to create and grow the market.

Will this require companies such as Cellfish to bundle their products in new ways?

When a user wants a ringtone, they want to buy that content and are not interested in [a package deal that includes] chat credits and other content. The intent is to buy a ringtone. But once the user has bought a ringtone, then we can push them an SMS suggesting other products and related content they might find interesting based on the ringtone purchase they just made. This is the approach we are taking in our own marketing.

The goal is to design an approach that can suggest different content depending on the user context. A user who downloads a ringtone from an adult magazine at midnight should get a very different SMS than a teenager that buys a teddy bear wallpaper from a magazine at 9 A.M. We don't get customer information from the carrier, but we can glean a lot from monitoring individual purchases and circumstances. A purchase tells us a lot. We know the handset type because the user chooses content that will run on their mobile device; we know the magazine where the user read about it [the content offer]; and we know where and when the user downloaded the content. This is enough data to understand user intent and recommend other content the user might like.

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Will Web companies dominate mobile content retail and mobile social networks?

We are convinced that our one major advantage is our deep knowledge of mobile. Companies from the Web don't fully comprehend mobile as a channel, and don't fully understand the importance of building a bridge between the PC and the mobile worlds.

Is user super distribution the superior way to successfully market products or does it create more complexity than it's worth?

Viral distribution is very exciting, but it's a combination of many things that can make this a success. Spreading content virally on mobile is not as easy as it is on the Web where users can send content to 20 friends via email for free. On mobile you can forward an SMS to 20 friends, but it will cost you to do it. Distributing content virally has to be cheaper and there have to be models to enable that.

We are convinced that mobile will be instrumental in the creation of content. Devices are equipped with cameras and video so users can simply capture what they see and share it. That's also why we offer users a locker to store their content and a place where they can show it to their friends. This effectively creates a viral system based on [seamlessly] capturing, sharing and connecting around original content – and you can't do that with the Web.

Distributing content virally has to be cheaper and there have to be models to enable that.

“The Most Interesting Year Ever”

Tim Green, Executive Editor, Mobile Entertainment Magazine



The advance of Internet heavyweights, the rise of mobile social networks and the impact of ad-funded schemes on mobile content creation and distribution. Tim Green, Executive Editor of Mobile Entertainment Magazine, walks us through the trends to watch in 2008. Mobile Entertainment magazine, a monthly trade publication that delivers news, analysis and commentary, reaches a global audience of some 10,000 content executives, backed up by a burgeoning online presence and specialist events.

2008 will probably be the most interesting year ever for mobile entertainment.

There has been a flurry of activity in the industry related to a variety of content services and applications, ranging from gaming to music to mobile video to social networking. What sector has produced the most interesting initiatives?

Hardly an original thought, but the point where mobile entertainment meets social networking is probably most interesting right now. Lots of mobile pureplays like GoFresh, Peperoni, Loop, Bluepulse and others seem to be driving a lot of traffic with community ideas. And then there's the whole 'upload for money' concept thing that YoSpace has done so well.

A surprising development is the proactive approach of handset makers such as Apple [iPhone] and Nokia [Ovi] and their move into services distribution. What tensions will erupt and what outcome do you expect?

Operators are far more worried about VoIP than competitive content service.

If nothing else, it's going to make 2008 probably the most interesting year ever for mobile entertainment. I think we'll see more of the same schizophrenic approach that we witnessed in 2007, with regards to Apple and Nokia. T-Mobile and Orange remain staunchly opposed to Nokia's Ovi services, while clearly Vodafone and O2 have no problem with them. At the end of the day, they still have the billing relationship with the customer. And anyway, operators are far more worried about VoIP [Voice over IP] than competitive content services, from what I hear. Regarding Apple, I just don't see the iPhone making that much difference to the business outside the U.S. To me it's a very beautiful device, but a niche one. Other handset companies will copy it, perhaps. Google Android could be very interesting though.

What is your opinion of the role of ad-funded services, offered by companies such as Blyk, and mobile advertising (display banners and in-game advertising) as a means to make content affordable for a wider user audience?

Blyk isn't exactly pulling up trees, although it's far too early to make judgments given that the MVNO was launched with a slow-burn viral strategy. What's interesting about Blyk is



its policy of using messaging rather than banners as its chosen ad channel because it's what consumers are comfortable with. Clearly, ad-funded content will continue to grow – there's so much interest in it, it can't fail to do so. But free content is a dangerous road to go down as it can wipe out the paid-for offerings. This is why GreyStripe, Hovr and the rest don't yet offer really premium rated games, and why operators are experimenting with subsidized games rather than free. The industry still needs to work out how to advertise in games too. Obviously no one wants to annoy players in the middle of a game session. The fact that Actionality was bought by Yahoo, and Amobee got loads of funding shows how much faith there is in the area, though. Rhythm's made a lot of headway in ad-funded video too.

Payforit, PayPal mobile, Google Check-Out. Mobile payment is evolving and the market is crowding. Will the mobile operator continue to dominate the billing relationship?

This is the one area I really can't see the operators surrendering without a fight. It will take years for Premium SMS to disappear, despite its clunkiness. People know it. It's ubiquitous and it works – even if it now has a sullied reputation. Obviously, if the mobile Internet keeps on opening up – as it will – then consumers will be free to pay by PayPal, VISA [etc..] However, it's not just a technical question, it's more about UI [User Interface] and security fears. So I see WAP billing and SMS dominating for a long time.

What are the key obstacles to mobile content development? Platform fragmentation that forces developers to customize content for a myriad of handsets? The rev-share demanded by mobile operators? High rates for mobile data? Poor usability?

I think consumer ignorance and fear are the

big hurdles. Think about all the people you know (who aren't in the business) and ask yourself how many of them even know it's possible to browse the Web from their phone, or download a song or a game. And of those that do, how many are too scared to do so because of data charges. We need to tackle this in order for the industry to flourish. Some breakthrough products would help: look at what the Brain Training games have done for Nintendo, for example. Fragmentation, rev shares, billshock – they're all problems, but access to content is the most pressing. The dominance of the operator Top 10 deck is doing us all a disservice.

Will free-DRM with subscription dominate the mobile content distribution? Please explain your answer.

Not sure about subscriptions. I feel a subscription fatigue setting in across all areas. People have so many subs for TV, net, charity, whatever. I think there's a lot to be said for – and a lot of mileage in – the one-off download.

Is user super distribution the superior way to successfully market products or does it create more complexity than it's worth? Please explain your answer.

We've been talking about super-distribution for years, but I still don't see much of it. Consumers don't like DRM much, and the trade seems to be turning away from it too. So I'm not sure super-distribution has much of a future for commercial products. It could be great for viral marketing though.

I think consumer ignorance and fear are the big hurdles.





FIND



SEARCH FOR TOMORROW

Understanding users can't buy content if they can't find it, an increasing number of mobile operators and content providers are scrambling to offer mobile search capabilities, as well as an array of tools, that will encourage users to explore more of the content at their finger tips. The raft of recent announcements, involving market giants such as Google, Yahoo, Microsoft and a growing number of white label search providers including Fast Search & Transfer, which was acquired by Microsoft at the start of 2008, Medio Systems, JumpTap and Mobile Content Network (MCN), shows carriers and content companies are clearly excited about mobile search.

However, plain-vanilla mobile search solutions that deliver a list of links are not at the center of a satisfactory user experience. A one-size-fits-all approach from the Internet, that ignores the needs of individual users for search results that matter to them, was replaced in 2007 by a more personalized approach as search companies revamped their strategies to incorporate factors such as users' context, location and browsing patterns.

Yahoo was one of the first out of the gates with its oneSearch, a Web 2.0-type search engine that picks up on users' intent, intuits the information they want and then presents the relevant content, grouped by subject, in synopsis form. In 2007, Yahoo launched in 19 countries and in December announced its biggest carrier deal to date, launching as the default mobile search engine on America Movil's mobile portals in 16 countries across Latin America and the Caribbean.

Not to be outdone, Medio Systems' solution combined search and recommendation technology to proactively suggest similar content to users based on an analysis of their content preferences and intent, a feature that takes center



GLOBAL SEARCH REVENUE ESTIMATES

Source: Piper Jaffray & Co.



stage in several mobile operator deployments, including its milestone mobile search and advertising tie-up with T-Mobile in Europe. The mobile search service, live in the U.K., Germany, Austria, The Netherlands and the Czech Republic, delivers results across t-zones and a range of downloadable mobile content contained on the portal, including music, images, games and video.

But the renewed focus on relevancy is not just a decision to delight the customer; personalized search provides mobile operators the basis for new and lucrative segmentation strategies, as well as targeted mobile advertising campaigns. In recognition of this trend, the race is on in 2008 to deliver the right content to the right users.

As Dan Olschwang, JumpTap CEO, points out: “[Relevancy] is an important dimension of the user experience, because an individual user appreciates results that are targeted and therefore useful. We also believe that promoting discovery is the other side of the coin and we emphasize discoverability of search in the services we provide.”

THE GREAT DEBATE

Search - which is already the de facto interface to content in the online space, with more than half of all users going straight for the search box when they enter a website – is also becoming the primary means to mobile content

Half of all users going straight for the search box when they enter a website.



and services. However, the pivotal importance of mobile search exposes some potentially volatile tensions between branded search providers Google, Yahoo and Microsoft – companies that are also Internet portal providers extending their reach into mobile – and mobile operators struggling to strike a balance between maintaining their portal destinations and becoming the on-ramp onto the open Internet.

The fear is that mobile operators could risk brand dilution if they tie-up with branded search providers, whose names are also synonymous among consumers with content and services. Indeed, users could – and increasingly are – changing the current default setting from the mobile operator portal to point to a search engine home page. As users find their way directly from a search home page to off-portal mobile data services, mobile operators face the challenge of being relegated to the position of pure network provider and bit pipe.

White label providers, on the other hand, have no content portal ambitions of their own and have built their business models on putting the operator brand first, which would seem a safer bet for mobile operators concerned about sharing their users – and their mobile search revenues – with branded players. Against this backdrop, 2007 saw a raft of operator wins for white label providers including JumpTap, MCN and Medio Systems.

The alliances are also read by industry observers as a clear sign that operators are not about to relinquish their control to branded players. Instead, mobile operators, like the media companies they now strive to be, are resolved to maintain control of their digital assets and have the final say on mobile search monetization schemes. Put another way, mobile operators including Vodafone and Orange begin to wield their assets, much like TV broadcasters or newspaper publishers, and sell advertising space across their portals. Vodafone even changed its internal structure and beefed up its internal ad sales team.

While Yahoo and Microsoft fine-tune their approach to enhance rather than displace the carrier brand, even going so far as to say they can adapt to operator business rules and put their brands second when needs be, the July 2007 news of Google indexing content to lay the foundation for its own mobile downloadable content superstore heated up the “branded vs. white label” debate a second time. But all of the Big Three chalked up major carrier wins in 2007, including partnerships to monetize search advertising and operators’ on-portal content.

Vodafone changed its internal structure and beefed up its internal ad sales team.

So, is an alliance with a branded search provider the first step on a slippery slope to an access strategy? The jury is still out on this one, but you, the respondents to the Netsize survey, see it differently. When asked if mobile



WORLDWIDE MOBILE INTERNET USERS, MOBILE SEARCH USERS AND MOBILE SEARCH ADVERTISING REVENUES, 2006-2011 (MILLIONS)

	2006	2007	2008	2009	2010	2011
Mobile Internet users	337.3	405.5	489.6	596.4	757.1	982.4
Mobile search users	266.0	327.2	410.7	561.8	672.3	901.1
Mobile search ad revenues*	\$6.8	\$63.1	\$221.3	\$580.3	\$1,148.9	\$2,361.5

Note: *earned from sale of display or text/l listings alongside mobile search results
 Source: eMarketer, July 2007

operators run the risk of brand dilution, 56.1 percent of you answered they did not; 43.9 percent of you disagreed.

405.5 million mobile Internet users worldwide in 2007.

COME TOGETHER

But who said mobile search is an “either/or” decision? Some operators believe that – when it comes to mobile search providers – more is better. This is because tapping more search engines and information sources can bubble up more content users might browse and buy. More importantly, it may expose further search advertising inventory and potentially generate more revenues for the mobile operator.

This thinking is at the core of federated mobile search, designed from the ground-up to leverage a variety of search engines and other information sources to deliver more results from more sources in response to users’ search queries. MCN, a global federated search management provider, made great gains in Asia, where it sealed deals with all three mobile operators in Thailand, two Chinese mobile portals and most recently tied up with Yahoo Japan.

A more all-inclusive federated mobile search strategy that combines results from storefronts, the Internet and the mobile Web covers most of the bases, satisfying user demand for the best of the Web and meeting their expectation that mobile search should expose content they find relevant and genuinely useful. And it doesn’t compete with branded or white label solutions; it combines the best of both to deliver a more comprehensive set of search results.

Will the wealth of content on the Internet and mobile Web – as well as the proliferation of mobile downloadable content storefronts – necessitate the need for federated mobile search solutions? You, the respondents to the Netsize survey, are split down the middle. Fifty percent think it opens up opportunities for federated search providers, and 49.3 percent of you disagree.

High data rates have an obvious negative impact on mobile search usage.

**UNITED STATES TOP MOBILE
WEB DOMAINS: MARCH 2007****UNITED KINGDOM TOP MOBILE
WEB DOMAINS: MARCH 2007**

Rank	Domain	Audience	Domain	Audience
1	google.com	1,894,143	google.co.uk	348,873
2	yahoo.com	1,315,801	bbc.co.uk	298,016
3	msn.com	903,158	orange.co.uk	215,353
4	microsoft.com	734,664	three.co.uk	210,286
5	live.com	697,589	o2.co.uk	202,373
6	go.com	571,469	google.com	148,722
7	cnn.com	509,772	t-mobile-favourites.co.uk	108,463
8	weather.com	460,564	ebay.co.uk	106,386
9	myspace.com	435,910	msn.com	93,386
10	passport.net	434,050	yahoo.com	89,668

Source: M:Metrics. Reports for the month of March are projected to represent the universe of smartphone owners and are based on in-tab panler sizes of approximately 500 panelists in the United States and 600 panelists in the United Kingdom.

THE SEARCH IS ON

How many consumers are browsing the mobile Web on their mobile phones is hard to say. Since mobile search is a nascent market, figures are sketchy. In 2007, market research firm eMarketer shed some welcome light on the question. Of an estimated 405.5 million mobile Internet users worldwide in 2007, it reckons 327.2 million accessed mobile search services, a number set to rise to 901.1 million searchers by 2011. While the research says little about the frequency of use, it at least shows mobile search as a service is gathering steam.

In the U.S., M:Metrics, a company specialized in measuring consumer consumption of mobile content and applications, reported 15 percent of users in the U.S. access Internet content on their phones. But it's not all good news. In February 2007, Telephia (a research firm that later became Nielsen Mobile) countered these figures with findings that less than 9 million people in the U.S. – out of a mobile phone user base of 223 million – use mobile search. The conclusion: mobile operators have to educate consumers to use mobile search. However, critics argue that high data rates, which discourage users from browsing the mobile Web, have an obvious negative impact on mobile search usage. And then there is another camp that points the finger of blame at the lack of content on the mobile Web, reasoning that more and better mobile content will automatically result in more mobile search usage in the future.

Maps and directions, weather and local information are the main attraction.

In the meantime, China stands out as an extremely healthy market for mobile search. iResearch, a Chinese information consulting



company, estimates a whopping 127 million Chinese will use mobile search in 2008. The report also predicts a stronger interest in search as more content-rich services, such as mobile video and mobile TV, come online.

What are users searching for with their mobile phones? A study of 1,001 mobile users in the U.S., commissioned by digital marketing agency iCrossing and conducted by Opinion Research Corporation last April, found that maps and directions, weather and local information are the main attraction. Dedicated mobile websites are also a must: an overwhelming 84 percent of mobile searchers expect the sites they visit frequently to have a dedicated mobile version.

A month later, M:Metrics released the top ten list of mobile websites in the U.S. and the U.K. It revealed Google was the number one destination, followed by a mix of search engine sites and content destinations.

LOCATION, LOCATION, LOCATION

Location-based services made a comeback in 2007. The initial excitement about them fizzled out because neither the phones nor the data plans could deliver. But the combination of location and mobile search presented many consumers with an offer they couldn't resist.

An early mover was Nokia, which bundled an impressive ecosystem of local search providers together in one downloadable search application. In October 2007, Nokia sealed a milestone deal with a wide range of local search providers in Latin America, making its search application available in 15 countries across Latin America and over 40 countries worldwide.

"We're on a mission to bring everyone the ultimate search capabilities, whether locally or on the Web," Jussi-Pekka Partanen, head of Nokia Search, Multimedia, Nokia, said in a statement. "With the additions of our new local search providers and the new seamlessly integrated features of Nokia Search on even more devices, we're fast on the road to that goal." In 2007, Nokia also acquired mobile mapping company Navteq for a record \$8.1 billion, no doubt adding significantly to its capabilities to deliver location-aware content and services, including mobile search.

Sensing a business opportunity, portal providers such as Google, Microsoft and Yahoo have also placed location at the core of their offers, pairing communication services with maps and local mobile search and mobile advertising. At the other end of the spectrum, vendors are using location-based services to turn mobile search services into profitable value propositions.

An example of this is NearbyNow, Inc., a company best-known for its online service that allows users to search all products, brands and sales available at local



shopping centres. In December 2006, NearbyNow launched a mobile service, extending the company's proximity search capabilities to make participating shopping malls searchable down to every product, brand and service.

Is location an essential component in mobile content and services search? You, the respondents to the Netsize survey, have a positive view on the current and future importance of location in the mix. An overwhelming 74 percent answered location is essential; 25.9 percent disagreed.

But the combination of location and mobile search does more than let users find places, people and services nearby; it paves the way for the delivery of "location-aware" and relevant advertising. And being able to deliver the right content to the right users at the right time and place is a capabilities mix bound to separate the leaders from the also-rans. But location is just one – albeit key - ingredient in the mix. After all, searchers aren't always looking for a place nearby at that moment in time; they can also use local mobile search services to plan a journey ahead and find places and events near the final destination. Moreover, location is important to delivering contextually relevant search results, but so are the clues about ourselves we leave behind such as purchasing preferences, browsing patterns and our history of search terms. Search is not always about where we are, but it will always be linked to who we are.

Search is not always about where we are, but it will always be linked to who we are.

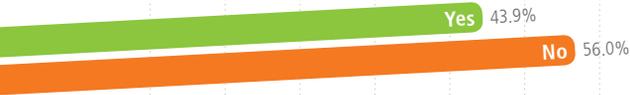


NETSIZE SURVEY RESULTS

Will white label search win the mobile search battle against the Big Three branded search providers?



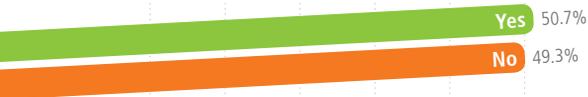
Do mobile operators run the risk of brand dilution by joining up with branded mobile search providers?



Is location an essential component in mobile content and services search?



Will users expect access to many search engine results, thus necessitating the need for federated mobile search solutions?



Will multimodal (voice and vision) search compensate for current poor usability?



* About the survey, please refer to pages 13-14

0 10 20 30 40 50 60 70 80



The most searched word on white label search portal is ... "google". The war is already won.

Anonymous

The results given to the user should consider his/her location, good results (such as Google's PageRank) and integrating multiple content sources such as Web, content shops, travel databases, etc.

Eduardo Raad, Metromovil, Guayaquil, Ecuador

Search usability & usefulness can be improved by context-awareness, in addition to location awareness. For example, a restaurant search has very different meaning if performed during lunchtime, early evening or night - and is entirely different again if the search is done from within the mobile phone's calendar application.

Pauli Visuri, AddWit Ltd, United Kingdom



The Data Makes The Difference

Omar Hamoui, Founder and CEO, AdMob

AdMob, has served more than 13 billion ads across 160 countries since the company launched in January 2006. In addition AdMob stores and analyzes data from every ad request, impression and click and passes it on to publishers so they can optimize their site performance across handsets; and to advertisers so they can understand demographics and device capabilities. Omar Hamoui, AdMob Founder & CEO, talks about mobile advertising trends, uptake, and the models that will mark 2008.

How do you drive the use and awareness mobile advertising and what are the chief obstacles you encounter?

We think of ourselves as economic engines for mobile content. In other words, we allow people who have produced content to monetize that content with advertising, and we allow the advertisers to gain traction and build up a user base that they can rely on to support their business. Our differentiator is scale and data. Because we service upwards of one billion ads per month we are able to construct some very effective optimization platforms and algorithms to support advertising relevancy and show the right ads in the right place.

The issue for us – and everyone in this ecosystem – is the limit of inventory. Users are able to search for a huge variety of content and information, but there isn't always a mobile ad to match. I think it will be some time before we solve this for the long tail of search queries, but we've good progress in the areas that are key to what users want: namely, entertainment, movies, music. But that's not all we need for users to really embrace mobile – and for there to be a healthy market for search and advertising. We also need interesting content that users want to look for in the first place. This is where AdMob comes in again, because the

advertising we enable provides publishers with an economic engine and an incentive to create interesting content.

What is the role of the mobile operator?

Mobile operators are pursuing a variety of models. However, I think the mobile operators that will achieve the most success will be the ones that view themselves as a platform rather than a media company. The more sustainable model is one in which mobile operators monetize the customer data they have collected and share it with other companies and publishers. These companies are in desperate need of a feedback loop, and this is what operators can provide - and charge for.

AdMob produces a monthly report that recently expanded to include statistics on the top 20 handsets per country, for example. Please share some of the highlights from 2007.

We can see real movement in devices in our network and some of that, again, is because of changes in the publisher mix. For example,

The issue for us – and everyone in this ecosystem – is the limit of inventory.



looking at figures for the U.S., Motorola increased its share from 18.7 to 20.5 percent. The top devices in AdMob's other main markets were the Nokia 6030 in India, the Motorola v360 in South Africa and the Sony-Ericsson K800i in the U.K.

Of course, the iPhone is probably the story. It is growing in volume but it's also a very targeted platform. From where we sit we're seeing advertisers eager to advertise on the iPhone as a way to reach early-adopters and higher net-worth individuals. And there's good news for developers: The top twenty devices we track represent around 50 percent of the traffic in a particular market. From a content developer's perspective, they know that if they want to reach 50 percent of a market then they need to port their content and apps to the 20 top devices.

There are many monetization models, ranging from pay-per-click to pay-per-call. What are the popular models and where does AdMob see its opportunity for growth?

Our business right now is [serving] text and banner [ads]. About 25 percent of our business is banners, and I expect it will be even more next year [2008]. We launched a new ad unit in mid-2007 to focus on this opportunity, and since then it's grown faster than we expected. We've also observed that brands using the [banner] ad unit report really good results.

The pay-per-click and pay-per-impression models pay, and we see this from the results of those [AdMob] business units. We've got good traction on pay-per-action [model] – which is about things like 'we'll charge you per phone

call' or 'we'll charge you per lead' or for some user action – but it's too early to think about taking this all that one extra step to a pay-per-transaction model. When it does happen it will be a sizeable business. I can imagine many companies in the mobile content space that will opt for a pay-per-transaction model.

At this point in AdMob's development, now that we service around 1.6 billion ads a month, we can say we are definitely a CPC [cost per click] and a CPM [cost per thousand views – the M is the Latin for thousand] player. With advertisers including Microsoft, P&G and Covergirl, and publishers including ESPN and CBS, we are no longer an off-deck player; we are, through our publisher relationships, very much an on-deck player.

What were the milestones that marked 2007 and what do you expect in 2008?

The industry milestone development was consolidation. All the players that had traction – Enpocket, Third Screen Media, Screentonic – were snapped up by major players to position themselves to compete more effectively as the market unfolds. At the same time, we saw Google launch its mobile AdSense and AdWords products and Yahoo entering with a suite of products for publishers. Essentially, the companies that are going to play a role in mobile advertising in the next year have put their stake in the ground.

Next year will be about execution. Advertisers are there, the inventory is there and the budgets are there – so next year is really going to be about results and seeing what companies do with the [mobile advertising] assets they've acquired or built.

The more sustainable model is one in which mobile operators monetize the customer data they have collected and share it with other companies and publishers.



"Relevancy Is Key"

Dan Olschwang, President and CEO, JumpTap

JumpTap, a white label provider of mobile search and advertising solutions, kicked off 2007 with a strategic investment from WPP, one of the world's leading communications services groups. The investment by WPP was read as a confirmation of the potential of mobile advertising and the role JumpTap is positioned to play in this emerging medium. To date, JumpTap counts eight mobile operator wins and counting in Europe and North America, including Alltel, Boost, and Virgin Mobile. In Telefónica Spain, where JumpTap serves contextual banner ads on the home page and throughout the Movistar emoción portal's content verticals, the company twice sold out Telefónica's entire display advertising inventory - a first for any mobile operator and clear indication that targeted advertising drives positive results. Dan Olschwang, president and CEO of JumpTap, talks about the impact of Google, the importance of relevancy, and the connection between search and advertising.

Depending on which report you read, mobile search usage has been estimated at as low as a few percentage points or as high as 15 percent. Japan is the exception with over 40 percent of consumers using mobile search to find information and answers. What are you seeing?

First, the range of statistics out there confirms my own scepticism when it comes to putting an average number on mobile search use. If you consider that the average use could be skewed by the behaviour of a small group of power users, or the other way around - casual users that rarely use search could drive the figure down. From my perspective, and our work with carriers, I'm seeing around 15 percent. But I should add that JumpTap does a lot to encourage use, through the delivery of relevant results, for example. JumpTap also works with operators to design and develop promotions to drive [mobile search] usage.

It has been said that relevancy – not content – is king, and that delivering the right results to the right user is critical in mobile search. What is

your view and how does this figure in your own roadmap?

Relevancy is key and sits at the center of our strategy. That is an important dimension of the user experience, because an individual user appreciates results that are targeted and therefore useful. We also believe that promoting discovery is the other side of the coin and we emphasize discoverability of search in the services we provide. Most people don't even know they can search with their handsets and this is a hurdle we help our operator customers overcome. An example is Alltel Wireless, where we provide the first carrier-branded mobile search application to be preloaded on handsets with a dedicated search key. We believe the visibility of the dedicated key will not only increase the uptake of mobile search, but will also increase

This year will see us deliver availability of service wherever our customer demands it - Web, mobile, TV, set-top box or any other means.



Mobile search usage is around 15 percent.

content purchases by helping subscribers find what they want quickly and easily.

Many reports point out that form factor limitations, such as a tiny keypad and a small screen, are factors that will continue to discourage mass market take-up of mobile search. Will multimodal (voice and vision) search compensate for current poor usability of mobile search services?

We have invested in a voice search product, but I think voice access to search [services] is much more of a North America phenomenon. There's no issue around the quality of the voice recognition technology; it's more a cultural distinction. At the moment, usage outside the U.S. is marginal. Visual search is another topic. I think it will be a boost to other applications, such as shopping, because being able to scan a barcode or capture an image is an effective way for users to search for what they see in front of them. However, I expect it to remain a niche service.

The mobile advertising value chain is evolving and the role each player has is not yet clear. Who is best positioned to manage search and advertising? At a recent conference, Vodafone claimed the company with the traffic, hence the mobile operator, is in the driver's seat here. What is your view?

I think it's early days and it is really presumptuous of all the players to think that one company will control this. It could be companies in partnership, much the way we partner

with mobile operators as a white label provider. We manage the search and advertising, but the operator determines the rules by which we present the results to the user. It's a useless debate. I think the capable entity, the entity that has the best skills set, is the entity that should do it [manage search and advertising]. In some cases that will be the mobile operator, but in others it will be a combination of players.

In the case of JumpTap, we have an extremely successful [search and display] advertising marketplace. It's the only marketplace that has completely sold out inventory for an operator and our CPMs added more than 50 percent between 1Q2007 and 4Q2007. This is way above industry average and we attribute this to our targeting and the way we manage it.

A milestone for JumpTap was selling out of inventory on behalf of Telefónica in Spain in record time. There are many in the industry that complain a lack of inventory is a potential problem for the search and advertising industry. What is your view and what impact could this have?

The industry average in terms of sell-through of inventory is between 20 and 30 percent, so for those players there is no lack of inventory because that tells us only a fraction of inventory is sold to the industry on average. JumpTap sells search and display advertising and we are having a much better success rate because we are selling out. This, again, is due to our focus on relevancy and the way we manage it [the process]. And another set of numbers that tells more than the inventory we sell is the click-through rates we see. We're seeing numbers between 14 percent and 25 percent.

The industry average in terms of sell-through of inventory is between 20 and 30 percent



Last year a topic of debate was the extent to which mobile operators who tie up with branded mobile search providers run the risk of brand dilution. Where is this discussion today?

There is still very much a trade-off for mobile operators and we are seeing some [operators] who went the way of [Google, Yahoo, Microsoft] branded search services now trying to do a u-turn and switch their strategy. In fact, many operators who signed contracts [with branded mobile search providers] in 2006 and 2007 are either making adjustments [to their strategies] or trying to bail out altogether.

There are some Tier-1 carriers that lost 60 percent of their traffic. This happened because branded search returned results that essentially directed users away from operators' portals and to the destinations controlled by the branded search companies, who are also portal providers with an agenda that collides with the interests of the operator.

I think more operators are beginning to understand the importance of preserving their own brand; and this is something they can do with white label providers like JumpTap. They can see that the long-term sustainability [of their business] depends on having a strong brand message, their own agenda - we know is also to operate and grow their own content portals.

You are a vocal critic of the Google-led Open Handset Alliance and Android, comparing it to a Trojan horse. What is the connection to mobile search and advertising and what is at stake?

I am skeptical because it represents just another operating system and will do little to reduce fragmentation in the industry. If anything, it will increase it since developers will also have to develop services and apps to run on Android as well as Symbian and others.

I compare it to a Trojan horse because the need to succeed on the mobile Internet is so

great that many operators are not questioning the apparent 'gift' that their rivals are offering to them. When partnering with Google, Yahoo or Microsoft on search, or moving onto Google's new Android platform, it is imperative for operators to consider what their rival's true motives are and be sure that they're not giving away the key to the valuable customer relationships they've spent so long building. When operators partner with white label providers like JumpTap, who have no direct to consumer relationship, they can be sure that there is no hidden agenda.

We're seeing click-through rates between 14 percent and 25 percent.



Finding, Not Browsing

Peggy Anne Salz, Independent Consultant and Publisher, MSearchGroove



The rise of local mobile search services, the emergence of niche vertical search engines and the inextricable link between mobile search and mobile advertising. Peggy Anne Salz – independent consultant and publisher of MSearchGroove, an online source of analysis and commentary on mobile search, mobile advertising and social media – discusses some of the key trends and developments paving the way to more personalized mobile search services.

What are the mobile search events that marked 2007 and what are the trends you expect in 2008?

The debate between branded and white label search may still be a topic in the blogosphere but, in reality, there is much more to mobile search than the turf war between the “Big Three” branded search providers – Google, Yahoo, Microsoft – and the white label companies. A number of niche vendors are coming out of stealth mode with mobile search solutions that really change the rules of the game to deliver users more useful relevant results.

Take vertical search, for example. In the Internet, a virtual Long Tail of vertical search engines – covering topics ranging from local listings to pet supplies to popular music – bubble up results users would not have found otherwise, and we’ll see the same start to happen in mobile search. Granted, it’s early days in the mobile search space, but 2007 did see the first vertical search engines gain some serious traction. I’m thinking here of Abphone, a French company that launched mobile video-only search service last year and is set to follow up with a search service for mobile games and music. Another one on my radar is Veveo, a company that offers vTap, a free application that lets users search and view videos on their mobile. It recently sealed a deal with Motorola,

which now has the option to pre-install vTap on its devices. And the list goes on.

And who says it’s always going to be about information or content? Looking for people on the move is another kind of mobile search service I expect will become more popular and widespread in 2008. Proxpro, a pioneer in this space, delivers a kind of business-to-business mobile search service that allows users to look up information on people before they meet, for example. This flavour of mobile search is bound to get a real boost as mobile social networking takes off. The service gets even more exciting if you can discover like-minded peers and buddies nearby.

Is location an essential component in mobile content and services? What is the likely impact on mobile search services and when will local mobile search be ready for primetime?

Information about the user’s location sits at the core of a slew of services, not just mobile search. Today, many in the industry are talking about location-aware services and these range from mobile search to mobile blogging. A prime example is the new GyPSii application, offered by GeoSentric, that connects users and content to places and networks. The idea is to provide users a way to capture, edit and share user-generated content; access and search



location-based content; and find people, friends and content in the real world or in their virtual mobile communities. It's an ambitious offer that illustrates the central role of location in mobile services, and I'm sure this is the kind of scenario Nokia had in mind when it made the decision to snap up Navteq [a digital mapping company] for a cool \$8.1 billion in 2007.

And Nokia isn't the only one. Google, Microsoft and Yahoo have also placed location at the core of their offers, pairing communication services with maps and local mobile search and mobile advertising. Personally, I'm not sold on mobile local search as a standalone service. Users do use local search to look for places nearby, but they might also use it on-the-go to find places of interest when they arrive at their destination.

Will users expect access to many search engine results, thus necessitating the need for federated mobile search solutions?

The industry is still figuring out how to define federated search, but we are already seeing operator deals that indicate a real need for solutions that leverage a variety of search engines -- including vertical search engines -- to provide users with the best results to their queries. Moving forward, it's easy to imagine that mobile search results will also have to blend results from a variety of sources such as WAP and Web indexes, mobile content storefronts and social networks. At a very basic level, it's a case of more is better. And open is best. Mobile operators should enable all search engines -- including Google and branded portals -- to contribute value. An open and all-inclusive strategy like this can boost the overall quality of the search results. More importantly, it can potentially expose more inventory and help mobile operators get more mileage -- and money - out of their mobile search advertising and monetization schemes.

It has been said that relevancy -- not content -- is king, and that delivering the right results to the right user is critical in mobile search. What is your view?

Absolutely. The mobile device is limited by a small screen and a tiny keypad, so users don't have the time or patience to scroll through lists of results. The device is also personal, so users will appreciate more personalized results that take into account their own profile, preferences, search patterns and purchasing history. Mobile search, as it is now, is very much a one-size-fits-all approach from the Web that ignores the needs of individual users for search results that matter to them. I expect this to change, and search services are coming online in the next year that will pay much more attention to user context.

User's location sits at the core of a slew of services, not just mobile search.





PURCHASE

ONE-CLICK COMMERCE

The rise of mobile content sales via off-portal destinations and the advance of contactless payment schemes, that allow consumers to pay for physical goods with a wave of their mobile phones, combined to create exciting opportunities for the mobile payment ecosystem in 2007. But it's a little early to say which mobile payment solutions will dominate, particularly since the current mobile payment market does not have a single, definitive payment method.

Approaches range from Premium SMS, which has been the leading mobile payment method for digital goods such as downloadable mobile content, ringtones and games, to online payment for goods bought on the mobile Web, a method also known as WAP billing, to a range of "wave & buy" contactless payment applications.

Fortunately, the diversity of payment methods is not a hindrance to the spread of mobile commerce (m-commerce). By the end of 2007, the total transaction value for mobile payments reached just over \$2 billion, according to Juniper Research. It surmises that the demand for mobile payments is "fuelled by a number of factors that include the increasing demand to download digital content to mobile phones and the need to pay for them, in the majority of cases, using the mobile phone bill." By 2011, the value of mobile payments transactions will rise to nearly \$22 billion.

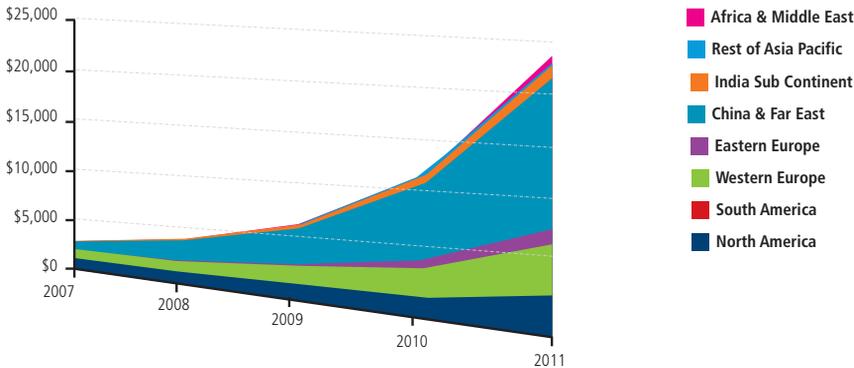
PREMIUM SMS IN THE PAYMENT MIX

Although consumers may be drawn to off-portal sites, technology consultancy Informa Telecoms & Media notes that the vast majority of WAP content is still purchased on operator portals. Against this backdrop, it concludes persuading people to buy mobile content with a credit or debit card, for example, will likely be an uphill battle. Put another way, the mobile operator's central position in the mobile payments value Web is guaranteed.



MOBILE PAYMENTS CHART - TOTAL M-PAYMENT TRANSACTION VALUE (\$M) REGIONAL FORECAST 2007-2011

Source: Juniper Research



Another ace in mobile operators' hands is their unique ability, built on a solid foundation of customer data and customer relationship management systems, to identify and therefore authenticate each user. The result is a seamless, one-click mobile commerce experience and customer trust that the purchase is accountable and will appear as a line item on the monthly telephone bill. The level of closeness and confidence in the integrity of both the purchase and the charge are the norm on mobile, but wishful thinking on the Internet.

Informa also points out that Premium SMS is still the main channel for the sale and delivery of mobile content in most markets. "The mobile content industry has been built on Premium SMS," a recent Informa report concludes, and that foundation isn't set to crumble any time soon. Premium SMS made up 32 percent of mobile content revenue in the U.S. in 2007, according to Telephia (now Nielsen Mobile), a provider of syndicated consumer research to the telecom and mobile media markets.

WAP billing – designed to offer a more robust alternative to Premium SMS – has not replaced Premium SMS. However, this direct-to-bill system is credited as a catalyst for more creative pricing models such as product bundling and discount/sponsorship programs. A clear driver of WAP billing is user habit and behavior. As more consumers move from basic mobile devices to full-feature phones, they also develop an active interest in exploring the wealth of content and services at their finger tips. This results in more mobile content purchases online while browsing, making WAP billing a natural choice.

A key WAP billing initiative is Payforit, a U.K. mobile operator led payment system that

Premium SMS made up 32 percent of mobile content revenue in the U.S. in 2007.

turns handsets into digital wallets. Launched in 2007, it was designed for consumers buying goods and services with a value of up to GBP10. From May 2007, Payforit has been extended to support Internet transactions also, opening up new revenue streams for many merchants.

The advance of Payforit has raised the question whether WAP billing - under Payforit or any other number of schemes - will ultimately result in the demise of Premium SMS. You, the respondents to the Netsize survey, see a place for Premium SMS for years to come. When asked when Premium SMS will disappear, the majority (39.6 percent) answered “never”; the rest is split between the year 2011 (22.4 percent), the year 2013 (22.2 percent) and the year 2018 (15.7 percent).

CONTACTLESS PAYMENT TRIALS PROLIFERATE

Several factors combined in 2007 to take contactless payments to a new level.

The European Telecommunications Standards Institute (ETSI) finalized the standard governing how Near Field Communications (NFC) will be incorporated into mobile SIM cards. NFC technology is a short-range wireless connectivity standard, jointly developed by Philips and Sony, that enables communications between devices a few centimeters apart and supports data-transmission rates of up to 424 Kbps.

The agreement on how NFC will be incorporated into the next generation of SIM cards was a prerequisite to NFC becoming commercially viable. Embedding NFC in SIM cards is important because it enables users to easily transfer applications when they change phones. It also provides greater security by enabling mobile operators to block applications when a subscriber informs the customer service center. Industry observers generally expect NFC capabilities to appear on SIM cards by mid-2008, by which time multiple handset vendors should also have phones on the market that conform with the standard.

Equally important, banks and mobile operators came a long way toward ironing out their differences, agreeing in principle on how mobile operators can be remunerated for their role in mobile payments. For a long time, operators were holding out for a percentage of each transaction. However, in 2007, some European operators agreed to a yearly fee instead.

Finally, a raft of trials - much broader and more ambitious than previous ones that generally involved one mobile operator, one bank and one retailer - provided significant proof that NFC was now well on its way to becoming a commercial offer. Indeed, recent statistics from the NFC Forum, a non-profit industry association that promotes the use of NFC short-range wireless

30 percent of all mobile handsets will be NFC-capable by 2011.

interaction in consumer electronics, mobile devices and PCs, indicate that 40 million consumers will use NFC technology by 2011, generating revenues of €27.7 billion (\$39.9 billion). Since the establishment of the NFC Forum some two years ago, there have been 25 NFC field trials with a variety of different applications, and two commercial launches of electronic ticket solutions for public transport.

Visa took the wraps off a comprehensive platform, paving the way for mobile contactless payments, remote payments, person-to-person (P2P) payments and mobile coupons, and launched Visa payWave, which allows customers to complete purchases by simply waving a Visa payWave-enabled card, micro tag or mobile phone next to a contactless payment reader. Visa is actively engaged in market trials worldwide to test mobile Visa payWave transactions through devices enabled by NFC technology.

In Germany, Vodafone Germany and the German railways set up a dedicated project team to create a mobile ticketing service across the national rail system called Touch and Travel. In Sweden, mobile operator TeliaSonera announced plans to test NFC in Gothenburg from 1Q08 with public transport provider Västtrafik, allowing users to receive traffic information and timetables and purchase tickets with their mobile phones. In the U.K., mobile operator O2 has brought together a broad range of partners, including Transport for London, TranSys, Barclaycard, Visa Europe, Nokia and AEG, to launch the U.K.'s first large scale pilot of NFC technology on mobile phones. The trial – known as O2 Wallet – paves the way for the mass market use of mobile phones to pay for purchases, access events and travel around London.

In France, the flagship Pegasus project brings together mobile operators Orange, SFR and Bouygues Telecom, and at least seven other project partners, including handset manufacturer Sagem and French bank Credit Mutuel. The mobile ticketing and payment trial that could dwarf all similar projects in Europe to date and chalk up more than one million commercial subscribers by end-2008, says a party close to the project. Analysts note the initiative is one of at least five NFC schemes that could make mobile payments and ticketing commonplace in Europe in two-to-five years. That's when trials will be in full-force and a critical mass of handsets will include NFC. ABI Research expects roughly 30 percent of all mobile handsets will be NFC-capable by 2011.

NFC is an exciting opportunity, but will it be a few years before the technology approaches the ubiquity in Europe and North America that it has already achieved in Japan? You, the respondents to the Netsize survey, seem to think so. Over half (54.9 percent) are convinced NFC will gain significant traction after

2010; 38.1 percent believe 2009/2010 will be a banner year for NFC; and only 6.9 percent think 2008 will see significant progress.

Despite the heavy emphasis on ticketing solutions and public transport, many in the industry feel NFC has the potential to be at the center of a much broader range of mobile payment applications.

Indeed, NFC's strength lies in its ability to both upload content to the mobile handset and enable payment of the content, relying on GPS-based information to pinpoint a mobile user's location. It's easy to imagine a scenario in which a user might accept a music or video clip as an advertisement via NFC and decide to buy the full track, also via NFC. But this need not be a vision for the future since the GPS-based location information exists today and the facility to buy – along with the necessary security - is embedded in the SIM card. As Jeremy Belostock, NFC Sales & Marketing Director, Nokia Emerging Business Unit, points out: "We believe there are exciting use cases around loyalty cards that can bring value to both the consumers and the merchants. After all, with NFC, the consumer has more than a contactless card, they can [use the mobile Internet to] connect directly with the merchant and interact with their loyalty system on the mobile phone."

THE ROLE OF THE OPERATOR

Despite doom-and-gloom reports that predict the mobile operator is on a slippery slope to becoming "just a pipe," many are keen to point out that the mobile operator's real and lasting power is its control of the billing relationship. Indeed, billing systems provide operators the closest and most complete access to the customer. Other key capabilities, including access control, verification and authorization services, are also the territory of mobile operators alone, making a shift in the balance of power highly unlikely.

As Patrick Parodi, chairman of the mobile industry association Mobile Entertainment Forum, recently argued in a press report: "The mobile operator's role ...will not diminish. They still manage a very solid billing relationship – even in an off-portal PSMS environment – and are still the only ones with full visibility of what an individual user is consuming when it comes to mobile video, music, messaging, games, etc."

With NFC, the consumer has more than a contactless card, they can connect directly with the merchant and interact with their loyalty system.

Will the operator continue to own the billing relationship on mobile? You, the respondents to the Netsize survey, are overwhelmingly positive. The majority (78.5 percent) answered the affirmative; 21.4 percent disagreed.

Mobile operator disintermediation is an

outcome many in the industry have warned about for years, and 2007 was no exception. The year saw several Internet brands launch mobile payment solutions. PayPal, part of eBay, extended its reach to mobile in July 2007 when it announced the launch of Mobile Checkout, allowing consumers in the U.S., U.K. and Canada to buy items securely using the mobile Web; Google made its Checkout payment service available on mobile in June 2007, thus enabling consumers to make purchases on their mobile phones from any WAP-enabled Checkout merchant.

However, it is not a given that the objectives of mobile operators and Internet giants such as Google must collide head-on. In fact, there may be a perfect fit between operators' billing capabilities and expertise in processing micro-payments and other players' prowess in handling larger purchases and larger risks. As Roy Vella, Head of Mobile Payments, PayPal Europe, puts it: "Mobile operators are good at micro-payments, and we're good at macro-payments - and undertaking all the risk analysis and fraud analysis that go into processing macro payments."

Does the advance of alternative billing systems and players mean tough times ahead for mobile operators? Not likely. Guido Mangiagalli, Head of New Channels at Visa Europe, also confirms that mobile operators will always have a place at the table. "Mobile operators play a central role in payment services where the focus is digital content and low-value content items. Banks will not provide an itemized call by call charge to the operator and so the billing system offered by the mobile operator is here to stay. The role of the credit card companies, such as Visa, will be to make sure there is enough money on the account to enable these purchases in the first place."

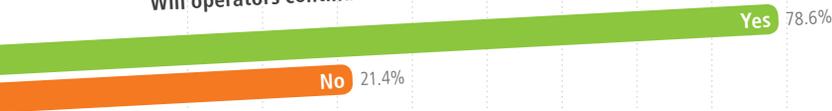
Will mobile operators continue to play a central role in these transactions? You, the respondents to the Netsize survey, are clear. The majority (73.1 percent) think the operator will hold its territory, while 26.8 percent expect the opposite.

Against this backdrop, the consensus seems to be that micro-payments and purchases under €10 will likely be the turf of mobile operators, with a progressive shift from Premium SMS towards WAP billing. Processing payments above this amount is literally a risky business, one reason why this will likely land with credit card companies and players in the financial sector that have this capability in their corporate DNA. Proximity commerce, using NFC-enabled devices to initiate and complete purchases, will likely fall somewhere in the middle. Who has the better slice of the pie? That depends on the market size, market value and growth trajectory forecast for each of the three segments - and that, at least for the moment, is an open question.



NETSIZE SURVEY RESULTS

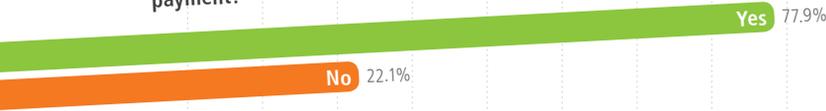
Will operators continue to own the billing relationship on mobile?



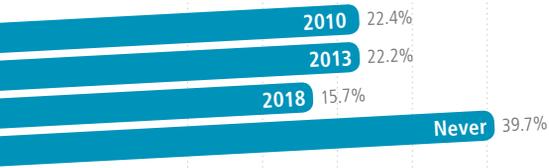
Will operators have a place to play on alternative billing (Credit card, Paypal, Google) transactions?



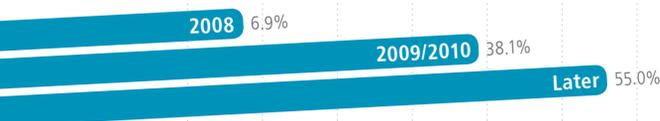
Is authentication the key differentiator for operator based mobile payment?



When will Premium SMS have disappeared?



Will Near Field Communications (NFC) gain significant traction beginning in:



* About the survey, please refer to pages 13-14



The model of premium services will be here for many years. The (charging) bearer will shift from SMS to IP.

Ehud Spiegel, Mobilliance, Petach Tikva, Israel

8 million Chinese use mobile payment provided by a Chinese Bank; banks are a key element in getting mobile payment on the road or not.

Tanguy De Lestre, Agoria, Brussels, Belgium

**«Is authentication the key differentiator for operator based mobile payment?»
Yes, due to ease of use for the MNO/MVNO customer (no wallet and therefore no more or less complex id-/auth.-process required). With increasing usability of handsets & alternative mobile payment services, this differentiator will become less important.**

Anonymous

Making M-Commerce Pay

Roy Vella, Head of Mobile Payments, PayPal Europe



With more than 164 million accounts in 190 markets and 17 currencies around the world, PayPal has quickly become a global leader in online payment solutions. The company, which is part of eBay, extended its mobile reach further in July 2007 when it announced the launch of Mobile Checkout. The service allows consumers in the U.S., U.K. and Canada to buy items securely using the mobile Web. To use PayPal Mobile Checkout, a consumer can visit a merchant's website and purchase items by clicking on the PayPal button - all from the convenience of their mobile device. Roy Vella, Head of Mobile Payments, PayPal Europe, discusses service take-up, the relationship with the mobile operator and the value-add for consumers.

Will the operator continue to own the billing relationship on mobile?

Putting charges on an operator's bill is a limited but effective means of payment for micro-payments, for goods that have no marginal cost. Keep in mind the operator is generally taking a 30-40 percent cut of the transaction - and in some industries it even ranges up to 70 percent. So this model is only practical if what you're selling has no cost, if each marginal unit sold is pure profit such as in the case of a ringtone or wallpaper. If what you're selling has a marginal cost, where each additional unit sold costs an amount to produce and ship, then this model doesn't work.

That's the business of the payments industry, not the telephony billing industry. We [payments industry players] take a few percentage points of the revenues to process a payment and ensure the safety of that payment. We guarantee funds to a certain extent and run fraud and risk analysis on the transaction. If you look

at the telephony billing industry, there's virtually no recourse or guarantees for a merchant. If I say to Vodafone I've had 100 transactions and Vodafone says actually you had 80, that's the end of the conversation. They pay me for what they believe I received and they don't necessarily pay me in a timely manner either.

What is the opportunity for PayPal?

It all depends on what's being sold via the handset. If it's all about digital content, then billing via Premium SMS, for example, may be the method used for the vast majority of mobile billing. However, if the handset is able to broaden, and we believe it will, allowing the consumer to purchase what they want using their handset, then it's a very different landscape and one that offers players like PayPal a chance to take a majority share of the payment volume.

PayPal launched its mobile payments service in mid-2006. What take-up have you seen and what learnings can you share?

I can't give you fixed numbers because that is not public, but we've got 164 million accounts and the vast majority of our volume is person

This model is only practical if each marginal unit sold is pure profit such as in the case of a ringtone.

to person transactions, which is not surprising since PayPal has a tradition of doing a lot of person-to-person volume. In commerce, we see that the music industry, in particular all the major record labels, accept PayPal Mobile to sell CDs, DVDs and concert tickets.

All U.K. operators have joined in Payforit, which is based on the Vodafone m-payments model. What is the likely impact of this development on the fragmentation of payment schemes to date?

Payforit adds another layer and hurdle to the prior mobile payment process. But there is yet another barrier few have considered: brand trust. Supporters of Payforit claim it will become a trusted brand that consumers will recognize. But it's hard to see how that will happen if you look at the work and resources companies such as VISA and American Express put into promoting their brand and building trust. With Payforit, no mobile operator is promoting the brand. As such, no one is promoting it as there is little incentive for the merchants to spend their own money against it. After all, it's more restrictive than Premium SMS and just as expensive, so why should they?

Specifically what are the benefits of PayPal and is there really an overlap with payment schemes offered by mobile operators?

Our mobile offer is PayPal "unplugged"; it's PayPal wherever consumers are and without having to be connected via a laptop or a desktop to access the safety, security and simplicity of PayPal. If a consumer sees a DVD, they don't have to input purchase data on a tiny keypad with their thumbs. With PayPal mobile they can text a keyword to a shortcode. The phone rings back, and through IVR [interactive voice response] system we confirm the order and ask for a four-digit PIN to complete the transaction. PayPal eliminates data entry because we already have their information on file

PayPal eliminates data entry because we already have their information on file.

including their name, address and credit card details. This creates a much more fluid mobile commerce experience for consumers, encouraging them to buy goods and services with their mobile phones.

There's a lot of room for collaboration between operators and PayPal, based on what each of us does best. Mobile operators are good at micro-payments and we're good at macro-payments – and undertaking all the risk analysis and fraud analysis that go into processing macro payments. Operators clearly don't want to get involved in processing macro-payments, which is why there are limits on what consumers can buy with Premium SMS.

Japan and Korea are countries where operators have pioneered cashless services and transactions for train tickets, vending machines and parking meters. What are the applications that will move the needle in Europe and elsewhere?

I believe that NFC (Near Field Communications) is definitely going to play out across the planet. There is also an interesting proposition around person-to-person contactless payments, where I hold my phone up to your phone and transfer value that way. As you know, person-to-person payments are PayPal's bread and butter and that's where we see the potential to generate massive volume. We're already talking with operators and handset manufacturers about enabling this type of functionality for PayPal accountholders via a mobile wallet.

Operators are good at micro-payments and we're good at macro-payments – and undertaking all the risk analysis.

Keeping It Simple

Ray da Silva, Strategic Business Development Manager D2C, Mobile Internet & Content Services, Vodafone



Mobile payment initiative, Payforit came into force across all mobile Internet services and U.K. networks officially on September 1, 2007. The payment system, which turns handsets into digital wallets, was designed for consumers buying goods and services with a value of up to GBP10 and automatically adds the charge to a customer's phone bill. The scheme standardizes the way phones can be used to make payments so the process is the same no matter which operator a customer has signed up for or which handset they are using. Supporters believe Payforit will boost trust in mobile payments and dominate m-payments in the process. Ray da Silva, Vodafone Strategic Business Development Manager D2C, Mobile Internet & Content Services, talks about the range of alternative payment solutions, the role of the mobile operator and the outlook for Payforit as it seeks to become the market leading initiative.

What are the mobile payment/purchasing trends on your radar in 2008?

In 2008, mobile payment trends will continue to be dominated by the rollout and integration of Payforit services and the increased uptake of mobile Internet services. As technology improves we will also see mobile payment services increasingly utilised in driving existing markets. Payment for physical goods via mobile will increase; an obvious use case is vending machines. It's also easy to imagine that payment for access codes, such as pay-per-view services on TV, as well as marketing interactions, for instance payments via 2D barcodes and mobile vouchers and ticketing, will also see an increase.

New markets for mobile payment will likely include using the mobile phone for access and travel, two use scenarios that are fundamentally underpinned by the developments in NFC [Near Field Communications].

Mobile wallets will be dominated by payment service offerings like Payforit.

Looking ahead to 2010, what do you expect the split to be between transactions performed using Premium SMS, Premium WAP, Credit Card, and mobile wallet payment schemes such as those offered by Google and PayPal?

Strictly speaking, Google and PayPal aren't "mobile wallets" - they are virtual wallets currently utilised for Web payment services where issues such as addressing on-line fraud still exist and providing trusted payment is their core USP [Unique Selling Point]. Mobile wallets are a very different proposition and will be dominated by MNO payment service offerings like Payforit.

While all alternative mobile payment services providers will continue to push other payment services, it is unlikely that both Google and PayPal will make any significant impact on mobile wallets.

Do you believe Premium SMS will have disappeared by 2011? If not, why not and by when?

The advantages of PSMS [Premium SMS] lead us to believe that this billing technology, despite being technically inferior to Payforit,

will continue to be around for many years to come for a number of reasons.

First, it's a simple user experience and our subscribers understand how to use SMS. The use of SMS continues to go from strength to strength. Second, it's a technology available across all our handsets so its appeal to a merchant will remain high. Third, there is a segment of services which are best delivered and therefore billed using PSMS.

In actual fact, in absolute volume terms, PSMS transactions are set to increase in line with the growth of the total market. In line with this development the generally accepted UK estimate in 2006 valued the market at £750 million. It is forecast to grow to over GBP1.6 billion by 2010.

All U.K. operators have joined in Payforit. What are the key benefits of this so-called WAP billing?

Payforit overcomes the usability barrier because it significantly simplifies a customer's experience when buying mobile content. There are fewer clicks to order and complete the transaction, plus no need to pre-register, send texts or remember passwords. In addition, with Payforit, consumers can buy low-cost items and content with their mobile that would not be suitable for a credit/debit card purchase. Plus, consumers without credit or debit cards are able to buy via their mobiles, significantly increasing the size of the addressable market.

Payforit also represents a more effective payment method for all parties involved. With Payforit, Vodafone offers the ability to check that pre-pay accounts are 'good' for transactions before processing. Furthermore, Vodafone's fund reservation and capture capabilities make it possible to confirm content has been successfully downloaded before final payment is taken, thereby reducing the need for refunds.

From the customer perspective, the transparency of Payforit reduces the number of

PSMS will continue to be around for many years.

customers querying their phone bills or pre-pay debits, as all the information they need and the specific merchant details are included in their bill. In addition, Vodafone subscribers are able to view their transactions online and will benefit from a fully automated process should a merchant ever need to issue a refund.

Finally, it encourages mobile commerce. No longer restricted to the fixed price points of SMS, Payforit merchants have the freedom to offer promotions and discounts via Vodafone's micro billing platform. As Payforit is an industry standard, merchants offering it as a payment mechanism will enhance their credibility, thereby instilling greater confidence and loyalty in their customer base.

Since launching in the U.K., the value of WAP billing has doubled. Initial signs are that payment success rates have also seen improvements compared with PSMS transactions.

Is (transparent) authentication the key differentiator for operator-based mobile payment?

Authentication is a major differentiator for operator based mobile payments but isn't the key differentiator. Authentication is just one of the required elements to deliver a successful payment experience, equally important are trust and a great user experience. Oyster is successful as a payment mechanism primarily because it offers users good user experience. They simply swipe the card to access and use transport systems in London. Mobile operator-based payment services are similarly intuitive.

Since launching in the U.K., the value of WAP billing has doubled.

Even in Japan, the positive impact of NFC on churn, usage or ARPU has not been demonstrated yet.

Will operators have a role to play in the delivery and processing of transactions completed using alternative billing methods - such as credit card, Paypal, Google? What value can operators add on top of these payment methods?

Operators already play a role in delivery of many transactions that are completed using alternative billing methods. Everyday, thousands of remote transactions take place and are completed with account information being shared via a phone call or data connection where at least one party is on a mobile network.

The place to add value could be in the automation of the transactions to improve user experience and security. Technically it is already possible to further automate such transactions by associating mobile credentials with the 'alternative billing' credentials. Bringing these credentials together could deliver a significantly improved user experience as well as greatly enhanced security which in turn may drive take-up.

If we look at it that way, then operators have a significant and enduring role to play in the value chain of such solutions. Furthermore, we believe delivering slick and secure versions of such solutions on mobile devices is not possible without operator involvement.

Do you think mobile commerce will progressively shift from distance selling and micro-billing towards proximity commerce and macro-billing? When do you expect to see this happen?

We expect to see a shift from distance selling and micro-billing towards proximity commerce and macro-billing. This is already happening to

a certain extent, with local initiative such as the new online macro-payment system that will be launched soon by German mobile operators. However, we expect this shift to be slow until NFC becomes mass-market.

Japan and Korea are countries where operators have pioneered cashless services and transactions for train tickets, vending machines and parking meters. Why do Europe and the U.S. lag behind in the use of contactless / NFC payment schemes?

Asia started with mobile NFC services some years before Europe and the U.S., and the Felica system [widespread in Japan] is a closed system. In contrast, the mobile NFC products to be deployed in Europe and the U.S. will be standardised and interoperable over geographic regions. This approach naturally takes longer to agree and deploy, however it is worth it because it will also be around in the long-term.

The key challenges for a successful NFC launch in Europe are the establishment of an eco-system and a sustainable business case. Even in Japan, the positive impact of NFC on churn, usage or ARPU has not been demonstrated yet. We expect the point-of-sale payments, mass transit ticketing and loyalty will drive mobile NFC services in Europe and the U.S.

In Asia, the combination of 2D barcodes and cameras is a significant boost to mobile commerce. What are Vodafone's ambitions in this area?

Vodafone is currently evaluating this capability as one of the components of its mobile advertising media-mix offering to brands. Success in the European market will be dependent on the rapid and widespread adoption of non-proprietary and inter-operable 2D barcode solutions.



"The Currency Of The Future"

Guido Mangiagalli, Head of New Channels, Visa Europe

Delivering on its global mobile strategy in 2007, Visa Inc. - which provides an electronic payments network bringing together cardholders, merchants and financial institutions worldwide - took the wraps off a comprehensive platform paving the way for mobile contactless payments, remote payments, person-to-person (P2P) payments and mobile coupons, as well as account management services. A milestone was the launch of Visa payWave, which allows customers to complete purchases by simply waving a Visa payWave-enabled card, micro tag or mobile phone next to a contactless payment reader. In Europe, Visa Europe teamed up with partners including French financial institution Société Générale, Turkish bank Denizbank and German transport authority Rhein-Main-Verkehrsverbund to test Visa payWave transactions via mobile phone devices equipped with Near Field Communications (NFC) technology. Visa Europe also took a leading role in the trial of the O2 Wallet, the first large scale NFC pilot to take place in the U.K. Guido Mangiagalli, Head of New Channels at Visa Europe, discusses the future of proximity payments, the role of the mobile operator and the advance of big-name Internet companies.

Will the operator continue to own the billing relationship on mobile? What will be the impact of alternative billing schemes from the likes of PayPal and Google?

Mobile operators play a central role in payment services where the focus is digital content and low-value content items. Banks will not provide an itemized call by call charge to the operator and so the billing system offered by the mobile operator is here to stay. The role of the payment card companies, such as Visa, will be to make sure there is enough money on the account to enable these purchases in the first place.

The discussion about Google is an old one - and part of the older debate about disintermediation. A few years ago, the mobile operators were warned that it was the credit and debit card companies they had to watch and now it's Google and PayPal. In reality, payments is and will stay the business of the banks because consumers see the banks as the place where they

deposit their salaries and manage their money. It may be that Google and some mobile operators can significantly improve the consumer experience, but the payment services that sit at the core of these mobile services will remain with the banks and the banking system.

There is a trend among mobile Internet merchants to accept credit card payments as a billing mechanism beyond operator-based billing systems such as Premium WAP and Premium SMS. What are you seeing and what impact will this likely have on mobile payments in general? Will Premium progressively disappear?

As more advanced and - above all - more secure solutions appear on the market, the business case for SMS for content beyond the usual mix of ringtones and wallpapers will become

The payment services that sit at the core of these mobile services will remain with the banks and the banking system.

Consumers young user like the impulse buying experience of pressing a button and completing a transaction.

less convincing. For digital content, however, Premium SMS will remain a leading payment solution. Consumers use Premium SMS for two main reasons: In the case of a young user, they simply don't have a credit card or they like the impulse buying experience of pressing a button and completing a transaction.

Visa also has a role to play here, which is why we have developed a mobile platform that allows our payments solution to be embedded in the mobile phone and so deliver users a better user experience, enabling them access to the one-button transaction they already know with Premium SMS. In this vein, we are also investigating a prepaid solution that we can distribute and target the youth market with a way to make purchases that is both easy and convenient.

It is also true that credit and debit cards are increasingly attractive to merchants and consumers for low-value items and purchases. It's hard for me to pick a price point at which Visa is the better option. It could be GBP1 or GBP3, but the point is Visa presents a viable option to other payment solutions, particularly when we consider mobile operators charge up to 50 percent for processing payments.

When we talk of low value payments the margins get tighter the lower [in value] you go, and only a company that can provide economy of scale in terms of transaction processing can provide competitive payment solutions.

Credit and debit cards are increasingly attractive to merchants and consumers for low-value items and purchases.

We are positioning ourselves to take advantage of opportunities through initiatives such as Visa payWave, our contactless payment product. We have a very clear vision – with our contactless product to become the currency of the future. And that means we want [this method] to be as widely accepted and used as cash is today.

Many mobile companies are experimenting with services that allow users in the under-banked regions across Asia and Africa, and users without bank accounts, to make payments, transactions and remittances. Is this an opportunity you have high on your radar?

Absolutely. P2P payments is a huge opportunity and the focus of our current trials and tests. If we can make it easy to use and secure, then P2P can be very important in Visa's future strategy. The Visa mobile platform is gaining traction and the trials in Europe demonstrate Visa can provide customers a secure and easy to use payment instrument for the mobile.

We believe our platform effectively provides the marketplace a global standard for payment, and it is our ambition to not only be a standard for remote mobile commerce, but also for a wide range of person-to-person transactions. Granted, there are other players that can maybe position themselves to compete here. But they are very niche and targeted solely at mobile payments. The winning solution is one that is global in reach and spans all the channels and customer touch points. Visa is positioned to deliver this breadth of services across mobile - and much more.

Do you believe mobile and Internet are converging in a new single Internet? If so, what will be the likely impact of Internet names and companies on the mobile payments landscape?

The existence of a single Internet demands that companies can deliver consumers a

seamless experience that unites the Internet and the mobile, as well as physical locations and offers. The company that will be the most successful here is the one that can not only bring these experiences together; it will also have to exploit the difference between fixed and mobile and add value to make the mobile a personal, secure and easy-to-use payment method in its own right so as to serve the many users for whom the mobile is their only access to the World Wide Web.

Take an airline, for example. I may buy my tickets through the Internet site, but if I'm late and need to change flights then I don't want to be directed back to the site; I want to make the changes and pay the fees using my mobile phone on the go, without inputting a lot of information. The big Internet brands can play a role here but they must be able to integrate mobile functionality, such as location and GPS, into their service offers.

What are the significant developments that marked 2007? And what do you expect to be the payment/purchasing trends in 2008?

2007 saw significant trials and testing that will make 2008 the starting point for NFC services and rollout.

The trials are key to shaping and optimizing the technology and services that will drive this forward. To this end we are involved in a wide variety of trials across Europe, and most recently announced our participation in O2 Wallet. Mobile is new territory for Visa. We are a payment card company and we know payments. We're moving this to mobile and it's a completely new paradigm and learning experience. It requires us to understand the security issues, create the relationship with the different players and really re-engineer the whole process in terms of how the cards are manufactured, personalised and issued to customers.

I think 2008 will be the year we put all of

this learning into practice. We have the infrastructure, we are close to standardization in the NFC Forum and we will start to see results.

P2P payments is a huge opportunity and the focus of our current trials and tests.

Easy Money

Jeremy Belostock, NFC Sales & Marketing Director, Nokia Emerging Business Unit



Sensing a business opportunity in replacing all the plastic cards contained in the average wallet, Nokia has stepped up efforts to bring Near Field Communications (NFC) to consumers. Users of a device equipped with an NFC chip can wave the device near a reader to make a payment or other transaction. Recently, Nokia made an investment in Inside Contactless, a fabless semiconductor company that makes contactless chip platforms, and entered into a large scale NFC trial with U.K. mobile operator O2 and Transport for London. Jeremy Belostock, NFC Sales & Marketing Director, Nokia Emerging Business Unit, talks about the trials in progress, the ideal NFC transaction models and the overall outlook for contactless payments.

What are the transactions and use cases likely to bring NFC payment schemes to a more mainstream audience?

Transport is an important application because users do it frequently. It is also the focus of our trials in the U.K. with O2. There, customers will be able to use their mobile phones as Oyster cards to travel around London, access events and even pay for items at selected locations all by touching the phone to a reader. Their device is the Nokia 6131 handset with a pre-installed version of the O2 Wallet, which brings together partners including Barclaycard, Visa Europe and AEG. Payment is also a key application, and one we are testing in this trial, because consumers indicate an interest in being able to pay for goods and services on the fly with their mobile devices. In the trial, for example, each handset is credited with GBP200 to enable the users to utilize contactless payment readers at retailers to buy goods for GBP10 or under.

Another interesting scenario involves loyalty

cards and point schemes. When consumers go out they do take their phones, but do they take their various loyalty cards with them? Oftentimes not, and then they end up at the supermarket without their loyalty card, unable to collect the points they earned with the purchase. We believe there are exciting use cases around loyalty cards that can bring value to both the consumers and the merchants. After all, with NFC, the consumer has more than a contactless card, they can [use the mobile Internet to] connect directly with the merchant and interact with their loyalty system on the mobile phone. In practical terms, I can go into a coffee shop, check my points directly on the device and see if I can get a free coffee for my friend, for example. It brings a new dimension to customer relationship and it's easy to imagine how this communication could be enhanced with other messages, advertising or related services.

What is the bottleneck? Consumer demand or device supply?

Nokia already has a commercial NFC device with the 6131. The market needs all of the stakeholders to engage with NFC, and have

When consumers go out they do take their phones, but do they take their various loyalty cards with them?

an active developer community with the right tools to quickly bring new solutions and offer intuitive applications to the user community. An NFC device has an interactive keyboard and screen along with an Internet connection that opens possibilities to many new applications.

NCF technology is proven and trials, such as the one with O2, are not to test if the technology works; they are to determine what users like and the mix of payment methods and providers they would like to have on these electronic wallets when the service is launched commercially.

Why isn't NFC more widespread? In Japan, where the Felica system has been providing much the same functionality for some years, the vast majority of consumers use the service.

NFC requires partnerships between many industry stakeholders including payment bodies, banks, mobile operators, transport authorities, SIM card manufacturers, system integrators, and developers. Nokia has been helping to create these partnerships but they need to continue to develop in order for NFC to gain more momentum.

What were the milestones in 2007 and what can the industry expect in 2008?

By far, the trials are the most exciting. The O2 trial is a milestone, but Austrian mobile operator Mobilkom Austria has pushed the boundaries with the most complete selection of NFC offerings worldwide, turning the A1 mobile phone into a public transit ticket, parking voucher, lotto card and much more. More importantly, subscribers can actually go into [Mobilkom] shops and buy an NFC pack with the [Nokia 6131] device. That raises awareness of NFC and delivers users the service right at the operator retail location.

In order for NFC to work, the operator has

to be involved and I expect to see more operator interest and involvement in 2008. We saw experimentation in 2006, we saw trials in 2007, and in 2008 I'm confident we'll see positive results. Slowly but surely we [the industry] are crossing the chasm and will soon get to a point where the number of devices and services consumers can benefit from is as huge here as it is in Japan.

With NFC, consumer can connect directly with the merchant and interact with their loyalty system on the mobile phone.





PROMOTE



AN OFFER THEY CAN'T REFUSE

Last year began on a particularly upbeat note when Laura Marriott, executive director of the Mobile Marketing Association (MMA), declared “2007 will be the year for mobile marketing worldwide.” In hindsight, the mobile advertising market failed to grow by leaps and bounds as observers around the world had forecast. But the year did see a significant increase in the number of mobile marketers, agencies and advertisers waking up to the potential of mobile.

Major consumer-facing brands, including Procter & Gamble, Coca-Cola and Disney, launched mobile campaigns to engage consumers and extend their reach. Indeed, a mobile advertising and marketing conference held in Paris months later would treat participants to presentations and case studies from companies including Walkers, Sprite, Celador, Unilever, Acuvue, Shell, Tesco, Adidas, News International, Barclays, Pepsi, Dove, BP, Canon, Big Brother, HBOS, BA and Jaguar, among others.

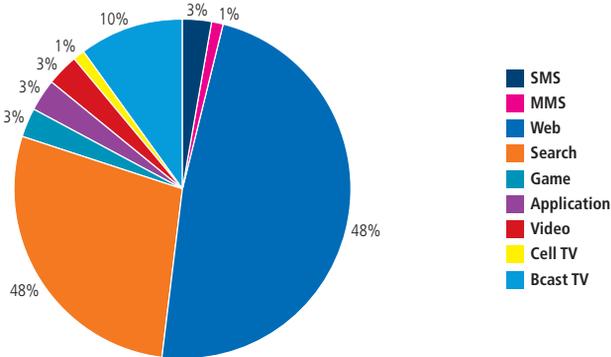
Despite the industry buzz around mobile advertising, and the obvious enthusiasm of some consumer-facing brands to gain a first-mover advantage, the industry is a nascent one. In fact, “mobile” is not yet a line item in company annual reports, nor is it treated as a separate category in overall industry marketing and spending reports. And in the few cases that mobile gets a mention, it is bundled in with other digital channels. Put simply, mobile advertising will likely be seen as just another channel to the customer – or merely another screen – until the industry can document real success with real numbers. This is the motivation behind several initiatives to arrive at standard reporting procedures and agreement on key performance metrics.

Recent data from mobile measurement company M:Metrics confirms the impact of mobile marketing and shows that mobile marketers are extremely



GLOBAL MOBILE AD SPEND FORECAST FOR 2011

Source: Strategy Analytics



effective. It measures response rates ranging from 5.7 percent to 12 percent in the U.S. and Western Europe in the month of July 2007 - a rate of response that would be enviable in any medium.

No wonder mobile advertising is pegged to be an industry buzzword straight through 2008. Recent research conducted by the Online Publishing Association reports that 40 percent of brands have already used mobile marketing and a whopping 89 percent plan to use mobile marketing in 2008.

Against this backdrop, Strategy Analytics is forecasting advertisers will spend \$1.4 billion on mobile media by end-2007, with this rising to \$14.4 billion in 2011.

Japan consistently stands out as the most buoyant market for mobile advertising, with ads on mobile phones there set to triple by 2011, outpacing growth of advertising on the Internet. According to a study from Dentsu, a major Japanese advertising firm, spending on mobile ads will hit 128.4 billion yen (\$1.1 billion) in 2011, up from 39 billion yen (\$327 million) in 2006.

THE MESSAGE IS THE MEDIUM

Companies lining up to harness advertising are overwhelmed by choice. They can opt for a mobile Web banner (top of page), mobile Web poster (bottom of page banner), or a full screen interstitial, which appears while a requested mobile Web page is loading. Or they can go the route of messaging to get the word across to consumers, in which case they can choose between SMS, MMS and video.

Research from technology consultancy Informa Telecoms & Media reports mobile advertising services will generate advertising expenditure of \$2.2 billion in 2007, reaching \$11.4 billion by 2011. In 2007, SMS/MMS campaigns will



SMS

SMS text - the simplest and most ubiquitous communications tool – has gained new importance and popularity. M:Metrics research confirms SMS leads the pack. In Europe, the majority of mobile subscribers surveyed by the company reported that they received an ad via SMS in the month of September 2007. Spain and France received the most, with reported levels of 67 percent and 58 percent respectively.

M:Metrics found consumers react most favorably to ads promoting mobile products and services – for example, mobile content downloads or operator service plan discounts – and to news, information or entertainment services. However, the research firm also uncovered a worrying trend: mobile spam. Figures indicate that, in a given month, up to 21 percent of users received an unsolicited text message from a company other than their service provider.

MMS

Many industry observers point out one of the reasons behind the slow take-up of MMS has been the high cost to the subscriber compared to SMS. However, this could change as advertisers deliver MMS messages as part of their campaigns – or as a service they sponsor for subscribers to enjoy. Indeed, reducing the costs of sending MMS messages and the cost of WAP downloads is poised to become a focus of mobile advertising campaigns as more brands look to offer consumers tools and services they can use beyond simple marketing messages. Mobile advertising company Amobee, for example, sees a huge untapped opportunity in the delivery of ad-funded MMS messages and services, pointing out that the approach paves the way for consumers to not only interact with operators and marketers, but to also reshape and redistribute messages through global communities, turning a one-way broadcast model into a lively and lucrative two-way viral campaign.

Does MMS have what it takes to build brand and help advertisers connect to their customers? You, the respondents to the Netsize survey, believe 2009/2010 will be an important year for MMS. When asked when MMS will claim a top-notch spot in advertisers' messaging arsenals, 30.9 percent answered this would occur in 2009/2010. But it's not all good news. Some 40 percent of respondents replied this would "never" happen.

MIM

Moving forward, mobile instant messaging could be a goldmine opportunity for mobile operators. This is because MIM offers substantial scope for generating alternative revenue streams from advertising and increased data usage. The enhanced functionality that MIM clients offer makes the service appealing to advertisers; and presence functionality allows brands to target their chosen demographic with personalized campaigns that extend beyond SMS and MMS advertising campaigns. Mobile operator 3 in the U.K. has a different twist. It offers free access to MIM as part of its X-series bundled data package and funds the service through advertising. A recent report from technology consultancy Informa Telecoms & Media estimates that MIM platforms will generate \$23 million in advertising in 2007, rising to \$1.3 billion in 2012.



likely account for 61 percent of that spend, a figure forecast to drop to 24 percent by 2011.

No matter the form, a seamless user experience is essential to the success of mobile advertising. Put simply, adverts must be inserted as part of the existing communications stream, not as intrusive standalone push events. What's more, user opt-in with some level of reward is essential to ensure consumer adoption. The Mobile Marketing Association's 2005-2006 Attitude and Usage study found most people preferred to participate in campaigns that provided them with access to exclusive product information, discounts or content.

Targeting is critical and access to customer data, and contextual information such as location, is essential.

RELEVANCY RULES

Advertising that picks up on a consumer's lifestyle habits and interests is actually thought to be a bonus and can be delivered to a specific individual, offering the right product at the right place at the right time - the Holy Grail of marketing.

Without a doubt, mobile ads are as annoying as spam – unless the message matches the individual user's interests, according to a survey by Q Research. It found teenagers are more than twice as willing to receive mobile ads on their mobile phones if they are relevant. The survey, which polled 1,500 teenagers in January 2007, found that 71 percent would accept mobile ads related to their interests, compared to 32 percent who would accept random mobile ads.

More reason to deliver relevant advertising comes from a recent Harris Interactive survey of 4,123 US adults, commissioned by Ingenio, a pay-per-call ad service provider. It concludes that users will vote with their feet if they are spammed with mobile advertising.

Put another way, targeting is critical and access to customer data, and contextual information such as location, is essential. Mobile operators have built their business on collecting customer analytics; now the time has come to wield them. In advertising terms, mobile operators own some of the best advertising inventories available anywhere. In addition, they own two key assets: the customer's location and personal identity in terms of behaviour, demographics and content preferences. This puts mobile operators in a very strong position when competing for advertising budgets.

Put simply, in the case of mobile advertising, information – or rather the ownership of it – is indeed power. Mobile operators have an opportunity to gain significant new revenues from mobile advertisers who may be willing to pay a premium for access to a well-segmented audience. But can mobile operators turn



that data into extra revenues? Clearly, to get the best out of the information, operators have to make sure they have the right mix of marketing, database management and data-mining capabilities. There are other challenges to overcome, such as data protection and privacy concerns. You, the respondents to the Netsize survey, believe operators will be successful in reselling users' data to advertisers, with 58.3 percent answering "yes" and 41.7 percent disagreeing.

LINKING VIRTUAL & PHYSICAL WORLDS

While many brands harness mobile advertising campaigns to extend their reach, an increasing number of fast-food restaurants and department stores are using mobile to drive consumers into their physical retail environments.

In the U.S. for example, companies are rushing to provide m-commerce services and offers such as mobile couponing. An ambitious article from a Seattle newspaper proclaims that shopping via mobile is the next big thing, with consumers using their mobile devices to "shop for shoes in the bathroom stall, or look for new linens on the bus." The main attractions in this new m-commerce paradigm include DVDs, CDs, cosmetics, apparel and accessories. Dozens of retailers have signed up, including TicketsNow.com, GameStop and Buy.com.

Advertisers and mobile operators also share growing enthusiasm for quick response (QR) codes, also known as 2D barcodes or simply Code 2D. QR codes are highly popular in Japan, where consumers have used them to download mobile content such as ringtones and games, as well as entire mobile novels. Elsewhere, take-up has been slow, but a slew of trials and tests may change that. In Europe, Orange has reportedly requested its handset manufacturers to supply cameraphones with QR capabilities from early 2008. The lack of standardization, coupled with the lack of handsets with embedded barcode readers, has been a significant barrier to QR development. Meanwhile, U.K. tabloid The Sun has rolled out a QR code scheme allowing readers a quick way to access mobile websites – and with them newspaper content along with a mix of videos, film trailers and music. In the U.S., newspaper publisher The New York Times Company is actively investigating ways to harness QR codes to promote both editorial and advertising offers.

In Australia, mobile operator Telstra is trailing a system built on QR codes to connect users who scan the barcodes with their mobile phones from posters or print media, to third-party websites such as Pizza Hut and KFC. Telstra's aim is to use the technology to engage users on their own website as part of social networking that bridges the real and virtual worlds.

Mobile operators own some of the best advertising inventories available anywhere.

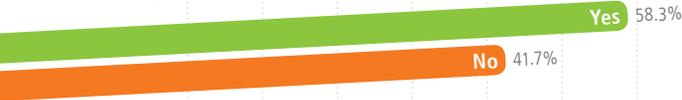


NETSIZE SURVEY RESULTS

What will be the best use of mobile for marketing?



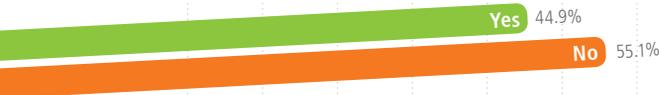
Will operators be successful in reselling users' data to advertisers?



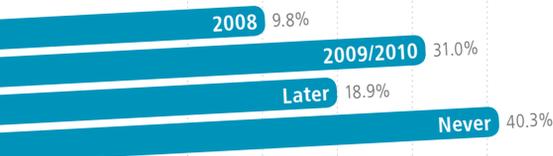
Is mobile an efficient way to drive point of sales traffic, connecting the digital & physical retailing environments?



Is 2D barcode a killer application that will increase mobile commerce?



When MMS will become a key mean to build brand and connect to customers?



* About the survey, please refer to pages 13-14

0 10 20 30 40 50 60 70 80



Barcodes are a technological dead-end for mobile. PIN and NFC services will always have a massive usability and reliability advantage.

Alex Hampson, Carphone Warehouse, United Kingdom

I think MMS is as good as the shoe-phone or the video conference-watch. A very good, complex, kind of elegant idea with very few practical uses. Every phone will have Internet+email support (such as BlackBerrys and iPhones) so MMS is not needed.

Eduardo Raad, Metromovil, Guayaquil, Ecuador

Advertising on mobile is similar to the PC - attract/capture via banners and remain in touch via direct marketing.

Anonymous



Connecting With The Customer

Virginie Fauvel, e-business Director, Cetelem

Cetelem, one of the leading consumer finance companies in France and the rest of continental Europe, has operations in 25 countries. The company – which is owned by French bank BNP Paribas – offers installment loans and credit cards including the popular Aurore card, which is held by some 18 million users. It also counts agreements with major retailers, such as Carrefour and IKEA, to issue private-label credit cards, and has alliances with banks and financial services companies including AXA, Banques Populaires, Caisses d'Epargne, and Dresdner Bank. Virginie Fauvel, e-business director at Cetelem, discusses the role of mobile in delivering products and services, and connecting with customers.

Cetelem established its presence in the Internet over a decade ago. What importance does mobile have in your marketing strategy today?

Mobile is an integral part of our commercial and marketing strategy. For example, we use SMS in many of the countries in which we operate to communicate with our customers from the moment they request credit. We notify them [via text] that we have received their request, ask them to supply any information missing in the application, and let them know the good news that we have accepted their application. The mobile phone is personal, because customers carry it with them everywhere, and it's immediate. Being able to connect with customers in real-time represents a definite plus for us.

Conducting business via the Internet accounted for 15 percent of Cetelem turnover in 2006. What is your view of the mobile phone? Is it a customer acquisition tool, or another channel that allows the sale of products and services such as loans?

Each of these scenarios is conceivable. For the moment, the usability of WAP sites and the limitations of mobile devices make it difficult to conduct the full range of banking services.

Being able to connect with customers in real-time represents a definite plus for us.

However, the arrival of handsets like the iPhone, which allow direct connection to the mobile Web, offers us a new perspective.

Looking ahead, we will probably use the mobile phone in two ways. On one hand, it will serve as a channel allowing us to accompany our customers when they are on the move. For example, they could make a credit request on their mobile phone when they are making a purchase from a merchant in a physical location. On the other hand, it will be an acquisition channel via the m-business merchants, as we did with e-merchants on the Web. Today, mobile business and mobile commerce is focused on the sale of wallpapers and ringtones. These are items that cost little, so there is no need for consumers to request credit to cover these amounts. However, when Internet retailers appear on mobile and it's possible for consumers to purchase big-ticket items, then there will be a need for our services. We see signs of this already in France where



Mobile has delivered a marked increase in money recovery compared with other media.

Voyages-sncf.com – a company with which we partner on the Internet- has established a mobile presence. This shows progress and that things are moving forward.

SMS has established itself as an alternative channel to the customer. What are your ambitions in this direction and do you view mobile phones as an effective CRM tool?

Yes, mobile is a valuable CRM tool and we use SMS in almost all the countries where we are present for precisely this reason. Indeed, mobile has delivered a marked increase in money recovery compared with other media such as the [landline] telephone or mail. In addition, customers do read and react to SMS messages, which makes it a channel well suited to CRM and it is also widespread as all countries have massively adopted it.

You have obviously made SMS the centerpiece of your mobile marketing strategy. Which other technologies are on your radar?

Our work requires human interaction between the customer and the commercial advisor, particularly when it comes to granting credit or approving a loan. Nonetheless, SMS provides many advantages and allows more effective and targeted communication. We also wish to develop WAP [a WAP presence] because it allows us to improve the customer experience compared with SMS. Regarding integrated applications today, mobile phones do not seem to be suited to them.

Traditionally, financial institutions have been first-movers when it comes to integrating new technologies, such as the Minitel and mobile devices, into their marketing strategies. Why do you think this is?

This may be because we judge new technologies based on their ability to improve profits. In line with this focus, we are always on the lookout for new technologies and the advantages they can bring to our business.

Are location and location-aware services and applications at the core of one-to-one marketing? How important is this context and how does it figure in your strategy?

For us today, we focus on the cost and immediacy of mobile communications when we choose which methods to leverage. Sending an SMS to our customers, as we do, is an effective means to reach them immediately with the information we want to deliver. Here mobile has an undeniable advantage over email, for example. After all, customers don't check their in-box when they are on vacation, but they will read SMS messages delivered to their mobile phones. Moving forward, we could harness location to sharpen our mobile marketing management.

Cetelem ranked among the top 10 companies in 2006 in its use of Internet advertising to deliver its message to customers. How will mobile advertising likely develop over the next years?

Mobile advertising will likely develop much the way advertising on the Internet did. This trend is supported by the move of major advertising players such as Google to the mobile channel. In France, there is a particular context because most of the mobile advertising is made on operators portals.



Open Innovation

Olivier Marcheteau, Country Manager, MSN/Windows Live France
Microsoft

It was life in the fast lane for Microsoft in 2007. The company kicked off the year with a slew of new Windows Live for mobile services - including email, instant messaging and mobile search - to provide consumers enhanced search and communications capabilities. A welcome addition was Windows Live Spaces for mobile, a blogging and photo service for mobile devices allowing customers to stay connected to their communities while on the move. Location and context also become an integral part of Live Search for mobile in the form of new capabilities including satellite imagery and the ability to send search results to a friend. Microsoft rounded out its offer with a sharp focus on mobile advertising. In May 2007 it acquired Screentonic, a major European mobile advertising company and, in December, extended its own portfolio of services to offer mobile display advertising on MSN Mobile in the U.S., where Paramount Pictures and Jaguar Cars North America were among the first companies to launch. Olivier Marcheteau, MSN/Windows Live Country Manager in France, outlines Microsoft's mobile strategy and identifies the mega-trends that matter.

Please describe your main activities in mobile and the role of your mobile portal in relation to your communications and community services.

We are convinced that convergence will bring together our expertise in providing experiences across Internet and mobile, and there will also be a component around IPTV. This is already happening in some countries and it's a development we think will impact some of our major markets. In line with this convergence we are also building an economic engine for advertising that will address the needs of advertisers across all these platforms. We strongly believe that there is value in being able to offer cross-platform content experiences to the consumer, and advertisers also see value in being able to deliver messages that fit the medium as users move from their PCs to their mobile device to their IPTV.

Social networking and communications is another key element in our offer. Every month we count 500 million users accessing

our content and services worldwide. That's 290 million for [Microsoft] Messenger alone and another 100 million users blogging using our platform. That's not all mobile, but it does represent a solid base of loyal users that can benefit from mobile [access] and, ultimately, from the freedom to communicate regardless of device or platform.

Another part of what we want to enable is free [not dependent upon platform] access to information and entertainment. Our strategy is to make a wide variety of services available on mobile - and we're not just saying this, we are doing it. Microsoft completely redesigned and reengineered the MSN.com mobile portal offering, providing users one-stop access to email, news, sports, entertainment, local

Every month we count 500 million users accessing our content and services worldwide.



When you combine location, search and advertising you have the makings for a number of exciting scenarios.

movie listings, maps and directions, as well as Windows Live services such as Windows Live Hotmail, Windows Live Messenger, Windows Live Spaces, and Live Search. Depending on the country, our Web offering ranks second or third. We have also sealed over 40 deals with mobile operators worldwide, enabling access to messenger and applying the same strategy to Hotmail. We have different models depending on the market. In some countries we offer it as part of a pay-for model with carriers – in France, for example, the user pays a monthly fee of a few euros for unlimited usage of Windows Live Messenger. We are also experimenting to deliver advertising. On the PC, we have already worked out a model to make advertising more relevant to users of Messenger, and we plan to transfer this success to mobile in time.

Some expect mobile search, like its online counterpart, to become the entry point to digital content. What importance do search and advertising have in your future roadmap?

As I said, we are testing ways to deliver more relevant advertising. The jury is out on the right approach but we are positioning ourselves to offer our advertisers and operator partners a choice of approaches. In the U.S., we have developed an ad-funded [strategy] for the portal and we plan to roll out this [same approach] across Europe in '08.

When you combine location, search and advertising you have the makings for a number of exciting scenarios. A user looking for a nearby cinema can get the listing, some information about what's showing and advertising messages relevant to the search query. We are

investigating ways to link the two more closely and extend our vision for relevant advertising across all platforms. A user should be able to take their search history with them from the PC to mobile and visa versa.

What is the role of Screentonic in this?

Screentonic is part of what we are doing to ramp up and take advantage of the opportunities we see on the market. Screentonic has a critical mass in terms of inventory and they have a technical platform that allows us to roll this [mobile advertising offer] out and scale up to grow the business rapidly. We have also recently acquired Musiwave [a mobile music entertainment services solutions provider] because it allows us to create and offer some interesting services around music and [mobile] video. The aim is to enable all the user scenarios and experiences around mobile content – including music – on one hand and, on the other hand, to enable ad advertising experience that is unobtrusive to the user because it is completely relevant to what they are doing at the time.

What is the purpose of the mobile device in mobile social networking? Is it a communication tool allowing users to connect with members of their community on the go, or simply a means to capture and publish photos & experiences to enhance their online profile?

Social networks are about connecting, about users sharing their contacts, their photos, their music and joining together to play games. This is what 290 million users can do on Messenger today and we want to extend this to mobile, where users can enter through their blog, their space, to access the community and be able to share whatever they want. Of course the mobile device plays a central role, but it's not the only device.

In the longer-term, we want the experience



on mobile to be as rich as on PC – with the only difference being you have a smaller screen. To get there we have to ensure there is a fluid experience and that [things like] social networking are easier to do on a mobile device. Of course, some services will be much better on a mobile. Geo-location and services that tell you where your buddies are, or can match you with [like-minded] people nearby, are exciting and high on our radar, which is why we have acquired Multimap [a U.K. online mapping company that provides street-level maps, travel directions and local information].

Will Internet companies dominate the mobile Web?

Let's just say that recent developments point to a trend in this direction. Increasingly, mobile operators are turning to the large Internet companies to create value and offer interesting services via the mobile Internet. My view is that companies that have been successful on the Internet have it in their corporate DNA to be successful on mobile. There are issues around data rates and pricing, and advertising models and rendering [Internet] content for mobile phones, but the industry will figure this out. Conceptually, Internet names start with a strong brand and loyal user base on the PC and this is a great position to succeed on mobile. The reality is: whoever innovates the most wins. But my feeling is Internet companies have the capabilities mix that will allow them to scale the services to users that want services on their own terms and across platforms. A pure player company that emerges on mobile may have a hard time matching that.

Internet companies have the capabilities mix that will allow them to scale the services to users that want services on their own terms and across platforms.



Digital Is The Best Way To (The) Store

Richard Caillat, President and Chairman of the Management Board, HighCo



HighCo, a French provider of marketing solutions with operations in five European countries, enables its customers in the mass-market retailer and consumer goods industry to deliver sales promotions, coupons, loyalty programs and point-of-sale (POS) advertising and communications. In 2007, HighCo sharpened its focus on mobile, establishing an innovation center and creating a department dedicated to harnessing the mobile device to deliver users marketing messages at the POS and on the move. Richard Caillat, HighCo President and Chairman of the Management Board, talks about the role of mobile, the future of m-couponing and the challenges ahead.

Your company has built its reputation and expertise in mass-market retailing. What is the role of mobile in point-of-sales marketing?

The mobile is becoming a central channel to all retailers because it's the only communications tool that consumers have with them at the point-of-sale and at the time they make a purchase decision. Because mobile devices are personal and interactive, they are perfect for direct and targeted marketing efforts. Mobile makes it possible to target the right consumer at the right time at the right place to deliver the right results. But it's more than that. Mobile represents a bridge that connects traditional media such as TV, radio, print or digital communications with the point-of-sales. By creating this link, mobile also allows the correct tracking and measure of the real efficiency of each marketing message and the media used to deliver it.

Contactless communications such as NFC [Near Field Communications] complement mobile. Together they offer the customer access to digital loyalty cards and rewards systems on the move. The combination of mobile and NFC represents a new way to enhance those loyalty programs and – ultimately – the relationship

with the consumer. In a word, it creates a whole new kind of customer relationship in the store at the physical point of sales. We are convinced of the opportunities and, to tap into this, we have created a new initiative under the motto: "Digital is the best way to store." To this end, our initiative brings together a virtual R&D think-tank of Web, mobile and digital media expertise. The aim is to harness mobile technologies and concepts to improve marketing services and bring innovative solutions to merchants and retailers.

Retailers are, by definition, masters in selling and in collecting customer data through these interactions and loyalty programs. Why haven't stores done more to exploit mobile to reach and target consumers?

There is a simple reason: opt-in. It is true that retailers have massive databases full of customer data; their profiles, preferences, purchasing history. However, in order to link the two, retailers need to have the mobile phone numbers of their customers. Some retailers have started to collect this data, but not all. In addition, retailers need the specific permission of the consumer to deliver offers and information



directly to their mobile phones. Put simply, we need to fully integrate mobile information at the center of user data collection. It is a huge task. Nonetheless, some specialized retailers have taken impressive first steps, integrating mobile to connect with the consumers, mostly through push SMS campaigns.

It's common knowledge that consumers make the majority of their purchase decisions at the point-of-sales. In fact, two-thirds of products bought are impulse buys. Against this backdrop, is mobile an efficient tool to complement or enrich the point-of-sales message and promotional material?

Absolutely. Mobile is a hugely important part of the marketing mix. As we know, in the vast majority of cases, the decision to make a purchase is spontaneous and takes place at the point-of-sales. The key is to deliver the offer or suggestion to the right consumer at the right time – and that right time is when they are in buy-mode. And the message need not always be an offer or a discount. It can also be useful information the consumer will appreciate while making a purchase. All these types of interactions strengthen the relationship between the retailer and the customer. It's easy to imagine a scenario in which a consumer in the food aisle who has just bought an item of food could also be sent a relevant message about the nutritional value of the item or a recipe about how to prepare it. Likewise, a consumer about to purchase clothing might get information of how to care for the fabric or other information that a sales person would otherwise provide like the size, availability, and other colors.

The use cases are there – the question is matching them with the right technologies. Bluetooth is certainly attractive. As it works well at short-ranges, it is a perfect fit to deliver information – quite literally at the point-of-sales – to the consumer's phone. Schemes involving 2D barcodes are also attractive, but

right now there is a bottleneck of 2D-capable devices. Only a few models feature barcode readers and until that changes, this will remain a niche.

You are a leader in couponing. Mobile coupons are beginning to gain traction, but progress is slow. What are the obstacles and what are the opportunities?

The biggest obstacle is the lack of a complete end-to-end m-couponing solution. A lot is involved in issuing and processing a coupon and a system that does this in mobile has to cover all these areas. The coupon has to be unique, which means there is one coupon per customer. It cannot be transferable, and it must be secure. In other words, there must some sort of forward-lock mechanism to restrict consumers from passing their m-coupons to others. Getting this right is critical because we have to remember that a coupon is very much like money.

And then there is a raft of changes that have to made at the physical point-of-sales to accept and redeem the coupons. These must be uniform as well so there is one procedure to read and redeem m-coupons. That begins with the installation of the proper readers to read and validate the m-coupons on mobile phones. These readers have to be installed in the stores, but will likely be complemented or replaced by contactless payments and NFC going forward. This is our expectation and why HighCo is sharply focused on NFC, and has recently partnered with Orange to explore more closely the opportunities offered by this technology for payment, coupon and loyalty programs. Technology is now at the heart of commerce, and retailers will have to innovate and continue on this path to attract and retain customers.

Mobile connects traditional media with the point-of-sales.





ABOUT NETSIZE



EXPERIENCE THE WIRELESS REVOLUTION WITH NETSIZE



Contact our headquarters or
local office at www.netsize.com

Netsize is a leading mobile communications and commerce enabler. Netsize supports companies looking to develop services on mobile & handheld devices through its unique ability to provide an end-to-end integrated solution with international coverage.

Netsize solutions include Mobile Messaging with SMS and MMS delivery in 200 countries, Mobile Payment through operator-based billing (Premium SMS, MMS & WAP) in 22 countries, and Mobile Content Management platforms with publishing & editing tools to manage messaging services and mobile Internet portals.

With 200 employees in 11 offices worldwide, Netsize provides on both robust technical infrastructure and marketing expertise to support successful deployments on a global scale. To this end, Netsize has developed a strong expertise in addressing specific industry needs such as media & entertainment, distribution & retailing, brands & marketing, automotive & transport, energy & utilities, banking & insurance and government & public services.

Netsize manages more than 60 million mobile transactions per month for 800 customers worldwide including Fortune 500 companies.

Any Where
Any Access

Any Transaction
Any Content

MARKET SEGMENTS

MOBILE ENTERTAINMENT

Enabling content providers & media companies to distribute and monetize content on mobile platforms

MOBILE MARKETING

Enabling brands & retailers to develop customer acquisition and CRM campaigns through wireless devices

MOBILE BUSINESS

Enabling corporations to extend IT infrastructure through wireless M2M or business to employee communications



PRODUCTS & SERVICES

MOBILE MESSAGING

Extend the capabilities of your consumers, workers & machines
Send & receive SMS, MMS, WAP Push worldwide

MOBILE PAYMENT

Charge end-users direct to their wireless devices
Premium SMS, MMS & WAP in 22 countries

MOBILE CONTENT MANAGEMENT

Develop & manage mobile messaging and mobile Web portals
Content management, service delivery & publishing tools

MOBILE SERVICES

Outsource your mobile service management
Service testing, code of conduct & rules compliance, etc



A DIRECT ACCESS TO MOBILE USERS ACROSS 200 COUNTRIES



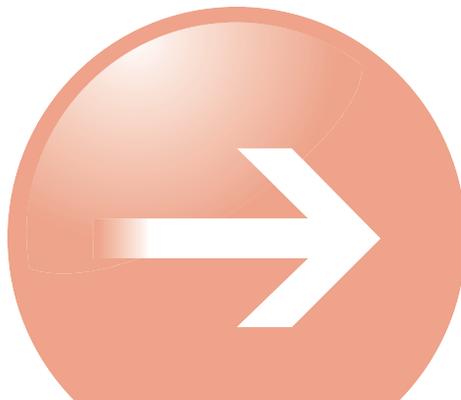
*m*Gateway

- SMS
- MMS
- WAP Push
- GPRS

You are looking to access your consumers, workers or even machines on the go and interact with them using wireless devices?

Netsize mGateway allows brands and merchants to connect their information systems to more than 700 mobile networks in over 200 countries. It is ideal for companies looking for a permanent mobile extension of their applications that integrates fully into their existing platforms.

The Netsize mGateway API offers quick and secure connectivity to the Netsize network and allows communications via using SMS, MMS, WAP Push or GPRS connections.



Extend the reach of your consumers, workforce & machines



WORLDWIDE COVERAGE

ADVANCED MESSAGING ROUTING

SMS, MMS, WAP Push, GPRS connection
Dedicated & shared short code & APN
SSL & IPSec security options
Mobile number portability management

CARRIER-GRADE SUPERVISION

Secured architecture hosted by Colt Telecom
HP Openview network monitoring tool
24x7 supervision team
Service level agreement

BUSINESS TRACKING

Status report & delivery notification
Sub-accounts & itemized billing management
Real-time statistics & data-mining tools





A UNIQUE SOLUTION FOR BILLING MOBILE CONSUMERS WORLDWIDE



*m*Payment

- Premium SMS
- Premium MMS
- Premium WAP
- Credit card

You are looking for a simple, secure and efficient way to charge mobile users directly to their wireless device?

Netsize mPayment solutions offer merchants a portfolio of billing methods, including Premium SMS, MMS, WAP and credit card.

Netsize mPayment allows both pay-per-transaction and subscription-based recurring billing and payment services that offer flexible business and revenue models for different services.

Netsize mPayment services do away with the complexity of dealing with different mobile operators and payment providers, as well as the myriad of technologies, billing, payment and transaction management methods by providing an end-to-end, outsourced solution that is fully managed by Netsize.



Charge end-users direct to their wireless devices

WORLWIDE COVERAGE

Australia	Greece	Poland
Austria	Hungary	Portugal
Belgium	Ireland	Spain
Czech Republic	Italy	Sweden
Denmark	Luxembourg	Switzerland
Finland	The Netherlands	United Kingdom
France	Morocco	
Germany	Norway	



NETSIZE PREMIUM MESSAGING PAYMENT

Premium SMS & MMS in 22 countries
Dedicated & shared short code
Pay-per-use & subscription model
Operator rules & retry management

NETSIZE ONLINE PAYMENT

Operator WAP billing in 9 countries
Credit & debit cards worldwide
End-user authentication
Direct & redirect model
Payment pages customization
Refund process management

BUSINESS TRACKING

Status report & delivery notification
Sub-accounts & itemized billing management
Real-time statistics & data-mining tools
Financial clearing & settlement with operators





AN OPEN PLATFORM TO MANAGE MOBILE MULTIMEDIA SERVICES



*m*Suites

- Mobile Web
- Mobile Shopping
- SMS/MMS Alerting
- ODP/Applications
- IVR/iTV

You are looking for an easy way to deploy a messaging service or mobile shop or portal, locally or globally ?

Netsize mSuites is a mobile content management & service delivery platform allowing merchants and brands to develop and manage mobile shops, portals and messaging services through a single interface.

Save costs & accelerate roll-out of your services through this unique platform designed to facilitate mobile commerce & service deployment worldwide.



Develop portals & services allowing consumers to shop & browse on the go

MARKET SEGMENTS

Brands & marketing agencies

Content providers

Media

Mobile operators

Handset manufacturers



INTEGRATE & CATEGORIZE CONTENT

Texts, ringtones, full-tracks, images, videos, games, applications...

Catalogue management including metadata

Rendering and compatibility optimized on +3000 devices

CREATE & ANIMATE SERVICES

SMS/MMS scenario ordering

Mobile Web storefront editor (on- or off-portal)

All external applications (ODP, Web, IVR, iTV...)

TARGET & MANAGE END-USERS

Any networks (over-the-air & over-the-Internet)

Direct download and streaming including DRM protection

Full CRM management (loyalty, direct marketing...)

MONITOR & TRACK BUSINESS

Multi-entities & multi-users administration

Marketplace & submission process for retailers

Real-time statistics & data-mining tools







COUNTRIES DATA

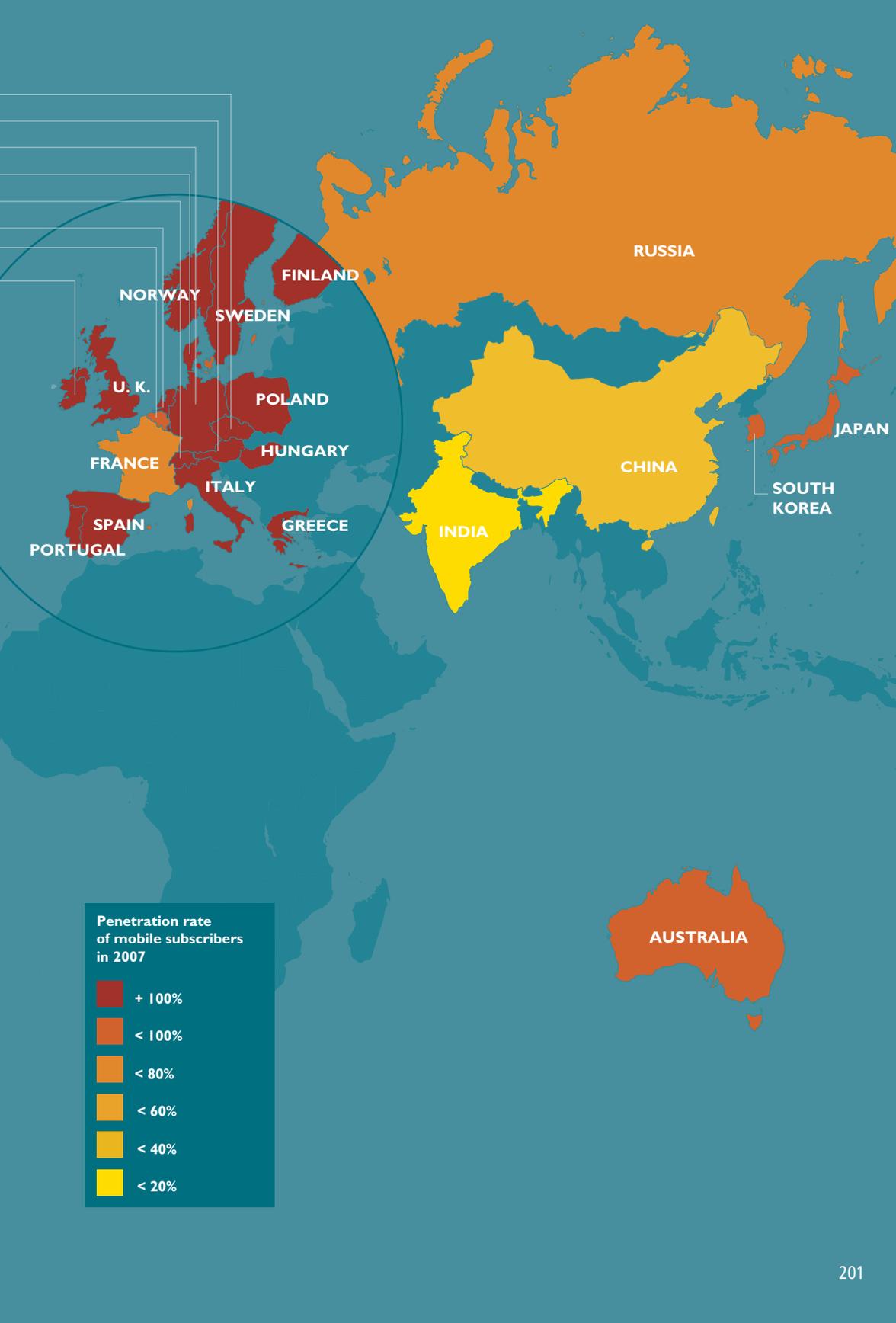
AUSTRALIA	205
AUSTRIA	207
BELGIUM	210
CANADA	213
CHINA	215
CZECH REPUBLIC	217
DENMARK	220
FINLAND	223
FRANCE	226
GERMANY	230
GREECE	233
HUNGARY	236
INDIA	239
IRELAND	241
ITALY	244
JAPAN	247
NETHERLANDS	249
NORWAY	252
POLAND	255
PORTUGAL	258
RUSSIA	261
SOUTH KOREA	263
SPAIN	265
SWEDEN	268
SWITZERLAND	271
U.K.	274
U.S.A.	278



- CZECH REPUBLIC
- AUSTRIA
- GERMANY
- DENMARK
- SWITZERLAND
- THE NETHERLANDS
- BELGIUM
- IRELAND

	Country	Mobile subscribers	Penetration rate
1	China	505,695,000	37.8%
2	U.S.A.	261,368,000	86.2%
3	India	208,871,794	18.5%
4	Japan	103,535,100	81.2%
5	Russia	98,964,426	70.0%
6	Germany	93,292,000	113.3%
7	Italy	87,925,000	148.7%
8	U.K.	74,487,000	122.9%
9	France	50,498,000	78.8%
10	Spain	49,053,700	108.7%
11	South Korea	42,750,746	87.2%
12	Poland	39,626,000	103.9%
13	Australia	20,830,000	99.4%
14	Canada	19,357,319	58.9%
15	The Netherlands	17,875,000	109.1%
16	Greece	15,729,366	140.8%
17	Portugal	13,722,100	125.4%
18	Czech Republic	12,756,000	123.5%
19	Belgium	10,534,000	99.5%
20	Sweden	10,280,000	112.3%
21	Hungary	10,060,000	100.0%
22	Austria	9,477,700	114.0%
23	Switzerland	7,919,000	105.5%
24	Denmark	6,688,000	122.5%
25	Finland	5,801,800	109.6%
26	Ireland	4,888,000	114.9%
27	Norway	4,826,000	102.6%

	Country	Mobile 3G subscribers	% of subscribers
1	Japan	68,155,000	65.8%
2	U.S.A.	41,700,000	16.0%
3	Italy	22,349,000	25.4%
4	South Korea	19,432,065	45.5%
5	Germany	12,908,000	13.8%
6	U.K.	12,083,000	16.2%
7	France	11,496,170	22.8%
8	Spain	9,808,536	20.0%
9	Portugal	1,841,000	13.4%
10	The Netherlands	1,311,000	7.3%
11	Austria	1,223,000	12.9%
12	Sweden	1,051,000	10.2%
13	Finland	960,000	16.5%
14	Ireland	767,000	15.7%
15	Greece	748,000	4.8%
16	Switzerland	717,000	9.1%
17	Denmark	643,000	9.6%
18	Belgium	563,000	5.3%
19	Norway	443,000	9.2%
20	Hungary	425,000	4.2%
21	Poland	388,000	1.0%
22	Canada	365,000	6.6%
23	Czech Republic	110,000	1.9%
24	China	0	0.0%
25	India	0	0.0%



Penetration rate of mobile subscribers in 2007

- + 100%
- < 100%
- < 80%
- < 60%
- < 40%
- < 20%



COUNTRIES DATA

Mobile telecommunications market data, Mobile operators data, Mobile operators services data. Mobile content services data are based on Screen Digest research.

Country information data, Netsize offer data, Mobile content prices data, Industry associations & regulators data are based on Netsize mServices research.

MOBILE TELECOMMUNICATIONS MARKET

- 3G subscribers not including CDMA 2000 1x subscribers

MOBILE CONTENT SERVICES

- Mobile music revenues do not include monophonic & polyphonic ringtones

NETSIZE OFFER (01/01/2008)

- Toll free SMS/MMS : Ability to provide end-users with free mobile originated SMS/MMS
- Push SMS/MMS : Ability to send SMS/MMS to mobile end-users
- Premium SMS/MMT MO : Ability to charge end-users with mobile originated SMS/MMS (pay-per-use)
- Premium SMS/MMS MT : Ability to charge end-users with mobile terminated SMS/MMS (pay-per-use &/or subscription)
- WAP billing type (off-portal) : Ability to charge end-users from a mobile website using online billing (operator page), direct billing (third-party page) or MSISDN Forwarding + PSMS MT (direct billing through Premium SMS MT with automated MSISDN authentication from the mobile website)
- O-rate URL/Wholesale data charge : Ability to provide end-users with free of data charge WAP browsing/download (independent from end-users data plan)



MOBILE CONTENT MARKETS (RANKING PER ARPU)

	Country	Content ARPU	Content revenues	% of revenues
1	Japan	€12.02	€3716M	30.5%
2	South Korea	€6.10	€779M	18.9%
3	Canada	€3.74	€215M	8.8%
4	Austria	€3.45	€97M	11.1%
5	U.S.A.	€3.11	€2412M	8.6%
6	Switzerland	€3.06	€72M	7.9%
7	Denmark	€2.64	€26M	4.5%
8	Ireland	€2.49	€36M	5.4%
9	France	€2.23	€336M	6.2%
10	Spain	€2.21	€322M	6.8%
11	U.K.	€2.18	€483M	7.5%
12	Norway	€2.13	€31M	5.2%
13	Italy	€2.04	€531M	9.1%
14	Belgium	€2.00	€62M	6.2%
15	Finland	€1.75	€30M	5.8%
16	The Netherlands	€1.54	€82M	5.1%
17	Germany	€1.27	€351M	6.9%
18	Portugal	€1.27	€51M	5.9%
19	Czech Republic	€1.23	€47M	6.4%
20	Sweden	€1.11	€34M	4.5%
21	China	€1.10	€1005M	9.1%
22	Hungary	€0.71	€21M	3.7%
23	Poland	€0.62	€73M	4.8%
24	Greece	€0.60	€27M	2.3%
25	India	€0.20	€120M	4.6%



MOBILE CONTENT MARKETS (RANKING PER REVENUES)

	Mobile music market	Mobile games market	Mobile TV market
1	U.S.A.	U.S.A.	South Korea
2	China	Japan	Italy
3	Japan	South Korea	U.K.
4	South Korea	Italy	France
5	India	U.K.	U.S.A.
6	U.K.	Germany	Spain
7	Canada	China	Germany
8	France	Spain	Switzerland
9	Germany	France	Portugal
10	Italy	India	India
11	Spain	Canada	Austria
12	Austria	The Netherlands	Sweden
13	Belgium	Greece	Greece
14	Norway	Poland	Poland
15	Denmark	Austria	Finland
16	Greece	Portugal	Norway
17	Portugal	Sweden	Ireland
18	Sweden	Switzerland	The Netherlands
19	The Netherlands	Belgium	Canada
20	Switzerland	Denmark	Hungary
21	Ireland	Ireland	Belgium
22	Finland	Finland	Denmark
23	Czech Republic	Hungary	Czech Republic
24	Poland	Norway	Japan
25	Hungary	Czech Republic	China

MOBILE CONTENT UNIT PRICE (EURO ZONE AVERAGE)

Pay per use (in €)	
Music	
Polyphonics	2.38
True Tones	3.03
MP3	2.93
Images	
Wallpapers	2.26
Videos	3.02
Games & Lottery	
Voting , Participation TV	0.76
Instant Win, Quiz	1.04
Java games	4.05
Community	
Chat	0.42



20.8 million subscribers
99.4% mobile penetration

AUSTRALIA

COUNTRY INFORMATION

Population	20,948,900
GDP/Capita	US\$31,421
Mobile penetration	99.4%
Language(s)	English
Currency	AUD (AU\$)

NETSIZE OFFER

	Telstra	Optus	Vodafone	H3G	Virgin Mobile
SMS					
Push SMS	Yes	Yes	Yes	Yes	Yes
Toll free SMS MO	Yes	No	Yes	Yes	Yes
Premium SMS MO	Yes Up to AU\$6.60	Yes Up to AU\$6.60	Yes Up to AU\$6.60	Yes Up to AU\$6.60	Yes Up to AU\$6.60
Premium SMS MT (subscription)	Yes Up to AU\$16.00	Yes Up to AU\$20.00	Yes Up to AU\$10.00	Yes Up to AU\$6.60	Yes Up to AU\$16.00
WAP					
Operator portal(s)	Bingpond Mobile	Optus Zoo	Vodafone live!	Planet 3	The Vibe
Billing type	WAP - Direct billing (Q4 2008)	WAP - Direct billing (April 2008)	WAP - Online billing (Q4 2008)	WAP Billing (Q4 2008)	WAP - Direct billing (April 2008)
Pay per Use	Yes	Yes	Yes	Yes	Yes
Subscription	Yes	Yes	Yes	Yes	Yes



MOBILE CONTENT PRICES (UNIT PRICE)

Pay per Use (in AU\$)

Music	
Polyphonics	3.00 - 5.00
True Tones	5.00 - 10.00
MP3	5.00 - 10.00
Images	
Wallpapers	5.00
Videos	10.00
Games & Lottery	
Voting , Participation TV	0.55
Instant Win, Quiz	2.50 each way
Java games	5.00 - 10.00
Community	
Chat	2.00 - 4.00

INDUSTRY ASSOCIATIONS & REGULATORS

Australian Communications and Media Authority (ACMA)

www.acma.gov.au

Australian Communications Industry Forum (ACIF)

www.acif.org.au



9.5 million subscribers
115.3% mobile penetration

AUSTRIA

COUNTRY INFORMATION

Population	8,316,487
GDP/Capita	US\$39,029
Mobile penetration	115.3%
Language(s)	German
Currency	EUR (€)

MOBILE TELECOMMUNICATIONS MARKET

Q3 2007

Subscriptions (x1000)	9,478
3G subscriptions (x1000)	1,223
Annual revenues	€873M
Blended ARPU	€31.1
Messaging revenues	€94M
Messaging ARPU	€3.4
Content revenues	€97M
Content ARPU	€3.4

MOBILE OPERATORS DATA

	A1 Mobilkom	T-Mobile & tele.ring	One	H3G
Subscriptions (x1000)	3,854	3,227	1,887	510
Market share	40.7%	34.0%	19.9%	5.4%
Contract share of total subscriptions	65.8%	63.9%	60.0%	70.0%
Pre-pay share of total subscriptions	34.2%	36.1%	40.0%	30.0%
Annual growth in subscriber base	9.2%	2.2%	5.3%	33.2%
Net quarterly total subscription additions (x1000)	89	79	27	36
Net quarterly 3G subscriber additions (x1000)	29	16	14	36
Blended ARPU	€31.4	€29.0	€29.4	€48.7
Prepay ARPU	€8.1	€9.0	€12.1	€17.4
Contract ARPU	€44.1	€41.0	€41.4	€52.1



NETSIZE OFFER

	A1 Mobilkom	T-Mobile & tele.ring	One	H3G
SMS				
Push SMS	Yes	Yes	Yes	Yes
Toll free SMS MO	Yes as 0-priced MO-P	Yes as 0-priced MO-P	Yes as 0-priced MO-P	Yes as 0-priced MO-P
Premium SMS MO	Yes Up to €10.00	Yes Up to €10.00	Yes, upon request Up to €10.00	Yes Up to €10.00
Premium SMS MT (subscription)	Yes Up to €10.00	Yes Up to €10.00	Yes Up to €10.00	Yes Up to €10.00

MOBILE OPERATORS SERVICES

	A1 Mobilkom	T-Mobile & tele.ring	One	H3G
Music	-	-	ONE Ladezone	3 Musik Store
	-	-	-	June 14, 2005
Games	Game Zone	T-Zones	ONE Smile	-
	April 2002	August 2002	2001	2003
Unicast TV	Vodafone live! TV	T-Zones Mobile TV	ChannelOne TV	Mobile TV
	November 17, 2005	February 27, 2006	February 2007	October 2004

MOBILE CONTENT SERVICES

2007

Mobile music market (excluding mono and poly ringtones)	
Market ranking	12
Contribution to content revenues	7.6%
Total mobile music market	€7.4M
Mastertones share	70.1%
Full track share	21.2%
Music Video share	7.1%
Ringback share	1.7%
Mobile games market	
Market ranking	15
Contribution to content revenues	9.90%
Total mobile games market	€9.6M
Mobile TV market	
Market ranking	11
Contribution to content revenues	1.90%
Total mobile TV market	€1.9M



MOBILE CONTENT PRICES (UNIT PRICE)

Pay per Use (in €)

Music	
Polyphonics	1.50 - 2.00
True Tones	1.50 - 2.00
MP3	2.00 - 2.50
Images	
Wallpapers	1.50 - 2.00
Videos	2.00 - 3.00
Games & Lottery	
Voting , Participation TV	Up to 0.50
Instant Win, Quiz	Up to 2.00
Java games	2.00 - 5.00
Community	
Chat	0.40/SMS

INDUSTRY ASSOCIATIONS & REGULATORS

Regulatory Authority for Broadcasting and Telecommunications www.rtr.at
(Rundfunk und Telekom Regulierungs-GmbH)



10.5 million subscribers
99.5% mobile penetration

BELGIUM

COUNTRY INFORMATION

Population	10,584,534
GDP/Capita	US\$37,395
Mobile penetration	99.5%
Language(s)	Dutch (Flemish) French German
Currency	EUR (€)

MOBILE TELECOMMUNICATIONS MARKET

Q3 2007

Subscriptions (x1000)	10,534
3G subscriptions (x1000)	563
Annual revenues	€1,000M
Blended ARPU	€32.2
Messaging revenues	€148M
Messaging ARPU	€4.8
Content revenues	€62M
Content ARPU	€2.0

MOBILE OPERATORS DATA

	Belgacom Proximus	Mobistar (Orange)	BASE
Subscriptions (x1000)	4,494	3,318	2,722
Market share	42.7%	31.5%	25.8%
Contract share of total subscriptions	50.3%	54.4%	18.1%
Pre-pay share of total subscriptions	49.7%	45.6%	81.9%
Annual growth in subscriber base	6.0%	7.7%	22.7%
Net quarterly total subscription additions (x1000)	78	118	142
Net quarterly 3G subscriber additions (x1000)	58	70	0
Blended ARPU	€38.1	€35.6	€18.0
Prepay ARPU	€17.8	€16.5	€11.0
Contract ARPU	€65.0	€49.0	€52.0



NETSIZE OFFER

	Belgacom Proximus	Mobistar (Orange)	BASE
SMS			
Push SMS	Yes	Yes	Yes
Toll free SMS MO	Yes	Yes	Yes
Premium SMS MO	Yes Up to €4.00	Yes Up to €4.00	Yes Up to €4.00
Premium SMS MT (subscription)	Yes Up to €4.00	Yes Up to €4.00	Yes Up to €4.00
MMS			
Push MMS	Yes	Yes	No
Premium MMS MT (subscription)	Yes Up to €4.00	Yes Up to €4.00	No
WAP			
Operator portal(s)	Vodafone live!	Orange World	i-mode
Billing type	WAP - Online Billing	WAP - Online Billing	MSISDN Forwarding + PSMS MT
Pay per Use	Yes Up to €10.00	Yes Up to €10.00	Yes Up to €4.00
Subscription	Yes Up to €10.00	Yes Up to €10.00	Yes Up to €4.00

MOBILE OPERATORS SERVICES

	Belgacom Proximus	Mobistar (Orange)	BASE
Music	Vodafone live! Music Service	Orange Music Store	-
	August 24, 2005	May 19, 2006	-
Games	-	Mymobistar	-
	July 2003	2002	October 2002
Unicast TV	Vodafone live! TV	Orange World TV	-
	September 15, 2005	July 6, 2005	-



MOBILE CONTENT SERVICES

2007

Mobile music market (excluding mono and poly ringtones)	
Market ranking	13
Contribution to content revenues	9.5%
Total mobile music market	€5.9M
Mastertones share	73.7%
Full track share	25.6%
Music Video share	0.3%
Ringback share	0.4%
Mobile games market	
Market ranking	19
Contribution to content revenues	12.0%
Total mobile games market	€7.5M
Mobile TV market	
Market ranking	22
Contribution to content revenues	0.6%
Total mobile TV market	€0.3M

MOBILE CONTENT PRICES (UNIT PRICE)

Pay per Use (in €)

Music	
Polyphonics	1.99 - 3.00
True Tones	3.00 - 4.00
MP3	1.99 - 4.00
Images	
Wallpapers	2.00 - 3.00
Videos	3.00 - 4.00
Games & Lottery	
Voting , Participation TV	0.50 - 1.00
Instant Win, Quiz	0.50 - 1.00
Java games	2.99 - 4.99
Community	
Chat	1.00/h

INDUSTRY ASSOCIATIONS & REGULATORS

Institut Belge des services Postaux et de Télécommunications (BIPT) www.bipt.be



19.3 million subscribers
58.9% mobile penetration

CANADA

COUNTRY INFORMATION

Population	32,852,849
GDP/Capita	US\$38,621
Mobile penetration	58.9%
Language(s)	English French
Currency	Canadian Dollar (C\$)

MOBILE TELECOMMUNICATIONS MARKET

Q3 2007

Subscriptions (x1000)	19,357
3G subscriptions (x1000)	365
Annual revenues	€2,456M
Blended ARPU	€42.6
Messaging revenues	€79M
Messaging ARPU	€1.4
Content revenues	€215M
Content ARPU	€3.7

MOBILE OPERATORS DATA

	Rogers	Bell	Telus	SaskTel	MTS
Subscriptions (x1000)	7,155	6,021	5,407	437	338
Market share	37.0%	31.1%	27.9%	2.3%	1.7%
Contract share of total subscriptions	80.4%	72.6%	80.2%	88.3%	79.9%
Pre-pay share of total subscriptions	19.6%	27.4%	19.8%	11.7%	20.1%
Annual growth in subscriber base	9.5%	6.8%	10.9%	9.5%	-1.6%
Net quarterly total subscription additions (x1000)	153	214	135	8	-32
Net quarterly 3G subscriber additions (x1000)	7	23	44	8	4
Blended ARPU	€44.5	€38.9	€45.1	€42.4	€41.2
Prepay ARPU	€12.6	€13.2	€11.3	€9.7	€10.1
Contract ARPU	€52.3	€47.3	€53.4	€46.6	€48.3



MOBILE OPERATORS SERVICES

	Rogers	Bell	Telus	SaskTel	MTS
Music	Rogers Music Store	Full Track Music	Spark	Mobile Music Store	MTS Mobile Music Store
	May 10, 2005	December 19, 2005	March 13, 2006	November 15, 2006	July 13, 2007
Games	-	Solo	Spark	-	Mobile Browser
	June 2003	June 2003	March 2003	2002	2002
Unicast TV	Rogers Mobile TV	MobiTV	Telus Mobile TV	-	-
	August 2005	August 2005	August 29, 2005	-	-

MOBILE CONTENT SERVICES

2007

Mobile music market (excluding mono and poly ringtones)	
Market ranking	7
Contribution to content revenues	14.7%
Total mobile music market	€31.6M
Mastertones share	55.8%
Full track share	37.5%
Music Video share	0.5%
Ringback share	5.4%
Mobile games market	
Market ranking	11
Contribution to content revenues	12.8%
Total mobile games market	€27.6M
Mobile TV market	
Market ranking	20
Contribution to content revenues	0.3%
Total mobile TV market	€0.6M



505.7 million subscribers
37.8% mobile penetration

CHINA

COUNTRY INFORMATION

Population	1,321,851,888
GDP/Capita	US\$1,002
Mobile penetration	37.8%
Language(s)	Chinese
Currency	Renminbi (RMB)

MOBILE TELECOMMUNICATIONS MARKET

Q3 2007

Subscriptions (x1000)	505,695
3G subscriptions (x1000)	0
Annual revenues	€10,981M
Blended ARPU	€7.3
Messaging revenues	€1,264M
Messaging ARPU	€0.8
Content revenues	€1,005M
Content ARPU	€0.7

MOBILE OPERATORS DATA

	China Mobile	China Unicom
Subscriptions (x1000)	349,663	156,032
Market share	69.1%	30.9%
Contract share of total subscriptions	19.6%	62.3%
Pre-pay share of total subscriptions	80.4%	37.7%
Annual growth in subscriber base	21.8%	12.6%
Net quarterly total subscription additions (x1000)	17,285	4,400
Net quarterly 3G subscriber additions (x1000)	0	0
Blended ARPU	€8.6	€4.8
Prepay ARPU	€5.60	€3.7
Contract ARPU	€20.40	€5.5



MOBILE OPERATORS SERVICES

	China Mobile	China Unicom
Music	Wireless Music	Xuan Qu
	July 18, 2006	July 2, 2007

MOBILE CONTENT SERVICES

2007

Mobile music market (excluding mono and poly ringtones)	
Market ranking	2
Contribution to content revenues	14.10%
Total mobile music market	€141.4M
Mastertones share	18.1%
Full track share	22.4%
Music Video share	3.6%
Ringback share	52.6%
Mobile games market	
Market ranking	7
Contribution to content revenues	4.7%
Total mobile games market	€47.5M
Mobile TV market	
Market ranking	n/a
Contribution to content revenues	0.0%
Total mobile TV market	€0.0



12.7 million subscribers
123.5% mobile penetration

CZECH REPUBLIC

COUNTRY INFORMATION

Population	10,325,941
GDP/Capita	US\$13,808
Mobile penetration	123.5%
Language(s)	Czech
Currency	Czech Koruna (CZK)

MOBILE TELECOMMUNICATIONS MARKET

Q3 2007

Subscriptions (x1000)	12,756
3G subscriptions (x1000)	110
Annual revenues	€733M
Blended ARPU	€19.3
Messaging revenues	€102M
Messaging ARPU	€2.7
Content revenues	€47M
Content ARPU	€1.2

MOBILE OPERATORS DATA

	T-Mobile	O2	Vodafone
Subscriptions (x1000)	5,207	4,967	2,582
Market share	40.8%	38.9%	20.2%
Contract share of total subscriptions	40.9%	43.5%	52.1%
Pre-pay share of total subscriptions	59.1%	56.5%	47.9%
Annual growth in subscriber base	8.0%	4.3%	11.7%
Net quarterly total subscription additions (x1000)	67	73	57
Net quarterly 3G subscriber additions (x1000)	0	25	0
Blended ARPU	€18.0	€19.2	€22.1
Prepay ARPU	€8.0	€9.1	€11.5
Contract ARPU	€34.0	€32.6	€31.8



NETSIZE OFFER

	T-Mobile	O2	Vodafone
SMS			
Push SMS	Yes	Yes	Yes
Toll free SMS MO	Yes, upon request	Yes, upon request	Yes, upon request
Premium SMS MO	Yes Up to CZK 99.00	Yes Up to CZK 99.00	Yes Up to CZK 99.00
Premium SMS MT (subscription)	Yes Up to CZK 99.00	Yes Up to CZK 99.00	Yes Up to CZK 99.00

MOBILE OPERATORS SERVICES

	T-Mobile	O2	Vodafone
Music	T-Music PLAY!	O2	-
	February 12, 2007	December 20, 2006	-
Games	T-Zones	-	Vodafone live!
	Summer 2002	April 2003	Summer 2003
Unicast TV	-	O2 Active Mobilni TV	-
	-	March 2007	-

MOBILE CONTENT SERVICES

2007

Mobile music market (excluding mono and poly ringtones)	
Market ranking	23
Contribution to content revenues	1.7%
Total mobile music market	€0.8M
Mastertones share	58.9%
Full track share	2.3%
Music Video share	0.0%
Ringback share	38.9%
Mobile games market	
Market ranking	25
Contribution to content revenues	8.3%
Total mobile games market	€3.9M
Mobile TV market	
Market ranking	25
Contribution to content revenues	0.1%
Total mobile TV market	€0.1



MOBILE CONTENT PRICES (UNIT PRICE)

Pay per Use (in CZK)

Music	
Polyphonics	25.00 - 79.00
True Tones	30.00 - 79.00
MP3	59.00 - 79.00
Images	
Wallpapers	19.00 - 79.00
Videos	25.00 - 99.00
Games & Lottery	
Java games	49.00 - 89.00
Community	
Chat	1.00 - 10.00

INDUSTRY ASSOCIATIONS & REGULATORS

The Czech Telecommunication Office
(Český telekomunikační úřad)

www.ctu.cz

Association of Mobile Network Providers
(Asociace Provozovatelů Mobilních Sítí)

www.apms.cz



6.7 million subscribers
122.5% mobile penetration

DENMARK

COUNTRY INFORMATION

Population	5,457,415
GDP/Capita	US\$50,789
Mobile penetration	122.5%
Language(s)	Danish
Currency	Danish Krone (DKK)

MOBILE TELECOMMUNICATIONS MARKET

	Q3 2007
Subscriptions (x1000)	6,688
3G subscriptions (x1000)	643
Annual revenues	€588M
Blended ARPU	€58.6
Messaging revenues	€77M
Messaging ARPU	€7.7
Content revenues	€26M
Content ARPU	€2.6

MOBILE OPERATORS DATA

	TDC Mobile	Sonofon	TeliaSonera	3
Subscriptions (x1000)	3,292	1,667	1,452	277
Market share	49.2%	24.9%	21.7%	4.1%
Contract share of total subscriptions	82.0%	62.9%	75.6%	96.4%
Pre-pay share of total subscriptions	18.0%	37.1%	24.4%	3.6%
Annual growth in subscriber base	35.9%	24.2%	32.7%	58.3%
Net quarterly total subscription additions (x1000)	292	199	45	28
Net quarterly 3G subscriber additions (x1000)	33	42	0	28
Blended ARPU	€27.7	€31.0	€33.2	€48.4
Prepay ARPU	€14.8	€17.5	€13.4	€8.1
Contract ARPU	€30.2	€39.1	€39.6	€50.2



NETSIZE OFFER

	TDC Mobile	Sonofon	TeliaSonera
SMS			
Push SMS	Yes	Yes	Yes
Toll free SMS MO	No	No	No
Premium SMS MO	No	No	No
Premium SMS MT (subscription)	Yes Up to DKK 75.00	Yes Up to DKK 75.00	Yes Up to DKK 75.00
WAP			
Operator portal(s)	Fly	ego	SurfPort
Billing type	MSISDN Forwarding + PSMS MT (Q4 2008)	WAP Billing (Q4 2008)	WAP Billing (Q4 2008)
Pay per Use	Yes Up to DKK 75.00	Yes Up to DKK 75.00	Yes Up to DKK 75.00
Subscription	Yes Up to DKK 75.00	Yes Up to DKK 75.00	Yes Up to DKK 75.00

MOBILE OPERATORS SERVICES

	TDC Mobile	Sonofon	TeliaSonera	3
Music	TDC Musik	Mobilehits	-	3 Music Store
	November 22, 2006	September 27, 2006	-	October 1, 2003
Games	Fly	e-go	-	-
	July 2003	July 2002	2003	Q4 2003
Unicast TV	Fly TV	TV2	-	-
	January 3, 2007	September 21, 2006	-	November 11, 2003



MOBILE CONTENT SERVICES

2007

Mobile music market (excluding mono and poly ringtones)	
Market ranking	15
Contribution to content revenues	15.1%
Total mobile music market	€4.0M
Mastertones share	20.2%
Full track share	40.0%
Music Video share	25.6%
Ringback share	0.5%
Mobile games market	
Market ranking	20
Contribution to content revenues	20.6%
Total mobile games market	€5.4M
Mobile TV market	
Market ranking	23
Contribution to content revenues	1.1%
Total mobile TV market	€0.3M

MOBILE CONTENT PRICES (UNIT PRICE)

Pay per Use (in DKK)

Music	
Polyphonics	10.00 - 20.00
True Tones	15.00 - 20.00
MP3	15.00 - 30.00
Images	
Wallpapers	15.00 - 20.00
Videos	20.00 - 30.00
Games & Lottery	
Java games	30.00 - 50.00

INDUSTRY ASSOCIATIONS & REGULATORS

Telestyrelsen - National Telecom Agency (NTA)	www.itst.dk
Telecommunication Industries Association in Denmark	www.teleindustrien.dk
Forbrug - National Consumer Agency	www.forbrug.dk



5.8 million subscribers
109.6% mobile penetration

FINLAND

COUNTRY INFORMATION

Population	5,295,873
GDP/Capita	US\$40,002
Mobile penetration	109.6%
Language(s)	Finish
Currency	EUR (€)

MOBILE TELECOMMUNICATIONS MARKET

Q3 2007

Subscriptions (x1000)	5,802
3G subscriptions (x1000)	960
Annual revenues	€523M
Blended ARPU	€30.3
Messaging revenues	€60M
Messaging ARPU	€3.5
Content revenues	€30M
Content ARPU	€1.8

MOBILE OPERATORS DATA

	TeliaSonera	Elisa	DNA
Subscriptions (x1000)	2,392	2,310	1,100
Market share	41.2%	39.8%	19.0%
Contract share of total subscriptions	93.3%	97.4%	94.5%
Pre-pay share of total subscriptions	6.7%	2.6%	5.5%
Annual growth in subscriber base	-1.8%	6.7%	15.2%
Net quarterly total subscription additions (x1000)	23	53	36
Net quarterly 3G subscriber additions (x1000)	15	60	10
Blended ARPU	€30.0	€29.9	€32.0
Prepay ARPU	€11.0	€10.4	€10.9
Contract ARPU	€31.0	€30.4	€33.2



NETSIZE OFFER

	TeliaSonera	Elisa	DNA	Saunalahti
SMS				
Push SMS	Yes	Yes	Yes	Yes
Toll free SMS MO	No	No	No	No
Premium SMS MO	Yes Up to € 20.00	Yes Up to € 20.00	Yes Up to € 2.00	Yes Up to € 20.00
Premium SMS MT (subscription)	Yes Up to € 20.00			
WAP				
Operator portal(s)	SurfPort	wap.Elisa.net	DNA Tasku	SaunaWAP
Billing type	WAP - Direct Billing and MSISDN Forwarding + PSMS MT	WAP - Direct Billing and MSISDN Forwarding + PSMS MT	WAP - Direct Billing and MSISDN Forwarding + PSMS MT	WAP - Direct Billing and MSISDN Forwarding + PSMS MT
Pay per Use	Yes Up to € 20.00	Yes Up to € 20.00	Yes Up to € 2.00	Yes Up to € 20.00
Subscription	Yes Up to € 20.00			

MOBILE OPERATORS SERVICES

	TeliaSonera	Elisa	DNA
Music	Musiikkilataamo	-	-
	March 27, 2006	-	-
Games	Zed	-	-
	2000	2000	-
Unicast TV	Surfport Mobile TV	Elisa TV	-
	April 1, 2006	-	-
Broadcast TV	MoibiiliTV	MoibiiliTV	MoibiiliTV
	May 1, 2007	May 1, 2007	May 1, 2007
	DVB-H	DVB-H	DVB-H



MOBILE CONTENT SERVICES

2007

Mobile music market (excluding mono and poly ringtones)	
Market ranking	22
Contribution to content revenues	3.0%
Total mobile music market	€0.9M
Mastertones share	72.2%
Full track share	20.1%
Music Video share	0.2%
Ringback share	2.6%
Mobile games market	
Market ranking	22
Contribution to content revenues	16.4%
Total mobile games market	€5.0M
Mobile TV market	
Market ranking	15
Contribution to content revenues	3.1%
Total mobile TV market	€0.9M

MOBILE CONTENT PRICES (UNIT PRICE)

Pay per Use (in €)

Music	
Polyphonics	0.95 - 1.20
True Tones	0.95 - 3.00
Images	
Wallpapers	1.50 - 3.00
Videos	3.00
Games & Lottery	
Java games	5.00

INDUSTRY ASSOCIATIONS & REGULATORS

Finnish Communications Regulatory Authority (Viestintävirasto Kommunikationsverket)	www.ficora.fi
MAPEL - Finnish self regulatory committee for Premium Rate Services	www.mapel.fi
Consumer agency and consumer Ombudsman	www.kulttajavirasto.fi
Teleforum	www.teleforum.fi



50.5 million subscribers
78.8% mobile penetration

FRANCE

COUNTRY INFORMATION

Population	64,102,140
GDP/Capita	US\$ 31,825
Mobile penetration	78.8%
Language(s)	French
Currency	EUR (€)

MOBILE TELECOMMUNICATIONS MARKET

Q3 2007

Subscriptions (x1000)	50,498
3G subscriptions (x1000)	11,496
Annual revenues	€5,383M
Blended ARPU	€35.6
Messaging revenues	€503M
Messaging ARPU	€3.3
Content revenues	€336M
Content ARPU	€2.2

MOBILE OPERATORS DATA

	Orange	SFR-Cegetel	Bouygues Télécom
Subscriptions (x1000)	23,504	18,109	8,885
Market share	46.5%	35.9%	17.6%
Contract share of total subscriptions	65.3%	66.2%	74.0%
Pre-pay share of total subscriptions	34.7%	33.8%	26.0%
Annual growth in subscriber base	4.3%	3.5%	3.9%
Net quarterly total subscription additions (x1000)	101	129	78
Net quarterly 3G subscriber additions (x1000)	1,063	7	0
Blended ARPU	€33.3	€36.9	€39.0
Prepay ARPU	€13.8	€16.1	€15.1
Contract ARPU	€44.3	€47.9	€47.6



NETSIZE OFFER

	Orange	SFR-Cegetel	Bouygues Télécom
SMS			
Push SMS	Yes	Yes	Yes
Toll free SMS MO	No	No	No
Premium SMS MO	Yes Up to €3.00 (€4,5 for Java or Video)	Yes Up to €3.00 (€4,5 for Java or Video)	Yes Up to €3.00 (€4,5 for Java or Video)
Premium SMS MT (subscription)	Yes Up to €3.00 (€12.00 cumulated in a month)	Yes Up to €3.00 (€12.00 cumulated in a month)	Yes Up to €3.00 (€12.00 cumulated in a month)
MMS			
Push MMS	Yes	Yes	Yes
Toll free MMS MO	No	No	No
Premium MMS MO	Yes Up to €3.00	Yes Up to €3.00	Yes Up to €3.00
Premium MMS MT (subscription)	No	No	No
Maximum MMS weight	300 kb	300 kb	100 kb
WAP			
Operator portal(s)	Orange World Gallery	Vodafone live! Gallery	i-mode 6ème Sens Gallery
Billing type	WAP - Online Billing	WAP - Online Billing	WAP - Online Billing
Pay per Use	Yes Up to €6.00	Yes Up to €10.00	Yes Up to €5.00
Subscription	Yes Up to €6.00	Yes Up to €7.00	Yes Up to €5.00
O-rate URL / Wholesale datacharge	No	No	No



MOBILE OPERATORS SERVICES

	Orange	SFR-Cegetel	Bouygues Télécom
Music	Orange Music Store	SFR Music	Samsung Media Studio
	June 2005	May 31, 2005	July 5, 2007
Games	Orange World	Vodafone live!	esp@ce
	July 2001	February 2002	-
Unicast TV	Orange World TV	SFR TV	i-mode Haut Débit
	December 1, 2004	June 29, 2005	November 13, 2005

MOBILE CONTENT SERVICES

2007

Mobile music market (excluding mono and poly ringtones)	
Market ranking	8
Contribution to content revenues	9.2%
Total mobile music market	€31.0M
Mastertones share	58.7%
Full track share	24.6%
Music Video share	12.3%
Ringback share	3.3%
Mobile games market	
Market ranking	9
Contribution to content revenues	11.0%
Total mobile games market	€37.1M
Mobile TV market	
Market ranking	4
Contribution to content revenues	11.8%
Total mobile TV market	€39.7M



MOBILE CONTENT PRICES (UNIT PRICE)

	Pay per Use (in €)
Music	
Polyphonics	1.50 - 3.00
True Tones	1.50 - 3.00
MP3	2.00 - 3.00
Images	
Wallpapers	1.50 - 3.00
Videos	3.00 - 4.50 (through SMS)
Games & Lottery	
Voting , Participation TV	0.50 multiple SMS up to 2.00
Instant Win, Quiz	0.50 multiple SMS up to 2.00
Java games	3.00 - 4.50 through SMS 5.00 as common end-user price through Gallery
Community	
Chat	0.35/SMS

INDUSTRY ASSOCIATIONS & REGULATORS

Autorité de Régulation des Communications Electroniques et des Postes (ARCEP)	www.arcep.fr
Association SMS+	www.smsplus.org
Association Française du Multimédia Mobile (AFMM)	www.pro.gallery.fr
Groupement des Editeurs de Services en Ligne (GESTE)	www.geste.fr
Association pour le Commerce et les Services En Ligne (ACSEL)	www.acsel.asso.fr
Site de la Mobile Marketing Association France	www.mmafrance.org
Forum des droits sur l'Internet	www.foruminternet.org



93.3 million subscribers
113.3% mobile penetration

GERMANY

COUNTRY INFORMATION

Population	82,314,900
GDP/Capita	US\$35,169
Mobile penetration	113.3%
Language(s)	German
Currency	EUR (€)

MOBILE TELECOMMUNICATIONS MARKET

Q3 2007

Subscriptions (x1000)	93,292
3G subscriptions (x1000)	12,908
Annual revenues	€5,080M
Blended ARPU	€18.9
Messaging revenues	€673M
Messaging ARPU	€2.4
Content revenues	€351M
Content ARPU	€1.3

MOBILE OPERATORS DATA

	T-Mobile	Vodafone	E-Plus	O2
Subscriptions (x1000)	34,471	32,541	14,112	12,168
Market share	36.9%	34.9%	15.1%	13.0%
Contract share of total subscriptions	45.5%	45.0%	43.7%	49.3%
Pre-pay share of total subscriptions	54.5%	55.0%	56.3%	50.7%
Annual growth in subscriber base	12.5%	9.9%	15.5%	14.5%
Net quarterly total subscription additions (x1000)	142	923	547	610
Net quarterly 3G subscriber additions (x1000)	412	549	159	109
Blended ARPU	€18.0	€19.5	€18.0	€20.8
Prepay ARPU	€5.0	€6.1	€6.0	€6.8
Contract ARPU	€33.0	€35.3	€31.0	€34.9



NETSIZE OFFER

	T-Mobile	Vodafone	E-Plus	O2	Debitel	Mobilcom
SMS						
Push SMS	Yes	Yes	Yes	Yes	Yes	Yes
Toll free SMS MO	Yes	Yes	Yes	Yes	Yes	No
Premium SMS MO	Yes Up to €4.99	Yes Up to €2.99	Yes Up to €4.99	Yes Up to €4.99	Yes Up to €4.99	Yes Up to €4.99
Premium SMS MT (subscription)	Yes Up to €4.99	Yes Up to €9.99	Yes Up to €4.99	Yes Up to €9.99	Yes Up to €4.99	Yes Up to €9.99
WAP						
Operator portal(s)	T-Zones	Vodafone live!	E-Plus Unlimited	O2 Active	www.debitel.de	www.mobilcom.de
Billing type	WAP - Direct Billing	WAP - Online Billing	WAP - Direct Billing	WAP - Online Billing	WAP - Direct Billing	No
Pay per Use	Yes Up to €9.99	No				
Subscription	Yes Up to €9.99	No				

MOBILE OPERATORS SERVICES

	T-Mobile	Vodafone	E-Plus	O2	Mobilcom, Debitel, Simplytel
Music	T-Mobile Songs	Vodafone live! MusicDownloads	E-Plus Music Store	O2 Music Shop	-
	November 1, 2006	July 13, 2004	June 1, 2007	March 1, 2004	-
Games	T-Zones	Vodafone live!	Games Unlimited	Games Arcade	-
	November 2002	June 2001	-	October 2002	-
Unicast TV	T-Zones	Vodafone live! TV	-	-	-
	September 1, 2005	December 1, 2004	-	-	-
Broadcast TV	-	-	-	-	MFD
	-	-	-	-	May 31, 2006
	-	-	-	-	T-DMB



MOBILE CONTENT SERVICES

2007

Mobile music market (excluding mono and poly ringtones)	
Market ranking	9
Contribution to content revenues	7.1%
Total mobile music market	€25.1M
Mastertones share	59.0%
Full track share	21.5%
Music Video share	10.9%
Ringback share	7.7%
Mobile games market	
Market ranking	6
Contribution to content revenues	20.9%
Total mobile games market	€73.5M
Mobile TV market	
Market ranking	7
Contribution to content revenues	4.7%
Total mobile TV market	€16.6M

MOBILE CONTENT PRICES (UNIT PRICE)

Pay per Use (in €)

Music	
Polyphonics	1.00 - 1.99
True Tones	1.00 - 2.99
MP3	1.29 - 3.99
Images	
Wallpapers	0.99 - 1.99
Videos	1.00 - 2.99
Games & Lottery	
Java games	1.99 - 4.99
Community	
Chat	0.20 - 0.40

INDUSTRY ASSOCIATIONS & REGULATORS

Federal Network Agency about the German electricity, gas, telecommunications, postal and railway markets (BNETZA) www.bundesnetzagentur.de

Telecommunication and Postal Regulator (Reg TP) www.regtp.de

Freiwillige Selbstkontrolle Telefonmehrwertdienste (FST) www.fst-ev.org



15.7 million subscribers
140.8% mobile penetration

GREECE

COUNTRY INFORMATION

Population	11,170,957
GDP/Capita	US\$21,971
Mobile penetration	140.8%
Language(s)	Greek
Currency	EUR (€)

MOBILE TELECOMMUNICATIONS MARKET

Q3 2007

Subscriptions (x1000)	15,729
3G subscriptions (x1000)	748
Annual revenues	€1,164M
Blended ARPU	€26.1
Messaging revenues	€109M
Messaging ARPU	€2.4
Content revenues	€27M
Content ARPU	€0.6

MOBILE OPERATORS DATA

	Cosmote	Vodafone	TIM - Wind Hellas
Subscriptions (x1000)	5,939	5,346	4,444
Market share	37.8%	34.0%	28.3%
Contract share of total subscriptions	33.1%	30.5%	39.2%
Pre-pay share of total subscriptions	66.9%	69.5%	60.8%
Annual growth in subscriber base	18.2%	12.3%	64.7%
Net quarterly total subscription additions (x1000)	256	109	1,328
Net quarterly 3G subscriber additions (x1000)	248	25	18
Blended ARPU	€27.9	€26.2	€23.1
Prepay ARPU	€13.0	€10.4	€10.6
Contract ARPU	€54.0	€62.0	€56.2



NETSIZE OFFER

	Cosmote	Vodafone	TIM - Wind Hellas	Q-Telecom
SMS				
Push SMS	Yes	Yes	Yes	Yes
Premium SMS MO	Yes Up to €1.18 (€2.00 Q2 2008)			
Premium SMS MT (subscription)	Yes (Q3 2008) Up to €2.00			

MOBILE OPERATORS SERVICES

	Cosmote	Vodafone	TIM - Wind Hellas
Music	Music Zone	Vodafone live!	TIM Plus
	February 11, 2007	January 20, 2005	February 23, 2006
Games	MyCosmos	Vodafone-Live!	TIM Plus
	June 1, 2003	January 1, 2003	-
Unicast TV	i-mode mobile TV	Vodafone live! TV	TIM Mobile TV
	June 15, 2005	November 10, 2004	July 20, 2004

MOBILE CONTENT SERVICES

2007

Mobile music market (excluding mono and poly ringtones)	
Market ranking	16
Contribution to content revenues	15.0%
Total mobile music market	€4.0M
Mastertones share	18.3%
Full track share	28.7%
Music Video share	3.1%
Ringback share	48.2%
Mobile games market	
Market ranking	13
Contribution to content revenues	55.0%
Total mobile games market	€14.6M
Mobile TV market	
Market ranking	13
Contribution to content revenues	4.4%
Total mobile TV market	€1.2M



MOBILE CONTENT PRICES (UNIT PRICE)

	Pay per Use (in €)
Music	
Polyphonics	1.78 - 2.97
True Tones	3.57 - 4.64
Images	
Wallpapers	1.86 - 2.97
Videos	2.97 - 5.95
Games & Lottery	
Java games	2.97 - 5.95

INDUSTRY ASSOCIATIONS & REGULATORS

National Telecommunications and Post Commission

(ΕΕΤΤ - Εθνική Επιτροπή Τηλεπικοινωνιών και Ταχυδρομείων)

www.eett.gr



10.5 million subscribers
104.4% mobile penetration

HUNGARY

COUNTRY INFORMATION

Population	10,064,000
GDP/Capita	US\$11,214
Mobile penetration	104.4%
Language(s)	Hungarian
Currency	Forint (HUF)

MOBILE TELECOMMUNICATIONS MARKET

Q3 2007

Subscriptions (x1000)	10,506
3G subscriptions (x1000)	425
Annual revenues	€568M
Blended ARPU	€19.0
Messaging revenues	€60M
Messaging ARPU	€2.0
Content revenues	€21M
Content ARPU	€0.7

MOBILE OPERATORS DATA

	T-Mobile	Pannon	Vodafone
Subscriptions (x1000)	4,628	3,220	2,212
Market share	46.0%	32.0%	22.0%
Contract share of total subscriptions	36.9%	39.8%	42.5%
Pre-pay share of total subscriptions	63.1%	60.2%	57.5%
Annual growth in subscriber base	7.5%	8.0%	7.9%
Net quarterly total subscription additions (x1000)	111	22	48
Net quarterly 3G subscriber additions (x1000)	29	13	12
Blended ARPU	€19.0	€18.4	€19.8
Prepay ARPU	€9.0	€9.9	€11.6
Contract ARPU	€36.0	€30.8	€31.1



NETSIZE OFFER

	T-Mobile	Pannon	Vodafone
SMS			
Push SMS	Yes	Yes	Yes
Toll free SMS MO	No	No	No
Premium SMS MO	Yes Up to HUF 960.00 (Ordinary) and HUF 1,800.00 (Adult)	Yes Up to HUF 960.00 (Ordinary) and HUF 1,800.00 (Adult)	Yes Up to HUF 960.00 (Ordinary) and HUF 1,800.00 (Adult)
Premium SMS MT (subscription)	Yes Up to HUF 960.00 (Ordinary) and HUF 1,800.00 (Adult)	Yes Up to HUF 960.00 (Ordinary) and HUF 1,800.00 (Adult)	Yes Up to HUF 960.00 (Ordinary) and HUF 1,800.00 (Adult)
WAP			
Operator portal(s)	T-Zones	djuice	Vodafone live!
Billing type	WAP Billing	WAP Billing and MSISDN Forwarding + PSMS MT	No
Pay per Use	Yes (Q4 2008)	Yes (Q4 2008) Up to HUF 1,000.00	No
Subscription	No	Yes Up to HUF 960.00 (Ordinary) and HUF 1,800.00 (Adult)	No

MOBILE OPERATORS SERVICES

	T-Mobile	Pannon	Vodafone
Music	T-Zones Mobile Jukebox	djuice	Vodafone live!
	August 26, 2005	October 20, 2004	2006
Games	T-Zones	W@P Portal	Vodafone live!
	2000	2001	February 2003
Unicast TV	T-Zones TV	djuice MobilTV	Mobil TV
	August 26, 2005	October 12, 2005	December 16, 2005



MOBILE CONTENT SERVICES

2007

Mobile music market (excluding mono and poly ringtones)	
Market ranking	25
Contribution to content revenues	1.9%
Total mobile music market	€0.4M
Mastertones share	63.4%
Full track share	28.0%
Music Video share	0.0%
Ringback share	8.6%
Mobile games market	
Market ranking	23
Contribution to content revenues	22.2%
Total mobile games market	€4.7M
Mobile TV market	
Market ranking	21
Contribution to content revenues	2.5%
Total mobile TV market	€0.5M

MOBILE CONTENT PRICES (UNIT PRICE)

Pay per Use (in HUF)

Music	
Polyphonics	120.00 - 300.00
True Tones	480.00 - 960.00
MP3	480.00 - 960.00
Images	
Wallpapers	192.00 - 480.00
Videos	240.00 - 480.00
Games & Lottery	
Voting , Participation TV	90.00 - 280.00
Instant Win, Quiz	90.00 - 480.00
Java games	480.00 - 1,800.00

INDUSTRY ASSOCIATIONS & REGULATORS

National Communications Authority (NHH)

www.nhh.hu

Hungarian Mobile Marketing and Content Industry Association (MMTE)

www.mmte.hu



208.9 million subscribers
18.5% mobile penetration

INDIA

COUNTRY INFORMATION

Population	1,129,866,154
GDP/Capita	US\$8,059
Mobile penetration	18.5%
Language(s)	Hindi English
Currency	Indian Rupee (INR)

MOBILE TELECOMMUNICATIONS MARKET

Q3 2007

Subscriptions (x1000)	208,872
3G subscriptions (x1000)	0
Annual revenues	€2,575M
Blended ARPU	€5.4
Messaging revenues	€100M
Messaging ARPU	€0.2
Content revenues	€120M
Content ARPU	€0.2

MOBILE OPERATORS DATA

	Bharti Airtel	Reliance Communications	Vodafone	Idea Cellular	MTNL
Subscriptions (x1000)	48,876	36,324	35,658	18,670	2,772
Market share	23.4%	17.4%	17.1%	8.9%	1.3%
Contract share of total subscriptions	9.6%	12.2%	12.5%	8.2%	24.7%
Pre-pay share of total subscriptions	90.4%	87.8%	87.5%	91.8%	75.3%
Annual growth in subscriber base	80.6%	39.8%	75.2%	80.2%	21.0%
Net quarterly total subscription additions (x1000)	6172	4445	4906	2544	163
Net quarterly 3G subscriber additions (x1000)	0	0	0	0	0
Blended ARPU	€6.6	€6.5	€6.5	€5.2	€3.7
Prepay ARPU	€5.3	€4.5	€5.0	€3.4	€3.3
Contract ARPU	€17.8	€18.6	€17.9	€23.0	€5.0



MOBILE OPERATORS SERVICES

	Bharti Airtel	Reliance Communications	Vodafone	Idea Cellular	MTNL	BSNL
Music	Airtel Live!	Reliance Mobile World	Planet Hutch	-	-	-
	May 19, 2006	-	May 10, 2006	-	-	-
Games	-	Reliance World	Planet Hutch	Idea Fresh	Games on Demand	Cellone safari
	-	-	-	January 1, 2005	August 1, 2006	-
Unicast TV	-	Reliance mobile TV	-	-	-	Cellone mimobi.tv Tiny Tv
	-	January 2006	-	-	-	Q4 2007

MOBILE CONTENT SERVICES

2007

Mobile music market (excluding mono and poly ringtones)	
Market ranking	5
Contribution to content revenues	39.3%
Total mobile music market	€47.0M
Mastertones share	36.2%
Full track share	13.0%
Music Video share	7.0%
Ringback share	43.8%
Mobile games market	
Market ranking	10
Contribution to content revenues	26.4%
Total mobile games market	€31.6M
Mobile TV market	
Market ranking	10
Contribution to content revenues	1.7%
Total mobile TV market	€2.0M



4.9 million subscribers
114.9% mobile penetration

IRELAND

COUNTRY INFORMATION

Population	4,253,848
GDP/Capita	US\$51,526
Mobile penetration	114.9%
Language(s)	English
Currency	EUR (€)

MOBILE TELECOMMUNICATIONS MARKET

Q3 2007

Subscriptions (x1000)	4,888
3G subscriptions (x1000)	767
Annual revenues	€665M
Blended ARPU	€45.7
Messaging revenues	€127M
Messaging ARPU	€8.7
Content revenues	€36M
Content ARPU	€2.5

MOBILE OPERATORS DATA

	Vodafone	O2	Meteor	3
Subscriptions (x1000)	2,217	1,632	908	131
Market share	45.4%	33.4%	18.6%	2.7%
Contract share of total subscriptions	27.4%	32.7%	12.0%	60.3%
Pre-pay share of total subscriptions	72.6%	67.3%	88.0%	39.7%
Annual growth in subscriber base	4.6%	1.8%	23.7%	153.9%
Net quarterly total subscription additions (x1000)	30	1	33	9
Net quarterly 3G subscriber additions (x1000)	32	14	0	9
Blended ARPU	€45.1	€47.0	€41.5	€69.6
Prepay ARPU	€26.6	€29.2	€33.9	€32.1
Contract ARPU	€94.1	€84.9	€98.9	€93.0



NETSIZE OFFER

	Vodafone	O2	Meteor
SMS			
Push SMS	Yes	Yes	Yes
Toll free SMS MO	Yes, upon request	Yes, upon request	Yes, upon request
Premium SMS MO	Yes Up to €2.00	Yes Up to €2.50	Yes Up to €8.00
Premium SMS MT (subscription)	Yes Up to €2.50	Yes Up to €5.00	Yes Up to €8.00

MOBILE OPERATORS SERVICES

	Vodafone	O2	Meteor	3
Music	Vodafone live! Access Music May 30, 2005	-	Eircom.net music club -	3 Music Store August 31, 2005
Games	Vodafone live! November 1, 2002	Games Arcade October 1, 2002	- November 2003	Planet 3 July 2005
Unicast TV	Vodafone live! TV November 10, 2004	-	-	-

MOBILE CONTENT SERVICES

2007

Mobile music market (excluding mono and poly ringtones)	
Market ranking	21
Contribution to content revenues	7.2%
Total mobile music market	€2.6M
Mastertones share	42.2%
Full track share	48.8%
Music Video share	4.9%
Ringback share	3.9%
Mobile games market	
Market ranking	21
Contribution to content revenues	14.2%
Total mobile games market	€5.1M
Mobile TV market	
Market ranking	18
Contribution to content revenues	2.1%
Total mobile TV market	€0.8M



MOBILE CONTENT PRICES (UNIT PRICE)

	Pay per Use (in €)
Music	
Polyphonics	2.00 - 4.00
True Tones	4.00 - 5.00
MP3	4.00 - 5.00
Images	
Wallpapers	2.00 - 4.00
Videos	2.00 - 4.00
Games & Lottery	
Voting , Participation TV	0.20 - 1.00
Instant Win, Quiz	1.00 - 1.50
Java games	3.00 - 5.00
Community	
Chat	0.35 - 1.50

INDUSTRY ASSOCIATIONS & REGULATORS

Independent Regulator of the content and promotion of Premium Rate
Telecommunications Services

www.regtel.ie

Commission for Communications Regulation (ComReg)

www.odtr.ie



87.9 million subscribers
148.7% mobile penetration

ITALY

COUNTRY INFORMATION

Population	59,131,287
GDP/Capita	US\$31,470
Mobile penetration	148.7%
Language(s)	Italian
Currency	EUR (€)

MOBILE TELECOMMUNICATIONS MARKET

Q3 2007

Subscriptions (x1000)	87,925
3G subscriptions (x1000)	22,349
Annual revenues	€5,865M
Blended ARPU	€22.5
Messaging revenues	€776M
Messaging ARPU	€3.0
Content revenues	€531M
Content ARPU	€2.0

MOBILE OPERATORS DATA

	TIM	Vodafone	Wind	H3G
Subscriptions (x1000)	35,310	29,138	15,300	8,177
Market share	40.2%	33.1%	17.4%	9.3%
Contract share of total subscriptions	14.3%	8.3%	7.1%	29.2%
Pre-pay share of total subscriptions	85.7%	91.7%	92.9%	70.8%
Annual growth in subscriber base	12.1%	15.9%	5.5%	16.8%
Net quarterly total subscription additions (x1000)	998	838	100	500
Net quarterly 3G subscriber additions (x1000)	581	791	260	500
Blended ARPU	€22.0	€22.7	€19.2	€30.8
Prepay ARPU	€14.9	€18.6	€16.0	€24.4
Contract ARPU	€64.9	€65.2	€61.2	€52.9



NETSIZE OFFER

	TIM	Vodafone	Wind	H3G
SMS				
Push SMS	Yes	Yes	Yes	Yes
Toll free SMS MO	No	No	No	No
Premium SMS MO	No	No	No	No
Premium SMS MT (subscription)	Yes Up to €5.00	Yes Up to €5.00	Yes Up to €5.00	Yes Up to €10.00
MMS				
Push MMS	Yes	Yes	No	No
Toll free MMS MO	No	No	No	No
Premium MMS MO	No	No	No	No
Premium MMS MT (subscription)	Yes Up to €5.00	Yes Up to €5.00	Yes (Q4 2008)	Yes (Q4 2008)
WAP				
Operator portal(s)	i-TIM	Vodafone live!	Mobile libero	Pianeta3
Billing type	MSISDN Forwarding + PSMS MT	No	No	No
Pay per Use	Yes Up to €5.00	No	No	No
Subscription	Yes Up to €5.00	No	No	No
O-rate URL / Wholesale datacharge	Yes	No	Yes	No

MOBILE OPERATORS SERVICES

	TIM	Vodafone	Wind	H3G
Music	i.Music Store	Vodafone live! Music Store	-	3 Music Store
	July 20, 2005	November 10, 2004	-	January 1, 2004
Games	iTIM	Vodafone live!	Libero	-
	December 1, 2002	February 1, 2002	Autumn 2002	March 1, 2003
Unicast TV	Maxxi mobile TV	Vodafone live! TV	-	Pianeta3 TV
	June 3, 2005	November 10, 2004	-	January 21, 2004
Broadcast TV	TIM TV	Vodafone SKY TV	-	Tua TV
	September 9, 2006	December 12, 2006	-	May 8, 2006
	DVB-H	DVB-H	-	DVB-H



MOBILE CONTENT SERVICES

2007

Mobile music market (excluding mono and poly ringtones)	
Market ranking	10
Contribution to content revenues	3.1%
Total mobile music market	€16.3M
Mastertones share	31.2%
Full track share	49.5%
Music Video share	15.7%
Ringback share	3.6%
Mobile games market	
Market ranking	4
Contribution to content revenues	17.9%
Total mobile games market	€95.2M
Mobile TV market	
Market ranking	2
Contribution to content revenues	12.4%
Total mobile TV market	€65.9M

MOBILE CONTENT PRICES (UNIT PRICE)

Pay per Use (in €)

Music	
Polyphonics	1.90 - 3.00
True Tones	3.00 - 4.00
MP3	1.50 - 2.50
Images	
Wallpapers	2.00 - 3.00
Videos	3.00 - 4.00
Games & Lottery	
Voting , Participation TV	0.50 - 1.00
Instant Win, Quiz	0.50 - 1.00
Java games	4.00 - 6.00
Community	
Chat	0.25 - 1.00

INDUSTRY ASSOCIATIONS & REGULATORS

The Communications Regulatory Authority (Agcom)

www.agcom.it



103.5 million subscribers
81.2% mobile penetration

JAPAN

COUNTRY INFORMATION

Population	127,433,494
GDP/Capita	US\$34,266
Mobile penetration	81.2%
Language(s)	Japanese
Currency	Yen (¥)

MOBILE TELECOMMUNICATIONS MARKET

Q3 2007

Subscriptions (x1000)	103,535
3G subscriptions (x1000)	68,155
Annual revenues	€12,159M
Blended ARPU	€39.3
Messaging revenues	€60M
Messaging ARPU	€0.2
Content revenues	€3,716M
Content ARPU	€12.0

MOBILE OPERATORS DATA

	NTT DoCoMo	KDDI	Softbank Mobile	Willcom	Tu-Ka
Subscriptions (x1000)	52,620	28,744	17,053	4,646	473
Market share	50.8%	27.8%	16.5%	4.5%	0.5%
Contract share of total subscriptions	99.9%	98.4%	90.0%	100.0%	38.4%
Pre-pay share of total subscriptions	0.1%	1.6%	10.0%	0.0%	61.6%
Annual growth in subscriber base	1.0%	17.4%	11.4%	9.1%	-75.3%
Net quarterly total subscription additions (x1000)	-226	634	612	-2	-127
Net quarterly 3G subscriber additions (x1000)	-2,308	1,310	1,699	-2	0
Blended ARPU	€42.0	€39.5	€29.6	€45.3	€11.7
Prepay ARPU	€15.8	€13.7	€12.1	€1.0	€8.6
Contract ARPU	€42.1	€39.9	€31.6	€45.3	€16.1



MOBILE OPERATORS SERVICES

	NTT DoCoMo	KDDI	Softbank Mobile	Willcom	Tu-Ka
Music	Various including Napster	Various including LisMo	Various including HMV mobile	-	-
	July 12, 2007	January 19, 2006	-	-	-
Games	i-mode	EZ-Web	-	-	-
	January 1, 2001	-	April 2001	-	-
Broadcast TV	One-Seg	One-Seg	One-Seg	One-Seg	One-Seg
	April 1, 2006	April 1, 2006	April 1, 2006	April 1, 2006	April 1, 2006
	ISDB	ISDB	ISDB	ISDB	ISDB

MOBILE CONTENT SERVICES

2007

Mobile music market (excluding mono and poly ringtones)	
Market ranking	3
Contribution to content revenues	3.7%
Total mobile music market	€137.6M
Mastertones share	26.2%
Full track share	50.3%
Music Video share	4.7%
Ringback share	15.4%
Mobile games market	
Market ranking	2
Contribution to content revenues	12.6%
Total mobile games market	€469.6M
Mobile TV market	
Market ranking	n/a
Contribution to content revenues	0.0%
Total mobile TV market	€0.0

INDUSTRY ASSOCIATIONS & REGULATORS

Ministry of Internal Affairs and Communications

www.soumu.go.jp



17.9 million subscribers
109.1% mobile penetration

NETHERLANDS

COUNTRY INFORMATION

Population	16,385,829
GDP/Capita	US\$40,519
Mobile penetration	109.1%
Language(s)	Dutch
Currency	EUR (€)

MOBILE TELECOMMUNICATIONS MARKET

Q3 2007

Subscriptions (x1000)	17,875
3G subscriptions (x1000)	1,311
Annual revenues	€1,618M
Blended ARPU	€30.5
Messaging revenues	€243M
Messaging ARPU	€4.6
Content revenues	€82M
Content ARPU	€1.5

MOBILE OPERATORS DATA

	KPN	Vodafone	T-Mobile	Orange
Subscriptions (x1000)	9,158	3,892	2,639	2,186
Market share	51.2%	21.8%	14.8%	12.2%
Contract share of total subscriptions	46.4%	57.2%	51.2%	36.5%
Pre-pay share of total subscriptions	53.6%	42.8%	48.8%	63.5%
Annual growth in subscriber base	8.0%	-0.1%	7.0%	8.6%
Net quarterly total subscription additions (x1000)	292	2	1	38
Net quarterly 3G subscriber additions (x1000)	81	56	22	2
Blended ARPU	€28.0	€38.8	€35.0	€20.2
Prepay ARPU	€9.0	€10.8	€11.0	€7.6
Contract ARPU	€50.1	€59.6	€57.0	€42.1



NETSIZE OFFER

	KPN	Vodafone	T-Mobile	Orange	Telfort	Tele2
SMS						
Push SMS	Yes	Yes	Yes	Yes	Yes	Yes
Toll free SMS MO	No	No	No	No	No	No
Premium SMS MO	Yes Up to € 1.50	Yes Up to € 1.50	Yes Up to € 1.50	Yes Up to € 1.50	Yes Up to € 1.50	Yes Up to € 1.50
Premium SMS MT (subscription)	Yes Up to € 3.00	Yes Up to € 3.00	Yes Up to € 3.00	Yes Up to € 3.00	Yes Up to € 1.50	Yes Up to € 3.00
MMS						
Push MMS	Yes	Yes (Q2 2008)	No	Yes (Q2 2008)	Yes	No
WAP						
Operator portal(s)	i-mode	Vodafone live!	T-Zones	Orange World	Spot	-
Billing type	WAP Billing (Q4 2008)	WAP - Direct Billing (Q2 2008)	No	WAP - Online Billing (Q2 2008)	No	No
Pay per Use	Yes	Yes	No	Yes	No	No
Subscription	n/a	Yes	No	No	No	No

MOBILE OPERATORS SERVICES

	KPN	Vodafone	T-Mobile	Orange
Music	Orange World	Vodafone live!	-	-
	May 30, 2007	April 18, 2005	-	-
Games	-	Vodafone live!	-	T-Zones
	May 1, 2003	November 1, 2002	October 2002	February 2003
Unicast TV	Orange World TV	Vodafone live! TV	-	-
	November 28, 2006	November 10, 2004	-	-



MOBILE CONTENT SERVICES

2007

Mobile music market (excluding mono and poly ringtones)	
Market ranking	19
Contribution to content revenues	3.7%
Total mobile music market	€3.0M
Mastertones share	48.4%
Full track share	38.0%
Music Video share	10.6%
Ringback share	3.0%
Mobile games market	
Market ranking	12
Contribution to content revenues	18.1%
Total mobile games market	€14.8M
Mobile TV market	
Market ranking	19
Contribution to content revenues	0.8%
Total mobile TV market	€0.7M

MOBILE CONTENT PRICES (UNIT PRICE)

Pay per Use (in €)

Music	
Polyphonics	1.50 - 3.30
True Tones	2.00 - 4.50
MP3	1.10 - 3.30
Images	
Wallpapers	1.00 - 3.30
Videos	2.00 - 3.30
Games & Lottery	
Java games	3.50 - 6.00
Community	
Chat	0.40/SMS

INDUSTRY ASSOCIATIONS & REGULATORS

Postal and Telecommunications Regulations Authority www.opta.nl

Consumption Authority www.consumentenautoriteit.nl



4.8 million subscribers
102.6% mobile penetration

NORWAY

COUNTRY INFORMATION

Population	4,704,600
GDP/Capita	US\$72,062
Mobile penetration	102.6%
Language(s)	Norwegian
Currency	Norwegian Krone (NOK)

MOBILE TELECOMMUNICATIONS MARKET

Q3 2007

Subscriptions (x1000)	4,826
3G subscriptions (x1000)	443
Annual revenues	€587M
Blended ARPU	€40.7
Messaging revenues	€68M
Messaging ARPU	€4.7
Content revenues	€31M
Content ARPU	€2.1

MOBILE OPERATORS DATA

	Telenor	Netcom	Tele2
Subscriptions (x1000)	2,808	1,580	438
Market share	58.2%	32.7%	9.1%
Contract share of total subscriptions	67.4%	71.0%	45.0%
Pre-pay share of total subscriptions	32.6%	29.0%	55.0%
Annual growth in subscriber base	3.6%	-3.5%	19.2%
Net quarterly total subscription additions (x1000)	42	-29	13
Net quarterly 3G subscriber additions (x1000)	24	15	3
Blended ARPU	€41.3	€45.3	€19.6
Prepay ARPU	€15.3	€17.0	€5.0
Contract ARPU	€54.4	€57.1	€37.4



NETSIZE OFFER

	Telenor	Netcom	Tele2
SMS			
Push SMS	Yes	Yes	Yes
Toll free SMS MO	No	No	No
Premium SMS MO	No	No	No
Premium SMS MT (subscription)	Yes Up to NOK 100.00	Yes Up to NOK 100.00	Yes Up to NOK 100.00
MMS			
Push MMS	Yes	Yes	No
Toll free MMS MO	No	No	No
Premium MMS MO	No	No	No
Premium MMS MT (subscription)	Yes Up to NOK 100.00	Yes Up to NOK 100.00	No
WAP			
Operator portal(s)	wap.telenormobil.no	SurfPort	wap.tele2.no
Billing type	WAP - Direct Billing and MSISDN Forwarding + PSMS MT	WAP - Direct Billing	WAP - Direct Billing
Pay per Use	Yes Up to NOK 100.00	Yes Up to NOK 100.00	Yes Up to NOK 100.00
Subscription	Yes Up to NOK 100.00	Yes Up to NOK 100.00	Yes Up to NOK 100.00

MOBILE OPERATORS SERVICES

	Telenor	Netcom	Tele2
Music	Djuice	Musikk og moro	-
	February 1, 2006	2007	-
Games	Djuice	-	Go Live
	March 1, 2003	2002	2004
Unicast TV	Telenor Mobil TV	Surfport mobilTV	-
	December 1, 2004	March 1, 2005	-



MOBILE CONTENT SERVICES

2007

Mobile music market (excluding mono and poly ringtones)	
Market ranking	14
Contribution to content revenues	13.3%
Total mobile music market	€4.1M
Mastertones share	52.9%
Full track share	44.3%
Music Video share	0.6%
Ringback share	2.2%
Mobile games market	
Market ranking	24
Contribution to content revenues	15.4%
Total mobile games market	€4.7M
Mobile TV market	
Market ranking	16
Contribution to content revenues	2.7%
Total mobile TV market	€0.8M

MOBILE CONTENT PRICES (UNIT PRICE)

Pay per Use (in NOK)

Music	
Polyphonics	20.00 - 40.00
True Tones	30.00 - 40.00
MP3	10.00 - 15.00
Images	
Wallpapers	20.00 - 30.00
Videos	20.00 - 30.00
Games & Lottery	
Java games	20.00 - 50.00

INDUSTRY ASSOCIATIONS & REGULATORS

Norwegian Post and Telecommunications Authority

www.npt.no

Forbrukerombudet (The Consumer Ombudsman's Guidelines on Mobile Content Services)

www.forbrukerombudet.no



39.6 million subscribers
103.9% mobile penetration

POLAND

COUNTRY INFORMATION

Population	38,125,479
GDP/Capita	US\$8,940
Mobile penetration	103.9%
Language(s)	Polish
Currency	New Zloty (PLN)

MOBILE TELECOMMUNICATIONS MARKET

Q3 2007

Subscriptions (x1000)	39,626
3G subscriptions (x1000)	388
Annual revenues	€1,525M
Blended ARPU	€13.0
Messaging revenues	€209M
Messaging ARPU	€1.8
Content revenues	€73M
Content ARPU	€0.6

MOBILE OPERATORS DATA

	Orange	Plus - Polkomtel	Era	Play
Subscriptions (x1000)	13,487	13,345	12,722	72
Market share	34.0%	33.7%	32.1%	0.2%
Contract share of total subscriptions	39.8%	41.8%	40.3%	44.4%
Pre-pay share of total subscriptions	60.2%	58.2%	59.7%	55.6%
Annual growth in subscriber base	14.9%	19.8%	6.8%	Started Q1 07
Net quarterly total subscription additions (x1000)	431	428	197	37
Net quarterly 3G subscriber additions (x1000)	28	18	26	37
Blended ARPU	€13.1	€12.9	€13.0	€14.3
Prepay ARPU	€6.0	€5.5	€5.0	€5.0
Contract ARPU	€24.1	€24.7	€24.0	€26.1



NETSIZE OFFER

	Orange	Plus - Polkomtel	Era	Play
SMS				
Push SMS	Yes	Yes	Yes	Yes
Toll free SMS MO	No	No	No	No
Premium SMS MO	Yes Up to PLN 9.00	Yes Up to PLN 9.00	Yes Up to PLN 9.00	Yes Up to PLN 9.00
Premium SMS MT (subscription)	Yes (Q2 2008) Up to PLN 25.00	Yes (Q4 2008)	Yes (Q2 2008) Up to PLN 9.00	n/a
WAP				
Operator portal(s)	Orange World	Plus.pl	Era OMNIX	PlayNet
Billing type	WAP Billing	WAP Billing	WAP Billing	n/a
Pay per Use	Yes (Q4 2008) Up to PLN 18.00	Yes (Q4 2008) Up to PLN 18.00	Yes (Q4 2008) Up to PLN 18.00	n/a
Subscription	No	No	No	n/a

MOBILE OPERATORS SERVICES

	Orange	Plus - Polkomtel	Era	Play
Music	Orange World	-	Strefa Muzyki	-
	-	-	May 23, 2006	-
Games	Orange World	-	Era OMNIX	-
	June 1, 2004	2005	2002	-
Unicast TV	Orange World TV	-	-	-
	2nd Quarter 2005	-	-	-



MOBILE CONTENT SERVICES

2007

Mobile music market (excluding mono and poly ringtones)	
Market ranking	24
Contribution to content revenues	0.8%
Total mobile music market	€0.6M
Mastertones share	34.0%
Full track share	28.8%
Music Video share	4.5%
Ringback share	32.7%
Mobile games market	
Market ranking	14
Contribution to content revenues	15.7%
Total mobile games market	€11.5M
Mobile TV market	
Market ranking	14
Contribution to content revenues	1.3%
Total mobile TV market	€1.0M

MOBILE CONTENT PRICES (UNIT PRICE)

Pay per Use (in PLN)

Music	
Polyphonics	2.44 - 7.32
True Tones	2.44 - 7.32
MP3	2.44 - 7.32
Images	
Wallpapers	1.22 - 7.32
Videos	4.88 - 10.98
Games & Lottery	
Voting , Participation TV	1.22 - 2.44
Instant Win, Quiz	1.22 - 2.44
Java games	2.44 - 10.98
Community	
Chat	1.22 - 2.44

INDUSTRY ASSOCIATIONS & REGULATORS

Office of Electronic Communications (UKE) www.uke.gov.pl



13.7 million subscribers
125.4% mobile penetration

PORTUGAL

COUNTRY INFORMATION

Population	10,945,870
GDP/Capita	US\$ 18,390
Mobile penetration	125.4%
Language(s)	Portuguese
Currency	EUR (€)

MOBILE TELECOMMUNICATIONS MARKET

Q3 2007

Subscriptions (x1000)	13,722
3G subscriptions (x1000)	1,841
Annual revenues	€868M
Blended ARPU	€21.4
Messaging revenues	€86M
Messaging ARPU	€2.1
Content revenues	€51M
Content ARPU	€1.3

MOBILE OPERATORS DATA

	TMN	Vodafone	Sonaecom (ex-Optimus)
Subscriptions (x1000)	6,004	4,957	2,761
Market share	43.8%	36.1%	20.1%
Contract share of total subscriptions	22.0%	21.0%	25.6%
Pre-pay share of total subscriptions	78.0%	79.0%	74.4%
Annual growth in subscriber base	9.3%	11.7%	10.8%
Net quarterly total subscription additions (x1000)	190	182	87
Net quarterly 3G subscriber additions (x1000)	50	56	33
Blended ARPU	€20.6	€23.7	€19.2
Prepay ARPU	€11.8	€14.0	€6.1
Contract ARPU	€52.8	€59.0	€58.9



NETSIZE OFFER

	TMN	Vodafone	Sonaecom (ex-Optimus)
SMS			
Push SMS	Yes	Yes	Yes
Toll free SMS MO	Yes, upon request	Yes, upon request	Yes, upon request
Premium SMS MO	Yes Up to €4.00	Yes Up to €4.00	Yes Up to €4.00
Premium SMS MT (subscription)	Yes Up to €2.00	Yes Up to €5.00	Yes Up to €2.00
WAP			
Operator portal(s)	i9	Vodafone live!	Optimus Zone
Billing type	WAP - Online Billing and MSISDN Forwarding + PSMS MT	WAP - Online Billing and MSISDN Forwarding + PSMS MT	WAP - Online Billing and MSISDN Forwarding + PSMS MT
Pay per Use	Yes Up to €5.00	Yes Up to €5.00	Yes Up to €5.00
Subscription	Yes Up to €2.00	Yes Up to €5.00	Yes Up to €2.00
O-rate URL / Wholesale datacharge	No	No	Yes, upon request

MOBILE OPERATORS SERVICES

	TMN	Vodafone	Sonaecom (ex-Optimus)
Music	Music Box	Vodafone Mobile Music	Orange Music Store
	September 18, 2006	November 10, 2004	July 1, 2006
Games	innove	Vodafone live!	Optimus Zone
	July 1, 2003	Late 2002	July 2003
Unicast TV	Telemóveis TMN	Vodafone live! TV	TV em Directo
	March 2, 2006	January 18, 2006	August 8, 2006



MOBILE CONTENT SERVICES

2007

Mobile music market (excluding mono and poly ringtones)	
Market ranking	17
Contribution to content revenues	7.0%
Total mobile music market	€3.6M
Mastertones share	61.0%
Full track share	28.9%
Music Video share	6.0%
Ringback share	2.9%
Mobile games market	
Market ranking	16
Contribution to content revenues	17.4%
Total mobile games market	€8.9M
Mobile TV market	
Market ranking	9
Contribution to content revenues	8.0%
Total mobile TV market	€4.1M

MOBILE CONTENT PRICES (UNIT PRICE)

Pay per Use (in €)

Music	
Polyphonics	1.50 - 2.00
True Tones	2.00 - 3.00
MP3	1.49 - 2.00
Images	
Wallpapers	0.75 - 2.00
Videos	2.00 - 3.00
Games & Lottery	
Voting , Participation TV	1.00
Instant Win, Quiz	1.00
Java games	2.00 - 4.00
Community	
Chat	0.15 (SMS) - 0.60 (MMS)

INDUSTRY ASSOCIATIONS & REGULATORS

National Communications Authority www.anacom.pt



165 million subscribers
116.0% mobile penetration

RUSSIA

COUNTRY INFORMATION

Population	141,377,752
GDP/Capita	US\$12,200
Mobile penetration	116.0%
Language(s)	Russian
Currency	Rouble (RUB)

NETSIZE OFFER

	MTS	Beeline	MegaFon
SMS			
Push SMS	Yes	Yes	Yes
Toll free SMS MO	Yes (Q3 2008)	Yes (Q3 2008)	Yes (Q3 2008)
Premium SMS MO	Yes (Q3 2008) Up to RUB 250.00	Yes (Q3 2008) Up to RUB 250.00	Yes (Q3 2008) Up to RUB 250.00
Premium SMS MT (subscription)	Yes (Q3 2008) (Based on special agreement) Up to RUB 45.00	n/a	n/a

*Only the three major operators listed



MOBILE CONTENT PRICES (UNIT PRICE)

Pay per Use (in RUB)

Music	
Polyphonics	25.00
True Tones	62.50
MP3	87.50
Images	
Wallpapers	25.00
Videos	62.50 - 100.00
Games & Lottery	
Voting , Participation TV	7.50 - 62.50
Instant Win, Quiz	7.50 - 62.50
Java games	62.50 - 125.00
Community	
Chat	25.00 - 125.00

INDUSTRY ASSOCIATIONS & REGULATORS

Association of providers of mobile services and content	www.cspa.ru
Russian Ministry of Telecommunications	english.minsvyaz.ru
Russian Direct Marketing Association	www.radm.ru



42.7 million subscribers
87.2% mobile penetration

SOUTH KOREA

COUNTRY INFORMATION

Population	49,044,790
GDP/Capita	US\$18,106
Mobile penetration	87.2%
Language(s)	Korean
Currency	South Korean Won (KRW)

MOBILE TELECOMMUNICATIONS MARKET

Q3 2007

Subscriptions (x1000)	42,751
3G subscriptions (x1000)	19,432
Annual revenues	€4,112M
Blended ARPU	€32.2
Messaging revenues	€127M
Messaging ARPU	€1.0
Content revenues	€779M
Content ARPU	€6.1

MOBILE OPERATORS DATA

	SK Telecom	KTF	LG Telecom
Subscriptions (x1000)	21,606	13,533	7,612
Market share	50.5%	31.7%	17.8%
Contract share of total subscriptions	98.0%	98.0%	98.0%
Pre-pay share of total subscriptions	2.0%	2.0%	2.0%
Annual growth in subscriber base	7.9%	6.0%	10.3%
Net quarterly total subscription additions (x1000)	248	21	161
Net quarterly 3G subscriber additions (x1000)	864	378	27
Blended ARPU	€33.3	€31.3	€30.9
Prepay ARPU	€10.0	€9.5	€9.7
Contract ARPU	€33.8	€31.1	€31.3



MOBILE OPERATORS SERVICES

	SK Telecom	KTF	LG Telecom	SK Telecom - KTF	LG - KTF
Music	MelOn	Doshirak	Music On	-	-
	November 1, 2004	May 25, 2005	December 1, 2004	-	-
Games	NATE	magic-n	ez-i	-	-
	October 2000	November 1, 2001	September 1, 2000	-	-
Unicast TV	June TV	Fimm TV	-	-	-
	December 1, 2002	March 1, 2003	-	-	-
Broadcast TV	-	-	-	TU Media	Freeview
	-	-	-	May 1, 2005	December 1, 2005
	-	-	-	S-DMB	T-DMB

MOBILE CONTENT SERVICES

2007

Mobile music market (excluding mono and poly ringtones)	
Market ranking	4
Contribution to content revenues	7.5%
Total mobile music market	€58.4M
Mastertones share	30.5%
Full track share	3.2%
Music Video share	0.7%
Ringback share	34.1%
Mobile games market	
Market ranking	3
Contribution to content revenues	17.2%
Total mobile games market	€133.8M
Mobile TV market	
Market ranking	1
Contribution to content revenues	16.8%
Total mobile TV market	€131.2M



49.0 million subscribers
108.7% mobile penetration

SPAIN

COUNTRY INFORMATION

Population	45,116,894
GDP/Capita	US\$29,148
Mobile penetration	108.7%
Language(s)	Spanish
Currency	EUR (€)

MOBILE TELECOMMUNICATIONS MARKET

Q3 2007

Subscriptions (x1000)	49,054
3G subscriptions (x1000)	9,809
Annual revenues	€4,732M
Blended ARPU	€32.5
Messaging revenues	€405M
Messaging ARPU	€2.8
Content revenues	€322M
Content ARPU	€2.2

MOBILE OPERATORS DATA

	Movistar (Telefonica)	Vodafone	Orange	Yoigo
Subscriptions (x1000)	22,420	15,473	10,921	240
Market share	45.7%	31.5%	22.3%	0.5%
Contract share of total subscriptions	59.2%	56.6%	53.0%	45.4%
Pre-pay share of total subscriptions	40.8%	43.4%	47.0%	54.6%
Annual growth in subscriber base	6.7%	10.3%	0.8%	Entered Q4 06
Net quarterly total subscription additions (x1000)	317	294	229	79
Net quarterly 3G subscriber additions (x1000)	840	750	307	79
Blended ARPU	€33.1	€36.5	€25.4	€32.4
Prepay ARPU	€16.5	€16.5	€9.3	€15.0
Contract ARPU	€44.8	€51.7	€40.5	€52.5



NETSIZE OFFER

	Movistar (Telefonica)	Vodafone	Orange
SMS			
Push SMS	Yes	Yes	Yes
Toll free SMS MO	Yes, upon request	No	Yes, upon request
Premium SMS MO	Yes Up to €1.20	Yes Up to €1.20	Yes Up to €1.50
Premium SMS MT (subscription)	Yes Up to €0.30	Yes Up to €0.30	Yes Up to €0.60
MMS			
Push MMS	Yes	Yes	Yes
Toll free MMS MO	No	No	No
WAP			
Operator portal(s)	emoción	Vodafone live!	Orange World
Billing type	WAP - Online Billing	WAP - Online Billing	WAP - Online Billing and MSISDN Forwarding + PSMS MT
Pay per Use	Yes Up to €6.00	Yes Up to €10.00	Yes Up to €6.00
Subscription	Yes Up to €6.00	No	Yes Up to €0.60
O-rate URL / Wholesale datacharge	No	No	No

MOBILE OPERATORS SERVICES

	Movistar (Telefonica)	Vodafone	Orange	Yoigo
Music	Todo X Artista	Vodafone live!	-	-
	November 1, 2004	November 10, 2004	-	-
Games	Emoción	Vodafone live!	-	-
	June 1, 2003	October 1, 2003	-	-
Unicast TV	Emoción TV	Vodafone live! TV	Orange World TV	-
	May 3, 2006	November 11, 2004	May 29, 2006	-



MOBILE CONTENT SERVICES

2007

Mobile music market (excluding mono and poly ringtones)	
Market ranking	11
Contribution to content revenues	4.0%
Total mobile music market	€12.9M
Mastertones share	44.4%
Full track share	34.6%
Music Video share	6.1%
Ringback share	13.7%
Mobile games market	
Market ranking	8
Contribution to content revenues	14.1%
Total mobile games market	€45.3M
Mobile TV market	
Market ranking	6
Contribution to content revenues	5.3%
Total mobile TV market	€17.2M

MOBILE CONTENT PRICES (UNIT PRICE)

Pay per Use (in €)

Music	
Polyphonics	2.00 - 4.00
True Tones	2.00 - 4.00
MP3	5.50
Images	
Wallpapers	1.00 - 4.00
Videos	4.00 - 6.00
Games & Lottery	
Voting , Participation TV	1.20
Instant Win, Quiz	0.90 - 1.20
Java games	3.00 - 5.50
Community	
Chat	0.09 - 1.00 (SMS) 0.30 (MMS)

INDUSTRY ASSOCIATIONS & REGULATORS

Telecommunications Market Commission (CMT)	www.cmt.es
Mobile Services Industry Association (AESAM)	www.aesam.org



10.3 million subscribers
112.3% mobile penetration

SWEDEN

COUNTRY INFORMATION

Population	9,150,000
GDP/Capita	US\$42,266
Mobile penetration	112.3%
Language(s)	Swedish
Currency	Swedish Krona (SEK)

MOBILE TELECOMMUNICATIONS MARKET

Q3 2007

Subscriptions (x1000)	10,280
3G subscriptions (x1000)	1,051
Annual revenues	€752M
Blended ARPU	€24.7
Messaging revenues	€79M
Messaging ARPU	€2.6
Content revenues	€34M
Content ARPU	€1.1

MOBILE OPERATORS DATA

	TeliaSonera	Tele2	Telenor	3
Subscriptions (x1000)	4,818	3,007	1,853	602
Market share	46.9%	29.3%	18.0%	5.9%
Contract share of total subscriptions	49.9%	47.6%	66.6%	81.2%
Pre-pay share of total subscriptions	50.1%	52.4%	33.4%	18.8%
Annual growth in subscriber base	7.0%	-14.0%	8.5%	32.9%
Net quarterly total subscription additions (x1000)	90	100	59	40
Net quarterly 3G subscriber additions (x1000)	16	15	4	40
Blended ARPU	€21.2	€23.1	€29.9	€45.9
Prepay ARPU	€9.2	€9.6	€6.7	€9.2
Contract ARPU	€33.6	€38.0	€39.3	€50.4



NETSIZE OFFER

	TeliaSonera	Tele2	Telenor	3
SMS				
Push SMS	Yes	Yes	Yes	Yes
Toll free SMS MO	No	No	No	No
Premium SMS MO	Yes Up to SEK 50.00 (SEK 200.00 upon request)	Yes Up to SEK 50.00 (SEK 200.00 upon request)	Yes Up to SEK 50.00 (SEK 200.00 upon request)	Yes Up to SEK 50.00
Premium SMS MT (subscription)	Yes Up to SEK 90.00 (SEK 200.00 upon request)	Yes Up to SEK 90.00 (SEK 200.00 upon request)	Yes Up to SEK 90.00 (SEK 200.00 upon request)	Yes Up to SEK 90.00
MMS				
Push MMS	Yes	Yes	Yes	No
Toll free MMS MO	No	No	No	No
Premium MMS MO	Yes Up to SEK 50.00 (SEK 200.00 upon request)	Yes Up to SEK 50.00 (SEK 200.00 upon request)	No	No
Premium MMS MT (subscription)	Yes Up to SEK 50.00 (SEK 200.00 upon request)	Yes Up to SEK 50.00 (SEK 200.00 upon request)	No	No
WAP				
Operator portal(s)	Telia SurfPort	Tele2	mobil.telenor.se	Planet3
Billing type	WAP - Direct Billing	WAP - Direct Billing	WAP - Direct Billing	No
Pay per Use	Yes Up to SEK 90.00	Yes Up to SEK 50.00	Yes Up to SEK 50.00	No
Subscription	Yes Up to SEK 90.00	Yes Up to SEK 50.00	Yes Up to SEK 50.00	No

MOBILE OPERATORS SERVICES

	TeliaSonera	Tele2	Telenor	3
Music	Schlager & Grammis Butiken January 25, 2006	Mobil Musik May 1, 2005	Muskibutiken November 1, 2004	3 Music Store November 1, 2005
Games	Telia Go June 1, 2003	Mobiltjänster 2003	Djuice Early 2003	- May 2003
Unicast TV	Surfport TV March 10, 2004	Tele 2 Mobil TV December 1, 2006	Mobil.telenor.se TV November 2004	3Show April 1, 2007



MOBILE CONTENT SERVICES

2007

Mobile music market (excluding mono and poly ringtones)	
Market ranking	18
Contribution to content revenues	10.4%
Total mobile music market	€3.5M
Mastertones share	22.7%
Full track share	42.3%
Music Video share	34.2%
Ringback share	0.3%
Mobile games market	
Market ranking	17
Contribution to content revenues	26.5%
Total mobile games market	€8.9M
Mobile TV market	
Market ranking	12
Contribution to content revenues	5.5%
Total mobile TV market	€1.9M

MOBILE CONTENT PRICES (UNIT PRICE)

Pay per Use (in SEK)

Music	
Polyphonics	15.00 - 40.00
True Tones	30.00 - 40.00
MP3	9.90 - 25.00
Images	
Wallpapers	15.00 - 30.00
Videos	30.00
Games & Lottery	
Java games	30.00 - 50.00

INDUSTRY ASSOCIATIONS & REGULATORS

The Swedish Post and Telecom Agency
MORGAN (Code of Conduct)

www.pts.se
www.morganforum.com



7.9 million subscribers
 105.5% mobile penetration

SWITZERLAND

COUNTRY INFORMATION

Population	7,508,700
GDP/Capita	US\$50,614
Mobile penetration	105.5%
Language(s)	German French Italian
Currency	Swiss Franc (CHF)

MOBILE TELECOMMUNICATIONS MARKET

Q3 2007

Subscriptions (x1000)	7,919
3G subscriptions (x1000)	717
Annual revenues	€904M
Blended ARPU	€38.5
Messaging revenues	€102M
Messaging ARPU	€4.3
Content revenues	€72M
Content ARPU	€3.1

MOBILE OPERATORS DATA

	Swisscom	Sunrise	Orange	Tele2
Subscriptions (x1000)	4,894	1,491	1,473	61
Market share	61.8%	18.8%	18.6%	0.8%
Contract share of total subscriptions	60.3%	52.8%	58.7%	50.0%
Pre-pay share of total subscriptions	39.7%	47.2%	41.3%	50.0%
Annual growth in subscriber base	7.3%	13.2%	10.0%	103.3%
Net quarterly total subscription additions (x1000)	118	24	32	9
Net quarterly 3G subscriber additions (x1000)	48	21	59	0
Blended ARPU	€37.6	€37.5	€43.2	€18.8
Prepay ARPU	€10.9	€14.4	€13.0	€22.5
Contract ARPU	€55.2	€58.2	€64.5	€40.0



NETSIZE OFFER

	Swisscom	Sunrise	Orange
SMS			
Push SMS	Yes	Yes	Yes
Toll free SMS MO	No	Yes	Yes
Premium SMS MO	No	No	No
Premium SMS MT (subscription)	Yes Up to CHF 10.00	Yes Up to CHF 10.00	Yes Up to CHF 5.00
WAP			
Operator portal(s)	Vodafone Live!	Sunrise live	Orange World
Billing type	WAP Billing (Q3 2008)	MSISDN Forwarding + PSMS MT (Q3 2008)	MSISDN Forwarding + PSMS MT (Q3 2008)
Pay per Use	Yes Up to CHF 10.00	Yes Up to CHF 10.00	Yes Up to CHF 5.00
Subscription	Yes Up to CHF 10.00	Yes Up to CHF 10.00	Yes Up to CHF 5.00
O-rate URL / Wholesale datacharge	No	No	No

MOBILE OPERATORS SERVICES

	Swisscom	Sunrise	Orange	Tele2
Music	-	Musicworld	Orange Music Store	-
	-	December 1, 2005	November 21, 2005	-
Games	Vodafone live! TV	Sunrise handy games	Orange World	-
	November 1, 2003	January 1, 2003	October 2003	June 2005
Unicast TV	Vodafone live! TV	Sunrise Live TV	Orange World TV	-
	November 16, 2004	December 1, 2005	September 5, 2005	-



MOBILE CONTENT SERVICES

2007

Mobile music market (excluding mono and poly ringtones)	
Market ranking	20
Contribution to content revenues	3.8%
Total mobile music market	€2.7M
Mastertones share	25.4%
Full track share	52.2%
Music Video share	22.1%
Ringback share	0.4%
Mobile games market	
Market ranking	18
Contribution to content revenues	11.6%
Total mobile games market	€8.4M
Mobile TV market	
Market ranking	8
Contribution to content revenues	7.2%
Total mobile TV market	€5.2M

MOBILE CONTENT PRICES (UNIT PRICE)

Pay per Use (in CHF)

Music	
Polyphonics	2.00 - 4.00
True Tones	3.50 - 4.95
MP3	2.00 - 5.00
Images	
Wallpapers	2.00 - 4.00
Videos	3.00 - 5.00
Games & Lottery	
Voting , Participation TV	1.00
Instant Win, Quiz	1.00
Java games	5.00 - 9.00

INDUSTRY ASSOCIATIONS & REGULATORS

Office fédéral de la Communication (OFCOM) www.bakom.ch



74.5 million subscribers
122.9% mobile penetration

U.K.

COUNTRY INFORMATION

Population	60,587,300
GDP/Capita	US\$39,492
Mobile penetration	122.9%
Language(s)	English
Currency	Pound Sterling (£)

MOBILE TELECOMMUNICATIONS MARKET

Q3 2007

Subscriptions (x1000)	74,487
3G subscriptions (x1000)	12,083
Annual revenues	€6,373M
Blended ARPU	€33.6
Messaging revenues	€1,480M
Messaging ARPU	€6.7
Content revenues	€483M
Content ARPU	€2.2

MOBILE OPERATORS DATA

	O2	Vodafone	Orange	T-Mobile	Virgin	3	Tesco
Subscriptions (x1000)	17,976	17,959	15,400	12,574	4,431	4,127	2,020
Market share	24.1%	24.1%	20.7%	16.9%	5.9%	5.5%	2.7%
Contract share of total subscriptions	36.5%	39.8%	35.1%	28.7%	7.4%	60.8%	0.0%
Pre-pay share of total subscriptions	63.5%	60.2%	64.9%	71.3%	92.6%	39.2%	100.0%
Annual growth in subscriber base	3.7%	10.3%	1.7%	3.5%	-1.8%	11.6%	15.4%
Net quarterly total subscription additions (x1000)	161	312	235	203	16	154	40
Net quarterly 3G subscriber additions (x1000)	430	472	183	465	20	154	0
Blended ARPU	€35.7	€35.5	€32.0	€32.0	€16.3	€60.2	€16.2
Prepay ARPU	€19.4	€13.2	€13.5	€15.0	€13.8	€25.9	€16.2
Contract ARPU	€64.9	€67.4	€68.9	€68.0	€49.8	€82.7	€0.0



NETSIZE OFFER

	O2	Vodafone	Orange	T-Mobile	Virgin	3
SMS						
Push SMS	Yes	Yes	Yes	Yes	Yes	Yes
Toll free SMS MO	Yes	Yes	Yes	Yes	Yes	Yes
Premium SMS MO	Yes Up to £1.5	Yes Up to £5.00	Yes Up to £10.00	Yes Up to £5.00	Yes Up to £5.00	Yes Up to £5.00
Premium SMS MT (subscription)	Yes Up to £5.00	Yes Up to £5.00	Yes Up to £10.00	Yes Up to £5.00	Yes Up to £5.00	Yes Up to £5.00
MMS						
Push MMS	Yes (Q3 2008)	Yes (Q3 2008)	Yes (Q3 2008)	Yes (Q3 2008)	Yes (Q3 2008)	Yes (Q3 2008)
WAP						
Operator portal(s)	O2 Active i-mode	Vodafone live!	Orange World	T-Zones		Planet 3
Billing type	MSISDN Forwarding + PSMS MT	WAP - Direct Billing	WAP - Direct Billing	WAP - Direct Billing	No	WAP - Direct Billing
Pay per Use	Yes Up to £5.00	Yes Up to £5.00	Yes Up to £5.00	Yes Up to £5.00	No	Yes Up to £5.00
Subscription	Yes Up to £5.00	Yes Up to £5.00	Yes Up to £5.00	Yes Up to £5.00	No	Yes Up to £5.00
O-rate URL / Wholesale datacharge	No	Yes	No	No	No	n/a



MOBILE OPERATORS SERVICES

	O2	Vodafone	Orange	T-Mobile	Virgin	3
Music	O2 Music	Vodafone live!	Orange Music Player	T-Zones Mobile Jukebox	Virgin Mobile Bites	3 Music Store
	November 18, 2003	November 10, 2004	July 2004	June 2006	March 13, 2006	August 1, 2005
Games	O2 Active	Vodafone live!	Orange World	T-Zones	Virgin Mobile Bites	Planet 3
	September 2002	October 2002	2002	July 2002	December 2001	March 2003
Unicast TV	-	Vodafone live! TV	Orange World TV	Mobile TV	-	Planet 3 TV
	-	November 2004	May 26, 2005	May 2007	-	October 18, 2005
Broadcast TV	-	-	-	-	Virgin Mobile TV	-
	-	-	-	-	September 7, 2006	-
	-	-	-	-	DAB-IP	-

MOBILE CONTENT SERVICES

2007

Mobile music market (excluding mono and poly ringtones)	
Market ranking	6
Contribution to content revenues	8.0%
Total mobile music market	€38.7M
Mastertones share	42.8%
Full track share	41.9%
Music Video share	5.0%
Ringback share	9.9%
Mobile games market	
Market ranking	5
Contribution to content revenues	17.9%
Total mobile games market	€86.3M
Mobile TV market	
Market ranking	3
Contribution to content revenues	9.3%
Total mobile TV market	€44.8M



MOBILE CONTENT PRICES (UNIT PRICE)

	Pay per Use (in £)
Music	
Polyphonics	1.50 - 4.50
True Tones	3.00 - 4.50
MP3	0.65 - 1.30
Images	
Wallpapers	1.50 - 4.50
Videos	1.50 - 4.50
Games & Lottery	
Voting , Participation TV	0.50 - 1.50
Instant Win, Quiz	1.00 - 1.50
Java games	3.00 - 5.00
Community	
Chat	0.10 - 1.50

INDUSTRY ASSOCIATIONS & REGULATORS

Regulatory body for all premium rate charged telecommunications services (Phonepayplus) www.phonepayplus.org.uk

Office of Communications (Ofcom) www.ofcom.org.uk



261.4 million subscribers
86.2% mobile penetration

U.S.A.

COUNTRY INFORMATION

Population	303,137,896
GDP/Capita	US\$43,920
Mobile penetration	86.2%
Language(s)	English
Currency	USD (\$)

MOBILE TELECOMMUNICATIONS MARKET

Q3 2007

Subscriptions (x1000)	261,368
3G subscriptions (x1000)	41,700
Annual revenues	€27,902M
Blended ARPU	€36.0
Messaging revenues	€2,201M
Messaging ARPU	€2.9
Content revenues	€2,412M
Content ARPU	€3.1

MOBILE OPERATORS DATA

	AT&T	Verizon Wireless	Sprint Nextel	T-Mobile	Alltel
Subscriptions (x1000)	65,666	63,699	53,131	27,734	12,061
Market share	25.1%	24.4%	20.3%	10.6%	4.6%
Contract share of total subscriptions	91.3%	94.5%	78.3%	83.6%	-
Pre-pay share of total subscriptions	8.7%	5.5%	21.7%	16.4%	-
Annual growth in subscriber base	11.9%	12.3%	4.1%	14.9%	10.2%
Net quarterly total subscription additions (x1000)	1,993	1,645	94	857	205
Net quarterly 3G subscriber additions (x1000)	1,000	4,500	300	0	-
Blended ARPU	€37.0	€52.2	€52.7	€53.0	-
Prepay ARPU	€10.6	€15.7	€30.0	€18.0	-
Contract ARPU	€39.5	€54.3	€59.0	€57.0	-



MOBILE OPERATORS SERVICES

	AT&T	Verizon Wireless	Sprint Nextel	T-Mobile	Alltel
Music	-	V Cast Music	Sprint Music Store	-	Jump Music
	-	January 16, 2006	October 24, 2005	-	May 11, 2007
Games	MEdia Mall	Get it now	Vision	T-Zones	-
	October 2002	September 2003	August 2002	August 2002	-
Unicast TV	MEdia Net MobiTV	-	Sprint TV	-	Axcess TV
	January 25, 2005	-	November 19, 2003	-	November 21, 2005
Broadcast TV	-	V CAST Mobile TV	-	-	-
	-	March 1, 2007	-	-	-
	-	MediaFlo	-	-	-

MOBILE CONTENT SERVICES

2007

Mobile music market (excluding mono and poly ringtones)	
Market ranking	1
Contribution to content revenues	18.1%
Total mobile music market	€437.2M
Mastertones share	57.7%
Full track share	23.6%
Music Video share	7.9%
Ringback share	8.9%
Mobile games market	
Market ranking	1
Contribution to content revenues	21.3%
Total mobile games market	€514.2M
Mobile TV market	
Market ranking	5
Contribution to content revenues	1.4%
Total mobile TV market	€34.4M

INDUSTRY ASSOCIATIONS & REGULATORS

Federal Communications Commission (FCC)	www.fcc.gov
Federal Trade Commission	www.ftc.gov

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The days when Henry Ford proclaimed a customer could have any color car as long as it was black are long gone.

Gameloft CEO & President Michel Guillemot about wireless devices fragmentation

ABOUT THE NETSIZE GUIDE

The Netsize Guide is a comprehensive annual industry report, documenting the state of the global mobile content and services market. Drawing on in-depth research and exclusive interviews with industry executives and opinion-makers, it provides professionals an essential snapshot of the developments that have taken place and the trends that matter.

On the occasion of the 10th anniversary of Netsize, and in recognition of the tectonic shift to a participatory society, this 2008 issue of the Guide has invited you, the readers, to join the debate on the issues impacting mobile at all levels. This first-ever reader survey, conducted online by Netsize, makes this truly a Mobile 2.0 reference work.

The Netsize Guide features:

- 25 interviews with industry senior executives at leading companies including eBay, Google, HighCo, Jamba, MSN, Nokia, PayPal, Visa, Vivendi Mobile Games, and Vodafone... to name a few.
- Exclusive results from a worldwide survey of 1,835 mobile communications industry professionals from 79 countries.
- Mobile telecommunications data covering 27 countries, and including the market value of mobile content and third party offers available for services such as mobile messaging, mobile internet and mobile payment.

ABOUT NETSIZE

Netsize is a leading mobile communications and commerce enabler. Netsize solutions include Mobile Messaging with SMS and MMS delivery in 200 countries, Mobile Payment through operator-based billing (Premium SMS, MMS & WAP) in 22 countries, and Mobile Content Management platforms with publishing & editing tools to manage messaging services and mobile Internet portals. Netsize manages more than 60 million mobile transactions per month for 800 customers worldwide, including Fortune 500 companies. With 200 employees in 11 offices worldwide, Netsize provides both robust technical infrastructure and marketing expertise to support this successful deployment on a global scale.

One single instrument is helping us to talk to wife and bank (albeit not at the same time), and allowing us to play music and games.

Praveen Kumar Sattarapu, Ohal, Asia Pacific, Singapore

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