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# EXECUTIVE SUMMARIES PRESENTATION

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## Breaking up the handset value chain

by Jamie Anderson and Martin Zander p. 40

**AS HAPPENED IN THE** PC industry, the mobile handset industry today is “unbundling.” Increasingly specialized firms are entering the market with components and software that are then assembled by branded manufacturers and original device manufacturers into finished devices.

The industry has witnessed the emergence of three distinct structures:

- The semiconductor paradigm
- The telecom paradigm
- The computing paradigm.

Whatever approach that handset vendors choose in managing the respective value-chain paradigms, it will become increasingly difficult to compete primarily on product functionality in the mobile-handset industry, as different vendors gain access to the same or similar components and modules. First-mover advantage is likely to be short-lived for competitors coming to market with better-performing digital-camera modules, higher memory capacity or LCD screens, because competitors are also likely to be able to source these components within a relatively short period of time.

Mobile-handset vendors should learn from the PC industry and make sure that their future strategies are not made simply on the basis of cost optimization or speed to market. While such logic might appear to make compelling sense in the short term, experience suggests that it can result in a firm outsourcing those elements of added value in which most of the industry's profits will be made in the future – and retaining activities which it is difficult to maintain long-term advantages over competitors.

Witness IBM's outsourcing of the PC operating system to Microsoft and chipset to Intel in the 1980s. Value-chain design should be recognized as a strategic activity that will determine the fate of a mobile-device manufacturer, and of future profits and power distribution in the industry.

As was the case in the PC industry, “complementary assets,” or resources that can raise the value of a firm's technological innovations, will remain important as a means of strengthening a firm's ability to generate profits. This will be true both for developed and developing markets. As the

basis for competitive advantage shifts from product differentiation towards complementary assets, we may also witness the emergence of a new breed of competitors, one that offers a portfolio of handsets from different suppliers – just as has been done in the IT-services industry. •



## Hollywood speaks out on mobile entertainment

by Mats Thorén p. 12

**MOBILE TV IS STILL** in its infancy but it is clear that Hollywood does not want to miss out on the action. Carriers, content providers and handset makers are trying to come to terms with one another over mobile entertainment and digital media in what seems to be very much a love-hate relationship.

“Some companies are throwing a lot of money at mobile TV,” says Bill Sanders, who is vice president for Mobile Networks Programming at Sony Pictures Television International and who has worked previously for many big Hollywood studios and TV networks.

Digital technology means a profound change for the studios, one that challenges conventional media wisdom.

First of all, a mobile TV is not just a portable TV set. Understanding how mobile viewers’ situations differ is, of course, essential. First on Sanders’ wish list is a stop-and-resume button.

“If there’s any viewing situation where you’re likely to be interrupted, it’s when you’re consuming content on a mobile

phone while out and about,” he says.

The flip side for mobile carriers and others trying to find the right model for video on phones, Sanders says, is that people know conventional TV and are used to that experience – which makes it easy to market.

It is crucial that studios and other production companies start tailoring content especially for mobile devices; otherwise they will not be able to charge premium prices for content. Sanders is also surprised at the rush towards DVB-H, DMB and the like, which transmit video one way.

“It seems counterintuitive that they are parroting a 70-year-old business model when that very model is under tremendous pressure to change or perish,” he says.

Operators do not deliver enough of the timely and qualitative data they need to fine-tune their programming or develop the right programs in the first place, and to prove their value to advertisers. This is a big problem for media companies.

Sanders says TV-ratings research for mobile video is needed, preferably from an inde-

pendent third party. The feeling is, he says, that the telecom industry still largely distrusts the internet business model, or finds it difficult to accept.

“Operators see mobile data like a health-club membership: they want you to pay your monthly fee but not show up too often.”

What hampers the dialog with operators is their great fear of becoming “dumb pipes.”

“That might be the outcome if they get it wrong,” Sanders says. “But I would like them to think they could become “smart pipes.”

There is one market insight that Sanders says may not have sunk deeply enough into the mobile-operator psyche: the importance of marketing.

“We’d love to apply the ad-supported model to the mobile ecosystem,” he says. “Perhaps accurate measurement, internet-style, targeted ad-serving and a less short-term approach from all parties will allow it to take root.”

## It’s what you know about who you know

by Arda Cetiner p. 50

**WILL DATA REVENUES** be enough to beat the competition in a mature market? One way to address the challenges of such a market is through better customer relations.

What makes the mobile phone unique in marketing is the way it takes a permanent share of the customer wallet as it is used for an ever wider range of purposes. Mobile phones today are even more important as their functions expand into new areas, including mobile payment, video and TV applications.

A mobile phone is unique in that it leaves its footprint on the operator system waiting to be consolidated and used. No other loyalty device – no loyalty card or credit card – on the market has as much potential to consolidate useful information with so much functionality.

There are already cases that prove how bundled products help lock customers in. Matching the right bundles to customer groups is the way to increase customer lifetime: customers are willing to pay a little

extra to avoid the cost of switching to another operator.

When building business cases, the value creation from customer lifetime value is often ignored. Operators can expect up to a 50 percent improvement in customer lifetime value from the locking effect of bundling and increased lifetime value, even without increases in total ARPU.

TV advertisers do not know who watches the TV ads they create, or even whether they are being watched at all. Knowing what people are doing when and where is a unique combination of information for telecom companies. Enhanced location services, such as proximity-based services, will add even more dimensions to understanding customer behavior and needs.

The booster-effect value model illustrates how customer usage and use of customer information triggers a continuous cycle of service enhancement. Additional sales of non-voice services end up creating additional data and learning. The effect is

profitable only if operators can manage the enriched customer information collected, consolidated and integrated.

Fixed-mobile convergence makes it possible to identify users of shared resources. Bundled sales will enable operators to match the user to the application form. Unification of the subscriber information will become more important for customer services and billing as the underlying systems converge in the future.

What operators should keep in mind is the value of the customer information generated through new services, which was not available before. Convergent services and terminals provide a unique opportunity for operators as owners of customer, mobile phone and CRM data. Operator technology and marketing capabilities will determine how much value can be generated from the booster effect.

## Swimming with the sharks

by Marc LeClerc, p. 18

**UNFORTUNATELY, UNCERTAINTY** and fear are major drivers of the telecom industry today. In its fear of disruptive competition from the internet, the media industry is starting to realize that digitization of content provides not only a low-cost means of distribution, but also multiplies the way such content can be used and packaged for consumption. And perhaps the greatest amount of uncertainty is experienced by those trying to keep up with user wants and needs. While all this is going on, voice revenues per user are declining.

The potential for new uses will not translate unassisted into increased revenue streams for operators. Operators will have to embrace business models, strategies and practices usually seen in the retail world.

Creating a much broader offering of content and applications will require more than a significantly expanded value chain with cross-industry partnerships; it can happen only if we increase by orders of magnitude the number of parties involved in developing new content and service

ideas. This presents a dilemma, because the telecoms community has only limited channels to the general media and developer communities, and they, in turn, have limited awareness of the commercial content and application opportunities that telecoms make possible.

Fortunately, most multimedia content and services developers participate in a broad network of platform vendors, tool suppliers, open-source communities, aggregators and hosted application services. This is called the “ecosystem” approach, and, as with a biological ecosystem, it works best when all members fulfill their roles in the chain.

An ecosystem approach makes it possible to enter these markets gradually, building a position of strength through progressive investment in that market and the network of partnerships needed.

Sometimes, by working together with competitors in some areas, there is an opportunity to boost the overall market significantly.

Another major benefit of this common approach is that it provides a broader market for content and application developers, reducing their business risk and hopefully attracting even more developers.

A few things to keep in mind when employing the ecosystem approach:

- Diversify the offering – let the customer be your guide
- Diversify sourcing – the more partners the better
- Embrace “co-opetition” – your competitor is often your friend
- Use the characteristics of electronic distribution – build a superior “niche”
- Progressive engagement.

This approach is radically different from the “killer application” and IPR mentalities we have held onto in the telecoms industry so far. It is indeed a daunting task for the members of our industry to join with the internet and media industries in creating the new networked multimedia market. •

## Getting the picture right

by John Yazlle p. 7

**MOBILE TV OFFERINGS** launched around the world have met with mixed success. Results from a survey by Ericsson ConsumerLab finalized in early 2007 show that about 70 percent of mobile-TV users rated their mobile-TV services as either “so-so” or unsatisfying.

The reasons for end-user frustration with mobile-TV services can be grouped into four areas:

- Usability – ease of use and switching channels
- Quality of service – sound and picture quality and whether the service works everywhere
- Content – interesting programs to watch and an adequate number of channels
- Affordability – users would watch more if costs were lower.

Fixing the basics involves improving the end-user interface and the quality of service.

Dealing with quality of service requires an end-to-end perspective in addressing these issues. On the handset side, screen

size and resolution are the major criteria. On the network side, coverage and bit rate/codecs are the most important.

When it comes to terminals, companies need to test and identify which handsets are more suited to mobile TV and then establish a comprehensive monitoring and improvement process.

Because content is local and mobile phones are personal devices, developing content for mobile TV requires in-depth understanding of local and individual consumer needs.

Some companies have been using models such as events and trials to increase service awareness while others have offered free mobile-TV trials for new customers from certain target segments or with specific handset profiles (such as HSDPA).

After service awareness, the common barrier to uptake is affordability. The supply-management side requires understanding of the business and operating requirements for a given mobile-TV subscriber base.

Network and operations management

involves analysis of the most efficient methods for delivering mobile TV. It should include user location and density, the popularity of content, the mobile-TV format, the technology platforms that can serve each format, and regulation with regards to spectrum availability and standards, especially for dedicated broadcast technologies.

Mobile-TV delivery strategies are likely to involve a combination of unicast (one stream per end user) and broadcast (one to many) methods.

By ensuring business and operational readiness for mobile TV, companies will be able to identify where they need to invest in order to fulfill their strategic intent.

The must-have position is a case of offering mobile TV in order to have a complete portfolio of services rather than as a key value generator for the company.

The differentiator position involves companies using mobile TV as a key source for differentiation and creation of brand equity for all their services. •

## Behind the hype of unification

by Magnus Leonhardt p. 56

**THE INTRODUCTION OF IP** telephony has created exciting new forms of communication. Using IP as the backbone improves employee productivity and increases customer satisfaction.

IP and software-based technology do more than enable traditional telephony services in a cost-effective way. IP is also the new foundation for how voice services can be used in multiple, single or parallel media streams (voice, video and data), and interact with other business applications. This is what unified communication is all about: adapting the best-possible available communication stream between individuals and groups – and thereby speeding up decision-making processes.

The best-possible resources available right now may not be available via voice services, but rather via e-mail or messaging, so these options are presented. This is all controlled via the solutions presence server – the heart and soul of any unified communications solution. The status information about the user, combined with the

user profile and position, is vital in optimizing the communication flow.

Employees use the device they have on hand, which is usually a mobile phone. The issues here are that mobile phones differ greatly and are not yet IP end-to-end. They are also often regarded as personal equipment used for business needs.

Developing clients for the huge range of mobile devices is a very difficult task for the industry today. Some application and handset players have joined forces to put together something that works end to end. But this is more like a showcase with single-device support from one vendor. What is needed is multi-vendor and multi-device support for mobile unified applications in the enterprise sphere.

The challenge for the industry is not to get advanced services to mobile phones, but to get mass deployment of easy-to-use services integrated behind the firewall – reusing available devices to a large extent. Players that deliver services with end-to-end control over applications and devices will

rapidly gain short-term market share.

Today we see a base of IP-enabled enterprises building up. These are already populated to a large extent by mobile employees looking to take the next step into unified communication. The technology behind the services is based on session initiation protocol (SIP), which enables multimedia interaction between two or several end points. Mobile users will be supported by IMS (IP Multimedia Subsystem), a SIP-based standard deployed in the public network or as a subset at the enterprise domain.

Bringing these pieces together is where unified communication technology has its core value for the future. What is the real key to creating a volume business in this area? An important part of the answer can be found by looking at the software-driven business such as Skype, succeeded in finding innovative and strong business models by enabling individuals to use the services according to their needs – at the right price and with an “easy-to-use” mentality. •

## Sweet dreams of advertising revenues by Reinhold van Ackeren p. 30

**FOR SOME TIME** now, the mobile phone has been discussed as a channel for targeted one-to-one marketing. Encouraging response figures provide good arguments for advertisers to move some advertising money away from traditional media channels. Most mobile-advertising campaigns so far have been operator-independent; mobile networks are being used only as bit pipes.

Mobile-advertising features can be achieved in an operator-independent setup, but personalization in particular is a strong operator asset that leading players are now trying to exploit.

The most important question an advertiser can ask is: “Why do I need an operator for my mobile campaigns if I can reach my customers independently using all operator networks?” This may sound easy to answer but in reality it is incredibly complex and challenging for an operator. Only the mobile operator knows exactly which customer uses which content.

Anonymous advertising with a mass-

marketing approach independent of any targeting criteria represents the lowest level of personalization and has the lowest expected revenue potential. A banner on a mobile-portal site is shown to every user in the same way.

Contextual advertising is based on the surrounding content: for example, an advert for a sports brand can be expected to be more successful if embedded in sports news. This approach can also be achieved in other media, but the location information about a mobile user differentiates the mobile setup from others.

Location information enables the advertiser to target customers in a limited region, or provides regional brands with new opportunities to target their customer bases directly.

The highest level of information management requires behavioral targeting, where users receive advertisements based on their known behavior. The highest potential for exploiting mobile-specific operator assets comes from demographic

targeting. For many mobile services, such as WAP-site access, only the operator can match usage figures with user profiles and, based on this, provide relevant advertising information.

In the US, the top-10 mobile-internet sites today are provided by non-operator companies. And off-portal players are moving even further. Google will participate in the US government’s upcoming auction of wireless spectrum and is rumored to be working on a prototype mobile phone that could possibly reach markets within a year. The company could offer consumers free subscriptions by bundling advertisements with its search engine, e-mail and web-browser software.

Mobile operators can still bring specific mobile capabilities to bear, enabling better targeting and personalized advertisements, but other market players are picking up speed. Therefore, operators should decide now how they want to position themselves in the mobile-advertising value chain. •

## Mobile must learn to serve many masters

by Philip Marshall, p. 22

**A VARIETY OF INDUSTRIES** such as media, advertising, retail and healthcare will use next-generation mobile networks to deliver innovative services, and mobile service providers must position themselves to capitalize on this trend. Their network assets and points of physical presence in the service-delivery ecosystem give them a unique position as service distributors.

However, this is of limited value if they continue with a communications-centric (connectivity) approach to the market. Network architectures must become increasingly media-centric. This means they must:

- Incorporate advanced distribution architectures
- Capitalize on low-cost memory
- Apply deep packet inspection
- Develop business-process capabilities that integrate with parallel markets to support independent revenue streams beyond traditional subscriptions.

Mobile service providers investing in next generation networks are faced with

the challenge of simultaneously supporting multiple masters. They must anticipate the emergence of a slew of internet applications being demanded by their subscribers. And they cannot afford to implement high-performance, specialized infrastructure to support these applications; rather they must create an efficient service-delivery environment.

This service-delivery infrastructure is likely to consist of thin-client technology that combines utility akin to internet-browser technology, but includes extensive added value. This includes functions such as personalization, location and service-discovery capabilities that build on early market implements such as Apple's iPhone.

The communications industry tends to underestimate the valuable points of presence and intelligence that it has within its networks, whether they be devices and network infrastructures, or personalized, contextual, subscriber information. It also underestimates its value in the context of

other parallel markets, in much the same way as the internet industry underestimated the value of internet search until companies such as Google recognized the massive intrinsic value that could be created with an efficient model combined with advertising.

There are significant opportunities to leverage the open internet environment with solutions that are vertically integrated into parallel markets, such as in healthcare, car navigation systems, video surveillance, secure media distribution and integration with retail brick-and-mortar processes and customer personalization.

Service providers will implement infrastructure that parallels the internet "mash-up" concept and is anchored in established parallel markets, be they the healthcare, automotive or retail industries.

Media distribution and "over-the-top" infrastructure vendors will create significant demands for efficient traffic management and hierarchical policy infrastructure. •

## The broadband battlefield

by Karyn McGettigan p. 34

**THERE ARE TWO OPPOSING** camps fighting for dominance over the mobile broadband market. Each has formed its own strategy, with the 3G establishment on one side and the upstart WiMAX on the other. The conflict is not about technology; rather it is a business power game, with a lot at stake. The offensive was launched more than two years ago, but the face of the war is constantly changing. Some of the combatants appear in both camps, adding confusion to an already-complicated picture.

Michael Thelander, CEO of Signals Research Group, recognizes that there is a veritable struggle, with the WiMAX team presenting itself as the PC industry champion in the battle against the telecommunications industry. Thelander has no problem saying where he would put his money. "If I were a betting man, I would probably put my money on HSPA. But if you're a small company, and you have some sort of technology niche, you may do extremely well on WiMAX."

Roger Entner, senior vice president for the communications sector with IAG Research, says that on one side is the established 3G technology, whose protagonists are predominantly Ericsson and Qualcomm. He says these two companies are strange bedfellows because they found each other on the battlefield while both concentrating on that technology. They are the true defenders of the HSPA faith. On the other side are Intel, which is pushing the WiMAX standard, and the smaller chip-set providers.

Entner believes that each side is pushing the other to greater excellence. "They are like two runners in a marathon, neck and neck, pushing each other faster and faster. If you would have only one running, the speed would not be as great as with the competition at your side. This is a positive thing; nobody will die in this war."

Entner sees the victory going to a third technology: "The first 10 rounds would go to HSPA. The rest of the fight will be based on OFDM: either a successor of 802.16 or

LTE. The ultimate winner of the war will be a third technology."

Peter Jarich, research director with Current Analysis, says the HSPA camp was the first to come out with high-speed upgrades to mobile phones, and is now branching into areas such as consumer electronics and laptops. WiMAX, on the other hand, started with a focus on fixed wireless access and is therefore coming from a different direction.

Jarich is convinced that newer WiMAX has the most advanced technologies, yet acknowledges that HSPA is not just sitting around, resting on its laurels. "WiMAX is overselling itself to some extent, without really saying what the time frame is. It's so new that we're all making our best guesses. In retaliation, HSPA is really selling hard what's coming forward." In the near term, he would put his money on HSPA because of its momentum, its networks and its devices. "If it's a longer match, maybe WiMAX has a chance. Will it prevail? Probably not." •

## Networked security has arrived

by Shane McClelland, Lori Wirth and Bret Park p. 46

**TRANSPORTATION FACILITIES** around the world are undergoing major overhauls. Billions of dollars are being invested annually to modernize current transportation hubs.

In addition to capital improvement efforts, transportation officials responsible for the smooth, daily operation of airports, public transit systems, roadways and seaports face growing economic and environmental challenges.

Most transportation authorities look beyond government mandates for even more sophisticated answers: systems that can deactivate wireless devices identified as threats, biometrics for smart access and applications that trigger system-wide lock-downs during threats.

The good news is that a converged communications network can accommodate or enable these systems, as well as the voice, data and administrative traffic that is typical of any business operation. From a return-on-investment perspective, the right converged communications network may even accommodate legacy systems.

Under a next generation electronic security system's characteristics:

- Situational awareness is a function of contextual information delivered to decision-makers in a timely manner.
- Contextual information is derived from the integration of previously stand-alone security applications.
- Video content is the cornerstone element of contextual information.
- Current security-system communications capabilities are not designed to transport large amounts of video traffic, let alone integrated video with audio and data traffic.
- Real-time decision-making is based on video-based, contextual information and real-time communications capability.
- A scalable network environment provides room to grow with advancements in security applications. And then there is the enormous promise of mobile communications in this environment.

Beyond operating efficiencies, passenger transportation hubs usually generate revenue from retail tenants such as shops and

restaurants who need a network for transactional data.

There are four major steps to improving your security operation. And no single company does all of it. A communications provider is typically involved in steps three and four on the following list, and works with its security team or partners for steps one and two.

1. Risk and threat assessment.
2. Site survey and security-system design.
3. Communications system design.
4. Installation, technical assistance and staff training (on-site maintenance and operations when desired).

Asking the right questions could mean avoiding the selection of the wrong partner. The vendor should have in-house capabilities to provide end-to-end fixed and mobile infrastructure, strong relationships with technology partners and experience in integrating legacy systems with next generation applications. •

## Cutting a bella figura

**WITH ITS OWN MEDIA COMPANY**, Telecom Italia Media (TI Media), Italy's leading telecom operator, has set up a one-stop shop for developing, planning and producing television content and multimedia services. Antonio Campo Dall'Orto is CEO of the new media company, called TI Media.

"Many players in the industry think content looks easy – it is not. Italian users are asking for more and more, and you get one chance to show them that your service will work. With Telecom Italia Media, we now have a unit that focuses 100 percent of its daily activities on media and multimedia services," he says.

Operating three digital terrestrial television channels and five satellite channels, Telecom Italia Media's core business is in newswire output, television production, and content for television and the web through the brands La7, the TI-controlled MTV Italia and TMnews (APCom). Business growth is dependent on advertising from TV and the access market – and the

digital terrestrial TV market continues to expand in Italy. Also, Italian users can view La7 and MTV content on their small screens for the next five years through DVB-H technology.

"The objective of Telecom Italia Media is very clear," Campo Dall'Orto says. "First of all, we want to become a relevant player in the Italian market. But establishing Telecom Italia Media is also part of the overall strategy for Telecom Italia. The goal is to reposition Telecom Italia when it comes to multimedia content."

Telecom Italia needed Telecom Italia Media as a way to mobilize all the relevant skill and experience across the entire organization so that Telecom Italia could become a leader in content as well.

"I think our business model is more modern than those of the classic TV companies, and with MTV, Comedy Central and Nickelodeon, we have a leading position when it comes to music and comedy. As the only media-driven telecom company in Italy, we have committed ourselves

by Staffan Thorsell p. 26

to an attractive and complete multimedia offering."

So while most traditional telecom players move away from owning their own content, Telecom Italia Media is moving upward – expanding the entire chain of production, packaging and distribution of content.

Giving the consumer a consistent user experience means adapting the content to the relevant screen, making it interactive and, above all, making it available at all times – regardless of what device the consumer may be using at any given time.

"The phone really is more useful for peer-to-peer communication, and you will never watch 'normal' content on it. There must always be a real, strong interest."

Examples of the right kinds of mobile-TV content are three-minute, self-contained, entertainment clips, interactive TV, video sharing and uploads. •