THE REGULATORY ENVIRONMENT FOR FUTURE MOBILE MULTIMEDIA SERVICES

CHAIR'S REPORT

Introduction

1.   At the invitation of the ITU Secretary-General, a workshop on "The Regulatory Environment for Future Mobile Multimedia Services" was held in Mainz, Germany, from 21-23 June 2006, hosted by the German Federal Network Agency (BNetzA). The workshop was organized as part of the ITU New Initiatives Programme.[1] Some 60 experts participated in the workshop, representing a range of regulatory and policy-making agencies, mobile operators, service providers, academic institutions, private firms, and others. Those present at the meeting participated in an individual capacity. Dr. Pascal Verhoest, Managing Director of DISC and chair of Political Economy of Communication at the Free University of Brussels (VUB), chaired the meeting.

2.   A number of thematic papers and case studies had been commissioned and were presented for discussion at the workshop, including: "*The Regulatory Environment For Future Mobile Multimedia Services: Issues Paper*" (presented by Lara Srivastava, ITU), "*Towards more flexible spectrum regulation and its relevance for the German market*" (presented by Scott Marcus, WIK Consult), "*The Regulatory Environment For Future Mobile Multimedia Services: The case of China and Hong Kong SAR*" (presented by Xu Yan, Hong Kong University of Science and Technology) and a *Study of the ICT Sector in Germany* (presented by Reinhard Wählen, Motorola)[2]. In addition, a number of other country-specific and thematic

Figure 1: Market trends

cases were presented. The meeting was opened by Matthias Kurth, President of the German Federal Network Agency, who explained that workshops of this nature are intended as a "bridge of knowledge" to help in promoting ICT development worldwide. Tim Kelly, Head of the ITU's Strategy and Policy Unit welcomed guests, noting that it was appropriate to hold such a meeting in Mainz, the birthplace of Johannes Gutenberg whose invention of the printing press gave birth to the information society.

Background Issues Paper

3.   Lara Srivastava, Director of the ITU New Initiatives Programme, presented the background issues paper for the workshop. She highlighted a number of trends (see Figure 1) and technologies (see Figure 2) which are shaping the mobile multimedia environment. Mobile phones have become an indispensable part of our daily lives. Indeed, around one in three citizens worldwide owns one. She argued that trends towards the personalization of mobile
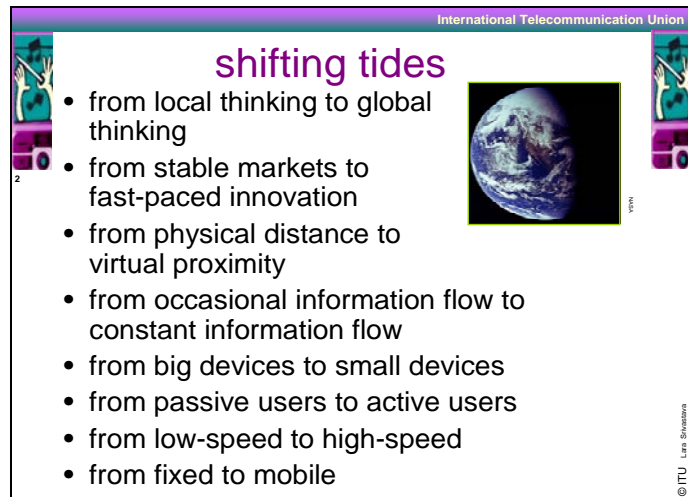
Figure 2: A vision of future mobile multimedia evolution

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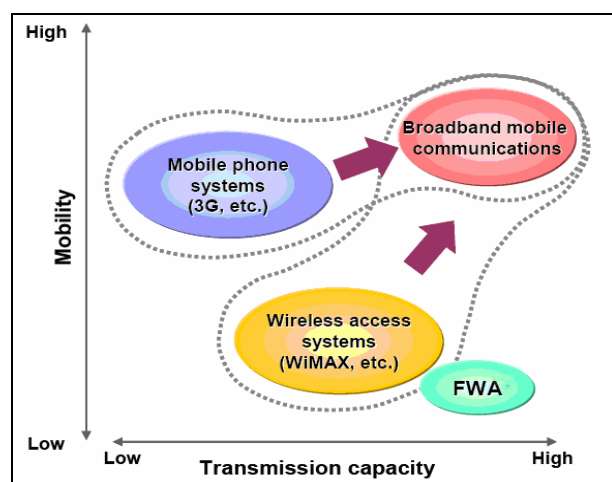
[1] For more information on the ITU New Initiatives Programme, see http://www.itu.int/spu/ni.

[2] All of the meeting documents are available on the ITU website at: http://www.itu.int/multimobile/ and will be published later as part of the ITU New Initiatives series of publications. Workshop presentations can be downloaded at http://www.itu.int/osg/spu/ni/multimobile/presentations/index.html

phones will intensify and that this will raise new concerns over issues like privacy, identity theft and location-based services. She argued that there is a risk of consumer backlash, or reluctance to adopt, if these consumer fears are not tackled. In addition, as mobile services become harder to live without, the pricing of certain non-transparent user costs—such as roaming charges, SMS or download fees—is a key regulatory issue. The paper sets out the issues on the agenda of the workshop; namely on consumer protection (chapter 3), competition policy (chapter 4) and regulating in a converging environment (chapter 5).
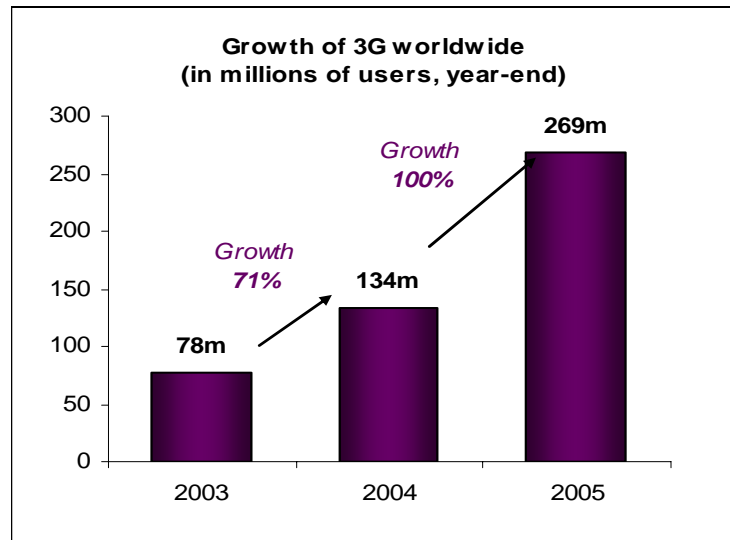
Figure 3: Estimated 3G subscriber growth, worldwide

Trends in mobile multimedia markets

4.   A number of presentations looked at trends in mobile multimedia markets. Panu Mustonen, Satama Interactive, looked at trends in handset design and usage, where music download is emerging as a potential market driver, if only because it is an excellent marketing tool for operators. In addition, the market for online games is now beginning to take off as worldwide ownership of 3G mobile phones has reached around 270 million by the end of 2005 (see Figure 3). Key concerns for regulators are likely to include payment methods, countering viruses/malicious applications and digital rights management. Armadeo Sarma (Network Development Laboratories, NEC Europe) looked at how handset design is evolving to take account of the fact that non-voice traffic provides an increasing share of the revenues of mobile operators.
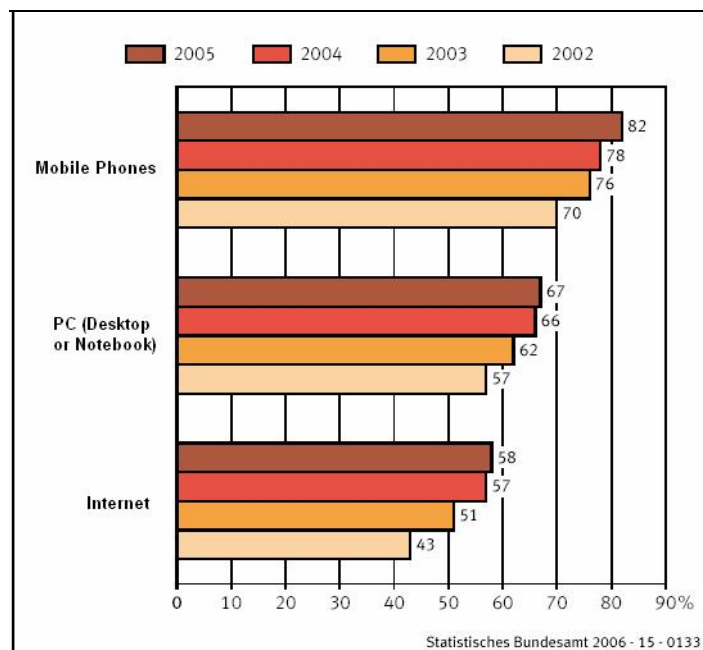
Figure 4: Penetration of selected ICTs in Germany, 2002-05

5.   Todd Harple (INTEL Digital Home Group, USA) presented research results from the study "You *can* take it with you", which looked at how mobile phone use in different countries was closely related to socio-cultural norms. It showed the extent to which the mobile phone becomes increasingly integrated with, or even substitutes, for behavioural patterns and lifestyles. One element of the research programme looked at what items were carried around in daily life by people in different countries, as these would be candidates for integration with future mobile handsets.

6.   All three speakers supported the view that supply-driven strategies of the past were insufficient to predict consumer demand, and that this situation would only be exacerbated by the ongoing transformation of the role of the consumer into active producer of content and inventor of new uses.

Case studies

7.   The countries selected for the case studies each represented early adopters of mobile multimedia services in their regions.

8.   The case of **Germany** was presented by Reinhard Wählen, Motorola. He demonstrated how Germany is leading in certain fields, like mobile phone and fixed-line broadband deployment (see Figure 4), but should accelerate in other areas, such as computers in schools or the declining number of information science engineers graduating each year because the development of an multimedia environment can not be seen separated from other related political areas like research investment. His main message was that "information is the main driver" of new mobile technological developments and that Germany should grasp this dimension.

Figure 5: Revenue from China Mobile's non-voice service (RMB million)
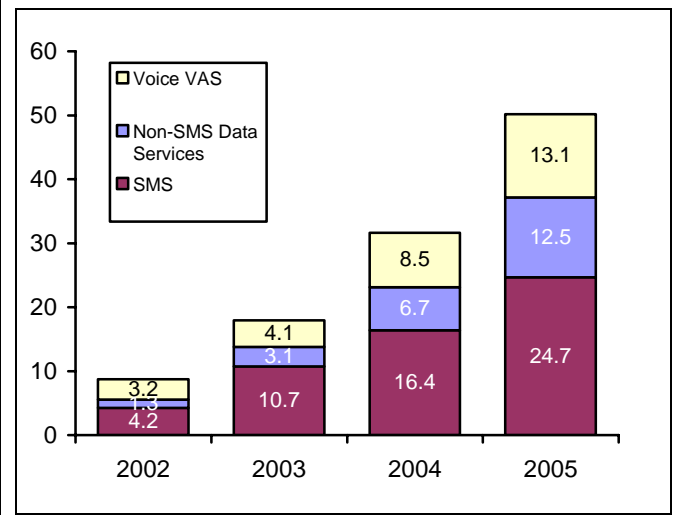
9.   The case of **China and Hong Kong SAR** was presented by Yan Xu, Hong Kong University of Science and Technology. Although the two markets share many characteristics, they had developed quite differently. For instance, although SMS is growing fast in China (see Figure 5), and providing around 10 per cent of China Mobile's total revenue, it never really took off in Hong Kong, as a result of the highly competitive voice market and relatively cheap voice services. On the other hand, mobile TV has been pioneered in Hong Kong, with amateur video clips such as "Bus Uncle" (which shows an argument between two men on a bus over mobile etiquette), becoming a surprise hit with almost two million viewings. Content-related issues are an area in which there is significant divergence between the two economies. China is taking steps to avoid the use of mobile data services for fake, obscene or deceptive content through direct governmental action (e.g. "Sunshine Green Network Programme"), while Hong Kong is relying on the rule of law to tackle content issues (i.e. through drafting new legislative provisions).

10.   The **case of Japan** was highlighted by Akihisa Kodate, Tsuda College (Japan). The speaker presented the current status of the Japanese 3G mobile market, including new services and handsets, and presented the country's vision of the future ubiquitous network society. Japan has been one of the pioneers of 3G mobile, with the market approaching 100 million users in mid-2006, and 90 per cent of new handsets sold. Recent market innovations include integrating contactless smart cards (FeLiCa) into handsets for processing payments, increased memory for multimedia use, digital TV use and customized handsets for young children and older people. In 2005, the use of mobile (both mobile-only and mobile and PC) overtook PC as the most popular means to connect to the internet in Japan. A large proportion of users are 3G users in Japan, e.g. 85 per cent of users of the operator KDDI are 3G users (cdma2000). Recently, due to an opening up of the spectrum, new entrants e-mobile and IP mobile will be in a position to begin competing service offerings in late 2006. New developments include Digital TV broadcast, though handsets are still limited. DoCoMo and Vodafone/Softbank plan to launch HSDPA in late summer2006, and the long-awaited introduction of MNP (mobile number portability) will occur in October 2006.

11.   All three case studies confirmed that geo-political, economic and cultural factors all play an important role in the evolution of mobile multimedia markets. This is reflected in diverging industrial policies, different attitudes towards content regulation and consumer protection, as well as varying technological trajectories in both the design of end-user devices and network development.

Background Paper on flexibility in spectrum regulation

12. The second **background paper** was commissioned by the German Federal Network Agency for the ITU workshop and addressed the issue of flexibility in spectrum regulation. It was presented by Scott Marcus of WIK Consult, who began by noting that this flexibility is not an end in itself but a means to an end. As spectrum should be made available to the highest valued usage (see Figure 6), choices have to be made, particularly as spectrum is limited. The primary models of spectrum management were discussed (i.e. command and control, market mechanisms and the commons model), which corresponds to three decision-making regimes (i.e. government-led, market-led, technology-led, respectively). The study covered US, UK, Canada, Australia, New Zealand, Guatemala and Germany, among which strong parallels were found, notably the move away from government-led command and control towards market-based mechanisms, and in some cases, the commons mechanism. In line with the highest-valued use principle, transfers/trades/leases should be permitted wherever possible and transaction costs minimized. The tension between liberalization and harmonization was emphasized. Market-based mechanisms have definite advantages such as the avoidance of needless constraints of spectrum, the creation of artificial scarcity, and the simplification of migration from 2G to 3G services. It was noted that if complete flexibility is chosen, the stabilizing effect of regulation is likely to be lost and market developments become less predictable. It is vital to strike a suitable balance by ensuring that the risk of harmful interference is mitigated, the benefits of harmonization retained, and the legitimate interests of current licensees recognized.
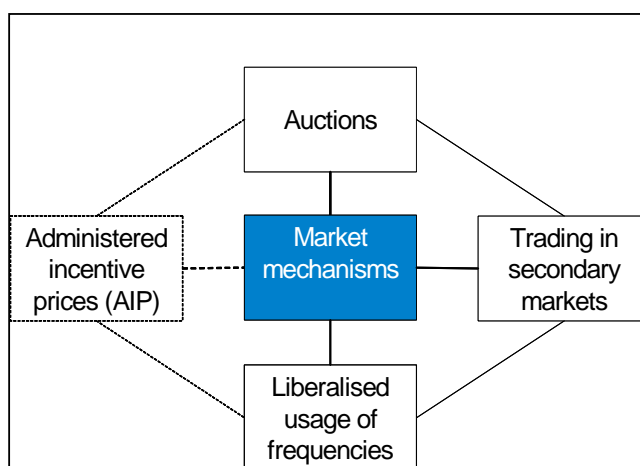
Broadcasting in an era of convergence

13. Soeren Hess, BMCO Forum, argued that a wide variety of players are interested in capitalizing on mobile broadcasting, from content creators and content aggregators to service providers and regulatory bodies. Correspondingly, he pointed to the changing structure of the media industry, due to the rise of cable TV, satellite communications, fibre networks and mobile technologies. At the ITU Regional Radio Conference (RRC-06), a harmonized date for digital switch-over was set for 2015 for most countries. However, it was suggested that this may be too late. Participants argued that the flexibility needed to provide multimedia was not sufficiently discussed at the RRC-06, notably requirements for indoor coverage. Further content regulation to facilitate mobile multimedia may also be needed. Most importantly, regulatory certainty for mobile broadcasting was called for prior to digital switch-over. In addition, key challenges include: the danger of market fragmentation, adapting national media regulation to mobile multimedia, regulatory certainty on frequency allocation, and the need for a harmonised approach for seamless service provision. Chris Weck, IRT, stated that broadcasting would thrive in the age of convergence. However, he pointed to the fact that operators stand to make five times the revenue in highly populated areas compared to rural areas. There is thus the risk of a new form of digital divide: cheap access to mobile broadcasting in cities and very expensive (or inexistent) access in rural areas. A proposal was put forward to provide a subset of mobile free-to-air broadcast services, which would be available to everybody (everywhere) independent of income and location. For this to be possible, however, strong cooperation is needed between public service broadcasters and commercial service providers.

14. The panel agreed that the mobile phone will be an important device for broadcasting in future. Panelists supported the statement that market mechanisms are preferable, when they are workable and effective, and made the additional observation that though some industry players wish for less regulation, TV broadcasters in particular are looking for more predictability. How can these different needs be balanced?

Dynamic spectrum use and usability

15. The panel on dynamic spectrum use, consisting of Eric Fournier (ANFR, France), Philippe Lefebvre (European

Figure 6: Encouraging "highest valued usage" of spectrum

Auctions

Administered incentive prices (AIP)

Market mechanisms

Trading in secondary markets

Liberalised usage of frequencies

Commission), Alfred Mutinelli (T-Systems, Germany) and Anirban Roy (Ofcom, UK), began by looking at the development of cognitive radio and ultra wide band (UWB), with the caveat that these developments will not obviate the need for spectrum policy or harmonized spectrum allocation. Spectrum trading can be used to help correct the structure of the market following initial spectrum allocation through methods such as auctions. However, in those countries allowing spectrum trading, the number of transactions is still low. Spectrum use is to be optimized not only from economic standpoint, but also has to take into account the overall societal value. This has to be done through the collaboration and consensus of a number of stakeholders. It was noted that, in the pursuance of flexibility, one might be constrained by the current service definitions as set out in the ITU Radio Regulations. It was suggested that ITU focus on interference issues, rather than the precise services or technology. Some panelists pointed to the role of harmonization as a temporary measure, i.e. as a helping hand to kick-start new services. It was noted that if spectrum allocation occurs too early, regulators risk taking the wrong decision, but if it happens too late, the market might miss out on important innovative service development. Participants supported the overall view that industry is keen to strike a balance between flexibility and harmonization.

16.   The point of view of one of the operators was to introduce new measures with caution and to avoid discriminating against existing users of spectrum. It was agreed that the most important factor for existing market players was confidence in the restructuring process. A key question raised was how to allow for regulatory certainty in concrete terms, and how to translate philosophical objectives into real terms. The best approach may be a form of "managed flexibility" - in other words, a model of regulation which is responsive to market and technological developments while remaining predictable.

Promoting and diversifying mobile content

17.   Christoph Legutko, Intel, raised the question as to whether or not mobile operators truly understand the vital question of bandwidth. Moreover, the use of technology should not be a struggle, as it is today for many PC users, but rather a source of enjoyment and support for users. Not surprisingly, industry is shifting its attention from deploying infrastructure to delivering entertainment. Luca Galli, Neos, stressed the importance of delivering content services in conjunction with contextual information, e.g. parameters such as weather and ambient temperature, the location of the person, the activities of the person at a given time, their mood, their physical condition, and their social relations (if they would prefer to join a group or be alone). Different business models for context-aware applications are likely to co-exist: e.g. subsidized products/services, premium access, interactive marketing and advertising. As a result, new roles will be created, for both new and existing actors. Eric Lenseigne, Alcatel, introduced in his presentation, the use of mobile satellite systems and complementary ground components for the provision of mobile broadcasting. He then spoke of mobile TV as a key platform for developing content and reiterated the need for spectrum allocation in this context. He focused on the need to work towards full coverage, unhindered mobility, and enhanced user interactivity. It was noted that it will be vital not only to adopt technology, but also to adapt it to an individual's specific needs.

18.   Serge Ferré (Nokia) told the story of the development of mobile TV in Europe. Work on the DVB-H standard began in 2002 and was accepted as an ETSI standard in 2004. Chipsets were launched in 2005 and the commercial handsets launched in 2006. Market testing has suggested an 80% level of acceptance of the concept of TV and where the service is already being delivered (for instance, the pilots in Oxford, Barcelona and Paris), user satisfaction is above 70 per cent. The acceptable price point appears to be €5-10 per month.

Protecting the consumer in a pervasive multimedia environment

19.   Important concerns relating to the protection of minors were presented by Richard Swetenham (Safer Internet Group, European Commission). Mobiles have brought direct accessibility to individuals, and in the case of children, allow easy bypass of parental supervision. The TWF (Television Without Frontiers) directive (revised 2005) has specific provisions relating to minors, and has been adopted by Member States, as have the recommendation on protection of minors and human dignity of 1998 (revised in 2004). However, much more can be done. Specific concerns are raised by new media, namely "content and contact". The content which is available on the internet varies widely today and is not necessarily suitable for all ages. The possibility of contact with strangers is also greater with mobiles due to their intimate nature, the possibility of anonymity and misrepresentation (e.g. pedophiles posing as children). Mobile phone use is reported to be widespread among minors – a survey in 2005 revealed that in the European Union, 70% of 12-13 year olds have a mobile and 23% of 8-9 year olds. The Commission has set up a network of hotlines for reporting

illegal content (e.g. child pornography) and mechanisms for co-regulation and self-regulation. Some of the lessons from the Internet experience can be recycled in the mobile world, e.g. classification of commercial content, filtering and blocking, age verification and awareness-raising. Other measures include preventing distribution of illegal content hosted overseas, parental controls and national hotlines. The Commission is in discussion with mobile network operators regarding a memorandum of understanding at the European level, to crystallize a set of best practices.

20.   Rob Borthwick, Vodafone, stressed that visual content is going to become increasingly pervasive when higher-speed mobile networks become more widely available, especially relating to multi-player games and social networking. He pointed out that the most recent issue relating to mobile is not about too little access, but too much access – e.g. subscription services that cannot be cancelled. Ubiquitous networks will also be an important development, as we may no longer have separate mobile regulation. Moreover, good regulation starts with good evidence, and thus detailed evidence on user experiences needs to be gathered (e.g. user surveys that investigate the true patterns of use).
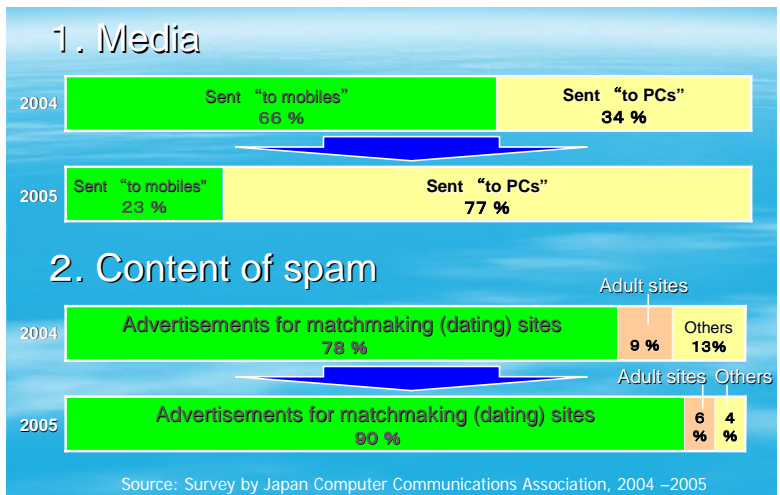
Mobile multimedia and the law

21.   Ingrid Silver, Denton Wilde Sapte (UK) presented the issue of copyright, both from the point of view of piracy and the distribution of appropriate royalties. The importance of digital management tools (DRM) was stressed, in particular those put forward by the Open Mobile Alliance (locking, encryption etc). She emphasized that technical solutions are only one part of the solution and that commercial and market-based mechanisms are equally important. In terms of content regulation, the proposed changes to the EU Television Without Frontiers (TWF) Directive were presented. The new proposed Audiovisual Media Services Directive (AMS) extends content regulation to on-demand programming, in an attempt to achieve technology neutrality. It also relaxes advertising rules, making them more predictable in terms of mechanisms such as product placement. Another issue discussed was access to premium 3G sports content. At the moment, TV sports and mobile sports are regarded as distinct market segments. However, this may change in the future, and the Commission has identified a number of areas of concern, including the potential failure to exploit premium content. The growth of user-generated content will further blur the boundaries between linear and on-demand services.

Spam on mobiles

22.   Natasha Jackson of the GSM Association (GSMA) presented the GSMA's code of conduct on mobile spam, launched in February 2006, with signatories in over 60 countries to date. Mobile spam can be defined as unsolicited communications sent via SMS or MMS, advertising a commercial service or product, or encouraging a premium-rate call, which are typically fraudulent. The reason spam has been less prevalent thus far on mobiles is that mobile environment is inherently unfriendly to spam, e.g. in calling party pays systems (where there is a cost to sending messages), or by withholding premium service payments (stopping spammers from benefiting from premium rate revenues. Customer tools include spam reporting facilities, unsubscribe mechanisms, in addition to technical initiatives such as network filtering and traffic analysis. Still, there is disparity in national legal environments (opt-in vs. opt-out) and spam sent internationally is harder to combat. The GSMA code includes six key commitments: inclusion of anti-spam conditions in contracts with 3rd party suppliers, provision of a consent mechanism for customers with respect to their own mobile marketing communications, national and international collaboration, provision of information to customers to help minimise spam, other anti-spam activities (e.g complaints investigation, monitoring traffic for signs of spam), and finally, fostering government and regulators to support industry in these efforts. Four main areas were identified for government and regulators: supporting industry self-regulation mechanisms, supporting the development of

Figure 7: Some characteristics of spam in Japan

1. Media

2004 — Sent "to mobiles" 66 % | Sent "to PCs" 34 %

2005 — Sent "to mobiles" 23 % | Sent "to PCs" 77 %

2. Content of spam

2004 — Advertisements for matchmaking (dating) sites 78 % | Adult sites 9 % | Others 13 %

2005 — Advertisements for matchmaking (dating) sites 90 % | Adult sites 6 % | Others 4 %

Source: Survey by Japan Computer Communications Association, 2004 –2005

responsible mobile marketing, reviewing national legislation that may inhibit anti-spam activities, and finally, considering steps that prevent spammers from profiting financially from their activities.

23.   Yoshichika Imaizumi, MIC, presented Japan's experience with spam (Figure 7), and anti-spam measures. Japan enacted two laws to cover both mobile and PC spam, as of 2002. Users were given the choice in 2003 to block all PC-originating email. In 2005, the anti-spam law was enacted, introducing direct penalties. MIC has a five-part anti-spam strategy: effective government enforcement, self-regulation by the private sector

Figure 8: Examples of Mobile Internet access charges in Europe

Ireland to Germany
- Vodafone
  – € 8.00 on Vodafone
  – € 6.90 on T-Mobile
  – € 11.78 on E-Plus
- O_2 (Telefonica)
  – € 7.79 on O_2
  – € 11.10 on Vodafone

Belgium to Germany
- Proximus
  – € 8.86 on T-Mobile
  – € 15.13 on E-plus
  – € 29.54 on Vodafone
  – € 8.47 on O_2
- Base (KPN)
  – € 12.50 on E Plus, O2, T-Mobile & Vodafone

Prices are per Megabyte. Warning these are not user data, but include all the TCP/IP overhead.

(including information exchange between operators), developing anti-spam technologies, enhancing awareness, and international cooperation. Sanctions are seen as an important mechanism to counter the impact of spam. As a result of this strategy, the number of spam messages sent from mobiles decreased dramatically (see Figure 7). The MIC calls for international cooperation, through a wide variety of forums, including ITU and OECD. The panel concluded with the need for greater dialogue between industry players.

Regulatory conundrums

24.   Ewan Sutherland highlighted some of the conundrums currently facing regulators, especially within Europe. Current vital issues include roaming charges, overpriced rates for SMS and call termination, arrangements for wholesale access (e.g., to mobile virtual network operators) and the price of mobile access to the Internet which vary widely (see Figure 8). New regulatory proposals are expected to be introduced shortly by the European Commission which may establish maximum prices per minute for roaming. However, operators are already taking voluntary action to reduce rates (perhaps in collusion) to head off the threat of legislation. Operators also face threats to their revenue from VoIP offered over mobiles, and regulators will need to determine whether or not operators should be able to block VoIP over their mobile networks.

25.   A particular problem in Europe is that instances of market failure (such as, above-cost termination rates) and market abuses (for instance, mobile subscriptions that are almost impossible to cancel) sometime take years to resolve because of the tendency of operators to appeal against every regulatory decision. Competition law may offer a better alternative to sector-specific regulation in this regard.

What did we learn from 2G mobile that we can apply to a 3G and post-3G multimedia environment?

26.   Some of the relevant factors for the success of 2G mobile include uniform standards, worldwide harmonized spectrum allocations, and minimal regulatory intervention. Today, product life-cycles are much shorter and licensing costs are higher. According to Dr Tilman Makatsch (T-Mobile, Germany) the future market development is uncertain because of pressure from new competitors, as well as from a different regulatory approach. He proposed a "wishlist" of the regulatory environment that operators would like to see (see Figure 9). There is also a challenge of how to develop business models which will make the best use of the newly-available bandwidth (up to 10 Mbit/s with HSPDA). The four German operators are developing a DVB-H Showcase in certain German cities during the FIFA World Cup and T-Mobile has acquired the rights to deliver 20 live matches.

27.   Sergio Ramos (Universidad Politecnica de Madrid) argued that, in looking to learn lessons from 2G, it is necessary to take a combined approach to encouraging competition in both services and infrastructure, aligned with public policy goals. 3G also introduces new dimensions into market regulation, such as digital rights management, spectrum management, interoperability, appropriate pricing mechanisms, and data protection. Panelists supported the view that many of these crucial issues have not yet been addressed in any coherent manner, and finding solutions will require a forward-looking approach. The responsibility and collaborative spirit of all players involved should be engaged, despite competitive pressures. Operators, content providers and manufacturers of end-users devices have traditionally been operating in different markets and under different regulatory regimes. Regulators and international institutions will have to play an important role to stimulate dialogue among these various players.

Competition policy and role of MVNOs

28.   Bernard Hill, Head of Competition Affairs, OFTA, argued that the key to the success of mobile in Hong Kong (which has one of the highest level of mobile penetration in the world) was infrastructure competition. There are five major players in the mobile market, with a variety of

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Figure 9: A regulatory "wishlist" from a mobile network operator

Requirements for successful development of mobile multimedia markets:
- Harmonized EU-wide approach concerning use of digital dividend and allocation of spectrum resources to avoid fragmented markets
- No extension of regulation to emerging markets: regulation of new innovative services would reduce incentives for innovation and investment
- Enabling of industry driven solutions for interoperable technologies
- Ensuring access to (premium) content
- Enabling encryption and DRM systems
- Cooperation of all relevant players including (public) broadcasters!

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different licences. Prices are low, innovation intense and competition is fierce. However, one of the features of this is that Mobile Virtual Network Operators (MVNOs) have found it difficult to carve out a role in the market, with only a 6 per cent market share (between seven 2G MVNOs) and no 3G MVNO yet in the market, despite the fact that OFTA introduced a provision for this in the licensing of 3G. The one exception where MVNO operators have found a niche is in terms of roaming. Here, an alternative based on international call-forwarding services (ICFS) has emerged . It offers potential cost savings of up to 90 per cent compared with GSM roaming charges and is being used as a basis for MVNOs offering low-cost roaming, in particular between Hong Kong and mainland China.

29.   Justus Haucap, Ruhr University (Bochum, Germany), presented examples of the experiences of MVNOs in various European countries. The numbers of MVNOs in operation range from more than 30 in Belgium and Netherlands to none at all in Italy and Spain. He argued that the desirability of regulation of MVNO market access will depend on which market structure is adopted in any one particular case.

Towards international coordination and global dialogue

30.   The final panel of the workshop was moderated by Tim Kelly, ITU, who invited participants to focus on the priorities for international and regional cooperation in preparing the future regulatory environment for mobile multimedia. Thomas Ewers, German Federal Network Agency, emphasized the need for international cooperation using the example of the successful interregional cooperation for preparing the ITU World Radio Conferences (WRCs). Although the process of regional coordination had proved difficult, the key to success had been a transparent and open process with some shared "rules" (e.g., service definitions, bands) but also a clear commitment on the part of delegations and individuals to communicate and negotiate. His message for the improvement of the regulatory framework and the necessary international cooperation was "don't wait-do it" and stated that the key to cooperation rests with the people.

31.   Serge Ferré, Nokia, also reinforced the message that now is the time to act, and called again for flexibility with regard to the UHF band for mobile TV (using the DVB-H standard). He also highlighted the need for cooperation in the field of billing systems. Claus Sattler, BMCO Forum, proposed five targets for cooperation at the international and regional levels: overcoming technological fragmentation, ensuring interoperability, achieving economies of scale, providing a seamless service worldwide and ensuring that it is the user that is the winner. Discussion focused on the emerging industrial policy battle between alternative standards for mobile TV, with DMB being favoured in Europe while DVB-H is the preferred solution in most of Europe, if frequency issues can be resolved. Mobile TV is likely to be the hot topic at ITU TELECOM World 2006, which takes place in Hong Kong in December.

32.   The meeting concluded with a first reading of this draft chairman's report, which has subsequently been revised to incorporate comments and will now be made available to inform ITU's ongoing work, via the workshop website at www.itu.int/multimobile.