



Above: Congress delegates at the opening ceremony

Genoa 2002: A positive debate

For three days Genoa was the centre of a debate on the future of telecommunications. At a time in which it seems that the whole economy of our continent is in a stagnant phase, a group of European engineers met for a few days to determine the principles for the development of the ICT sector and, specifically, to look for technical solutions to several of the challenges facing the telecommunications industry.

This meeting, the 41st Congress organised by the FITCE, followed the well-established tradition of giving a forum to engineers and professionals from the countries of the European Community and indeed elsewhere. It was gratifying that, despite the downturn in the economy of the telecommunications sec-

tor, the number of papers submitted to the Congress greatly exceeded expectations. The result was that 43 papers, addressing the Congress theme 'Evolving Networks: Service Opportunities and Market Realities', were included in the programme (against the originally scheduled 29 slots), resulting in a full timetable with slightly shorter presentation times for each paper.

Overall, the quality of the speakers was good which was much appreciated by the delegates, as demonstrated by their level of questions and comments. It was also pleasing for the organisers to note that many delegates paid for the attendance at the Congress personally, because the normal support offered by their organisations was not forthcoming due to the economic downturn.

This year's Congress, which was organised by AIIT, proved to be an occasion dur-

ing which delegates received interesting perspectives from others and much was learnt about the future trends of ICT. The Congress offered, in addition, many points for reflection and some interesting conclusions from the three main technical sessions. The key messages from these sessions are summarised below.

From circuit-switched to IP-based networks: risks and opportunities

The theme of the first day of the Congress, which was concluded with a lively round table, concerned the drivers for operators adopting IP-based technology and obstacles to the conversion to these new networks. It became clear that different business models will be required in order for sufficient profits to be generated for network operators and service providers in providing new data services. There was clear evidence of increasing demand for ICT services, both of data and voice. However, the issue was for this demand to generate sufficient profits.

In addition to the need for increasing profits from the new services, incumbent network operators need to modernise their circuit-switched networks with packet-based technology. Currently, operators are considering both voice over ATM (VoATM) and voice over IP (VoIP)—although, the long-term solution is expected to be VoIP.

The proposed new networks offer not only the opportunities for savings in operation and maintenance costs, but also the facility for converging voice, data and multimedia services. It is expected that these new networks (termed *next-generation networks* (NGNs)) will enable the new converged services to be brought to market more quickly and cost-effectively than with existing circuit-switched networks. Concern was expressed during the session about the fact that much of the revenues attracted by VoIP network are in fact substitutional, taking profitable voice revenues off the existing networks. One might compare the impasse described above with the Gordian knot—still appearing to be an insoluble problem. The search is, therefore, on for new and consistent forms of profit that may be generated from the NGN that will enable it to form the economic solution for the modernisation of the existing circuit-switched networks.

FITCE Forum

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1 → A possible future stimulus for the transition to the new networks which was identified was the implementation of application programming interfaces (API) that could offer new ways of providing and developing services. Not only would APIs enable the network operators to better exploit their network's capabilities but, perhaps, more importantly, they may enable third parties to develop and provide innovative services off these networks as well. Some people have likened the networks in this new role as large dispersed computers, with applications and data being run via the APIs.

There was also a view expressed that the, as yet, unfulfilled potential for application service providers (ASPs) would also be facilitated by the NGN. The ASPs would provide valuable new services relating to the customer's data and applications, rather than just transport services.

A further driver towards NGN was the need to provide broadband capability in the access networks, as provided by ADSL over copper cable. It is expected that users will require such forms of access not only from places of work but also their residences in rural and urban environments. Finally, the need for greater distribution of intelligence across the network was identified as being necessary to give users access to their own service features wherever they are.

In conclusion, it was recognised that network operators in particular would have to manage the progressive build-up of NGN and the rundown of the existing networks in a way that would enable capital investment and returns to be managed.

Broadband solutions for 'the last mile' to residential customers

Three themes were debated during this session. The first addressed the technical and architectural aspects of the various

Congress personalities: Maurizio Gasparri (right of picture), Italian Minister of Communications, with Stefano Pileri, President of AIIT (left) (Chairman of the Organising Committee)



Above: **Jarmo Harno**, from Nokia in Finland, was the winner of the Congress Best Paper Award for his paper '3G Business Case Successfulness within the Constraints Set by Competition, Regulation and Alternative Technologies'.

Right: Winner of the Best Presentation Award was **Günter Martin**, from Deutsche Telekom, for 'ASP—Evolving Applications for Evolving Networks. Deutsche Telekom's Strategy and Experience'.



Right: Winner of the award for Best Presentation by a Young Engineer was **Giuseppe C. Putorti**, Wind Telecomunicazioni SpA, Italy, for 'Handsets Technology Evolution from 2G to 3G: A long journey in a short time'.



solutions for providing broadband services in the access network; for example, ADSL, VDSL, fibre optics, PON, ATM and Ethernet.

Secondly, the economics of providing broadband services over the various solutions were examined. The following questions needed to be answered: will ADSL give a profit to the operators? What is the payback period for optical fibre? Which solution, ADSL, VDSL or fibre, will give an economic return for each of the customer market segments? The big question is, of course, whether the transmission of video services will attract a large number of customers to mobile and fixed-network services.

Thirdly, the consequences of regulation on the development of broadband services was debated. There was a great deal of discussion, in particular, on whether unbundling of the copper local loop would, in fact, guarantee the success of new players. If unbundling does not prove to be successful, then the question arises of whether there are sufficient incentives for the incumbent network operators to provide economical broadband access.

During the round table discussion at the end of the session there was consensus on several key points. Firstly, it was agreed that the roll-out of broadband infrastructure with appropriate services will progressively reach all residential customers—but that the implementation will take many years. Secondly, although no single killer application has been identified, it is expected that there will be progressive take up of a series of different broadband services.

It was generally agreed that ADSL and VDSL over copper cables represent a good

technical-economic compromise for the initial phases of providing broadband to the residential market. However, in the rural areas, where ADSL is not practicable, consideration should be given to wireless local loop solutions, such as local multipoint distribution system (LMDS).

There was much discussion about the efficacy of local loop unbundling (LLU) in facilitating broadband services from new players. The evidence of the lack of success in the USA, where LLU has been tried for several years, suggests that this approach is unlikely to generate the increased broadband-service competition that the regulators seek for Europe. It was recognised that, although optical fibre is the long-term solution for broadband access, for the near future this can only be justified to sites requiring high volumes of traffic. However, the future unbundling of optical fibre is expected to be even more difficult than for copper cable, and in particular it is expected that the threat of such unbundling could prove a disincentive to operators deploying fibre.

The session concluded with the view that the regulatory authorities should continue to develop the process of unbundling so as to increase competition in the broadband market, but should take care that the rules do not unnecessarily penalise the incumbent operators.

Mobile communications for the future

The papers and round table discussion in this session of the Congress concerned: the reasons for the delay in the roll-out of UMTS, together with views of the current developments of this sys-



Opening Ceremony in the Congress auditorium

2 → tem; the opportunities and problems involved in the development of UMTS services; the regulatory aspects of the total or partial sharing of the mobile network among different operators (network-sharing); the contribution of multimedia messaging services (MMSs) to an increase in the average-revenue per user (ARPU) for mobile services.

Most importantly, the operators have confirmed the technical and economic viability of the UMTS system. The current view is that the roll-out of commercial service will occur in the second and third quarters of next year. It was generally agreed that the one-year delay in the marketing and roll-out of UMTS service, compared to the expected dates, is understandable, given the complexity and the innovation that the system involves. Much of the delay is caused by the need to undertake a great number of tests of interoperability between terminals and networks, as well as to and from the many existing networks, with their variety of equipment from different manufacturers.

The Congress noted that the delay to UMTS roll-out is similar to that incurred by GSM, which was originally expected in July 1991, but did not occur until October 1992.

A highlight of the Congress social programme was an excursion to Portofino Bay



A contributory factor to the delay in UMTS deployment was the substantial absence of applications that can only be provided by UMTS. It was recognised that nearly all of today's applications can in fact be supported adequately by GSM and GPRS.

Of course, the effect of the huge debts incurred by many network operators in acquiring licences for UMTS creates a difficult financial environment for the deployment of the new network. It was thus concluded that the roll-out of UMTS across Europe would be a gradual process.

The advocated advantages of sharing network infrastructure between two or more operators have been the subject of debate within the industry for a long time. Given the above-mentioned economic difficulties associated with UMTS, the use of infrastructure sharing among UMTS operators is now generally looked upon with approval and there are several examples of such sharing that are now in place. However, it was noted during the round table discussion that network infrastructure sharing can result in significant overlap of the coverage and offered quality provided by the sharing operators, which can reduce the competitive differentiation among the operators. Finally, it was recognised during the debate that there were concerns about the dangers of creating anti-trust problems (for example encouraging the takeover of an operator by one of the other sharing operators). There was clearly a balance required between the minimising of anti-trust threats and the need to assist network operators in their roll-out of UMTS service and the development of competition in this market.

During the presentations and debates in this session it was clear that there were differing opinions about whether MMS would actually stop the decline or even create an increase in the ARPU. In particular, TIM, one of the Italian mobile operators, expected a significant use of MMS, especially for the sending of photos accompanied by brief texts; for example, creating an alternative to the sending of postcards. However, other operators, for example Omnitel, estimated very little increase in data transmission on mobile networks. It was noted that at the Congress in Berlin in 2003 the German operators have promised to give the results achieved since the opening of their UMTS services.

Final observation

As a final observation, the delegates at the technical sessions clearly had a positive approach to tackling today's problems following neither the previously overtly optimistic nor, more recent, pessimistic mood of industry commentators and visionaries. The overall message is that while waiting for the upturn in the ICT sector we need to be ready with solutions that will enable the possibilities offered by new technology to become reality.

Stefano Pileri
(President of AIIT)

Antonino Calantoni
(Secretary of AIIT)

Rocco Casale
(Member of FITCE CD)

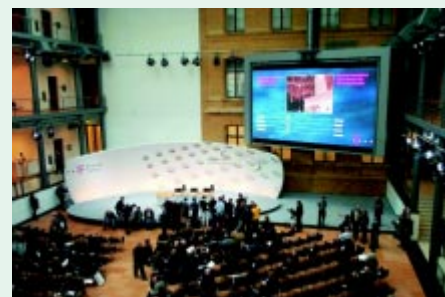
(English version edited and abridged by Andy Valdar, FITCE Paper Selection Committee member)

Looking forward to Berlin

Our German colleagues have the arrangements well in hand for the next Congress, in Berlin from 4–6 September 2003.

At its meeting in Berlin in November the Comité de Direction finalised the Call for Papers (see page 8), and reviewed the excellent facilities for the Congress at Deutsche Telekom's Representative Office.

Members contemplating coming to Berlin for the Congress may be interested to know that Berlin is also host for IFA, the world's largest consumer electronics exhibition, where from 29 August to 3 September some 900 exhibitors from over 40 countries will be displaying the latest trends in the innovative worlds of consumer electronics. The IFA 2003 will be a veritable festival of innovations, with 'digital evolution' playing a significant role. This will involve not only digital television and radio, but also the new digital recording media, photography and telecommunications, as



The Atrium at Deutsche Telekom's Representative Office seats some 400 people and has excellent facilities for presentations

well as information technology and, of course, the new services and content that have become possible as a direct result of digital technology.

Members attending the Berlin FITCE Congress could perhaps combine a visit to IFA. For further information about IFA, visit www.ifa-berlin.com.

Message from the President

Once again the strengths of FITCE have been demonstrated in yet another excellent Congress in

Genoa in September. I would sincerely like to thank our Italian FITCE colleagues and the AIIT with their President Mr. Stefano Pileri and his team for such an outstanding event, FITCE's 41st Congress.

Italy was involved in organising our Congresses right from the beginning. The second was held in Rome in 1963. Others followed in Venice, Florence, Rome again and, in 1995, Bologna. It is thus for the sixth time that the country has organised the event, demonstrating that the Italian association is a truly dedicated and enthusiastic member of our European family.

I thank too the many sponsors who saw value in the forum and whose generous support made it possible. As well as the numerous presenters of such interesting papers, I'd also like to thank the three guest keynote speakers who gave each of the three days of debate such a fine start: Mr. Peter Walker, Director, Technology, Oftel; Mr. Claudio Carrelli, Director of EURESCOM; and Dr. Atsushi Murase, President and CEO of DoCoMo Communications Laboratories Europe.

It is to FITCE's credit that these events have continued annually for so long without a break despite the enormous changes that have occurred in our industry over the years. We now look forward to, I am sure, equally excellent Congresses next year in Berlin and in 2004 in the city of Ghent in Belgium.

The Congress also brought more good news to FITCE. We formally admitted the newest member of our community Poland. I hope that our Polish colleagues will gain much through the opportunity that FITCE brings to network with industry professionals across Europe.

Finally, I would like to record my thanks to Bert Maes for his excellent work as Secretary-General of FITCE over the past two years. He has done an admirable job in keeping our administration in order. I also welcome his successor Filip Geerts to this important and challenging role.

José Van Ooteghem
President of FITCE



SIT—Polish association with scientific and cultural objectives

SIT—The Polish Association of Telecommunications Engineers—is a creative, research and technical organisation with scientific and cultural objectives. It is a voluntary association of technicians and engineers of all fields of telecommunications technology, including legal entities interested in SIT's activities.

Our organisation continues the tradition, activities and initiatives of the Polish Tele-technicians Association, which operated from 1920–1939, as well as the Polish Radiotechnicians Association, and after the Second World War as the Polish Electrician Association, in the field of telecommunication.

On 5 February 2001, SIT was founded by the Technical Universities in Gdansk, Wroclaw and Warsaw, and telecommunications engineers and engineering technicians in Poland. Today, SIT is an association of telecommunications engineers and professionals with over 2000 members from the telecommunications sector in Poland grouped into several professional divisions, committees and interest groups.

Now, two years later, we can look back at several successful activities. Our second year was very fruitful. We started in the spring with The World Telecommunication Day (WTD) celebrations. The WTD is a prestigious event which, following many years' tradition, is organised by the Association of Polish Electrical Engineers in cooperation with the Ministry of Infrastructure and SIT. The organising committee endeavoured to enrich the WTD celebrations through presentation of chosen new technological solutions, contracts and agreements that are important for the development of or for the spread of applications of Polish telecommunications, particularly in fields relating to the theme of this year's celebrations. An example of such an initiative was the signing during the Round Table Conference 'Poland towards the Information Society' of an agreement (initiated by TP SA) concerning cooperation for the Information Society. As



well as the central celebrations of WTD in Warsaw, events relating to the theme of WTD were organised in many major towns

Left: The 2002 World Telecommunication Day celebrations—Minister of Communication Mr. Krzysztof Heller giving the opening speech

around the country. The WTD celebrations drew huge interest from the media, including Polish television and radio and Virtual Poland.

In June 2002, the SIT Main Board made a major decision. On the initiative of the Secretary-General of SIT, helped by a handful of regular main board members, The Polish FITCE Committee was founded. The goal



Mr. Eligiusz Sekowski, Secretary-General of the SIT

was to stimulate and propagate FITCE in Poland and create links between telecommunications engineers in Poland and colleagues in Europe. The Polish FITCE Committee is open to all operators, suppliers and others active in telecommunications. Both individuals and companies can become members.

Poland was well represented at the Genoa Congress, with eight members and one accompanying person. It was a most gratifying experience, stimulating both intellectually and socially. Our Italian colleagues really did an outstanding job. The most important event for us at the Congress was the formal acceptance of SIT as a full member of the FITCE, which formally took place on 7 September 2002 during the General Assembly. The Polish government and telecommunications community in Poland received the information about formal acceptance of SIT as a full member of FITCE with huge interest. After the Congress in Genoa we have already signed several agreements with the Ministry of Infrastructure, TP SA, and Office of Telecommunications and Post Regulation, and we plan to organise the 2003 World Telecommunications Day celebrations. These agreements couldn't be signed of course without FITCE support.

Finally, a series of seminars and meetings was organised. Two are already behind us—the meeting in Gdansk and The Polish Communication Day attracted a wide audience. 'FITCE' is on many people's agenda.

We are looking forward to 2003. Six companies and two government institutions are supporting us. Including the individual members, we have now over 2000 people on the SIT list. From this 15 people have become members of FITCE and 50 more plan to do so in the near future. The challenge for 2003 will be to further extend our reach.

Zbigniew Krawczyk
(Chairman of the Polish FITCE Committee)

Once upon a time...

I like telling stories...here is a true one.

Once upon a time, in a country quite near here, the government was becoming more and more worried about telecommunications and in particular a New Digital Technology, which we shall refer to as NDT. Lots of citizens and businessmen were lobbying the government about NDT. The problem was that although there were several competing companies providing NDT, the prices were too high for many people to afford and this was holding back its widespread acceptance. Added to that, NDT was only really available in major towns and cities. It wasn't available in many rural areas and the government was worried that this would create a 'digital divide'. Many people thought that NDT should become a universal service available to all. To make sure everyone could access it, it was argued that Public Access Points should be set up so that those who couldn't afford it at home could at least gain access to NDT in their local town or village.

The public debate about NDT became more intense. It was widely recognised that NDT was critical to the roll-out of e-commerce and would have a major impact on the country's competitiveness. Not only that, it would have a significant effect on the whole social fabric of the nation. How could all the competing providers of NDT be persuaded to extend the availability of NDT while dropping prices across the board? The public was demanding that the government should intervene in the market and make all these things happen. In other countries NDT was more widely available, especially where the government had intervened. Committees of stakeholders were set up to debate the issue.

FITCE co-sponsors QoS conference

FITCE, along with the Communications Management Association (CMA) and the European Chapter of the IEEE, is co-sponsoring a quality of service conference organised by the IEE in London on 20–21 January 2003. The origin of this conference has its roots in the FITCE Study Commission of 1991–93 titled 'Study of network performance considering customer requirements'. FITCE members are eligible for reduced registration fees for this conference.

For further details of the event please visit www.fitce.org.

Question: So what happened next? What did the government do?

Answer: In 1868, the British government nationalised the telegraph companies and regulated the price of telegrams to a maximum of one shilling. The telegram service was made available across the country through local post offices. The telegram revolutionised commerce. In 1869, the government created a statutory monopoly over the telegraph and it became the first Universal Service.

The moral of the story is that little is completely new in this industry, but the outcome isn't always the same. This time round, with broadband as this generation's NDT, nationalisation is not an option. We think the Internet is changing everything, but the telegraph probably had a more dramatic impact in the 19th century than the Internet is having now. But history doesn't always tell us what to do, which is a pity for those of us that like recalling these stories.

Peter Walker
(Director, Technology, OfTel, UK;
President, FITCE UK)



www.fitce.org

Congress

Photographs from the Genoa Congress, which have been contributed by FITCE members, can be viewed at FITCE's web site at www.fitce.org. These are currently accessible from the home page or from the Congress 2002 part of the web site.

The web site also includes papers from the Congress Proceedings in PDF format.

To access the Congress photographs and papers, Members will need to enter the User Name: **Member**, and Password: **Berlin** (both are case-sensitive).

Favourite Congress images?

If you have any electronic photographs from the Congress or indeed from past Congresses, then send them to the webmaster at webmaster@fitce.org and a selection will be included on the web site.



ETSI special task force work on user's QoS criteria for Internet access

The last issue of *FITCE Forum* reported on the possibility of ETSI authorising a Special Task Force's work on user's quality of service (QoS) criteria for Internet access, with a view to producing a definitive document (by STQ Technical Branch). This project has been approved and work has commenced.

Discussions will be held with regulators, user representatives and ISPs from three or four middle European countries, a Nordic country, an East European country and a Mediterranean country. The starting point will be the work carried out by Bannock Consulting, whose August 2000 report was the result of an EC-funded project. At the time of writing a visit to one Nordic country—Denmark—has already taken place.

At the end of the country visits and discussions, a consensus set of QoS criteria will be drawn up for Internet access from the user's point of view. The FITCE membership will be invited to take part in a survey to prioritise these performance criteria. The survey is aimed to coincide with the

distribution of the next issue of *FITCE Forum* in spring of 2003.

All members of FITCE are earnestly urged to take part in the survey. The time to take part in the survey (including familiarising oneself with the subject material) is not expected to be more than 45 minutes. Your contribution will enhance not only FITCE's image in ETSI but will enable a more statistically significant assessment to be made of the user's QoS criteria in Europe. All responses will be transparent to the analysis and therefore full privacy is guaranteed. To keep you informed a summary of the findings will be published in the following issue of the *Forum*.

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(FITCE UK member and
ETSI STF Leader
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UMTS, Moore's Law and Licklider's Trap

It is not always chaos that rules the markets. Although this seems frequently to be the case in the financial markets, this is certainly not the case in the information technology market. In this market, Moore's Law rules supreme. From the 4004 microprocessor in 1971 until the Pentium 4 in 2000 the number of transistors that was needed to make them doubled every two years with almost clock-like precision. A generalisation of Moore's Law due to Theo Claasen of Philips Research states that all performance indicators applicable to the field of information technology improve by a factor of two in a period of 1.5–3 years. The processing power of microprocessors for instance doubles every 1.5 years and the bandwidth provided by telecommunications equipment doubles roughly every 2.5 years as I showed in a paper that I presented at the FITCE '98 London Congress. What Moore's Law basically tells us is that it takes between 1.5 and 3 years before the next generation of ICT equipment reaches the market at prices that a large number of people are willing to pay. So events in the Information and Communication Technology markets happen fast, but not infinitely fast, as some people tend to believe.

How have fixed networks advanced since 1998? ISDN broke through in the Dutch market in 1996 when it passed the level of 100 000 users. ISDN made it possible to access the Internet at 64 kbit/s or 128 kbit/s. At that time this was an incredibly fast speed especially for those who remembered 1988 when a 9.6 kbit/s modem was state of the art. Fast is however never fast enough, and in 1996 the ADSL Forum was already looking for ways to access the Internet even faster. We had to wait until 2001 to see the number of ADSL users in the Netherlands surpass the 100 000 level.

Typical ADSL transmission speeds were 512 kbit/s download and 128 kbit/s upload or 1024 kbit/s download and 256 kbit/s upload. Looking beyond ADSL it looks like SHDSL, a technology for services of up to 2.3 Mbit/s that require equal up and download speed, might become the next access network technology. More information about the challenge of bringing broadband to the customer can be found in a FITCE '01 Barcelona Congress paper by Geert Dobbelaere and a FITCE '02 Genoa Congress paper by Walter Cuypers.

Are these developments in line with Moore's law? We observed in 2001 an increase by a factor eight in transmission speed in only 5 years; that is, a doubling period of roughly 1.6 years. This doubling period is considerably lower than the expected period of 2.5 years given above. There were two reasons for this remarkable phenomenon. One reason was that for fixed network operators it is better to get the Internet traffic off the ISDN network as early as possible. The other reason was that cable companies turned out to be strong competitors in the market for heavy Internet users, forcing other fixed network operators to come up with an appropriate ADSL alternative as early as possible. Recently, however, many Internet service providers (ISPs) in the Netherlands have started to offer ADSL Lite—256 kbit/s download and 64 kbit/s upload—at very competitive prices to the rest of their customers. This development suggests that Moore's Law seems to prevail in this market once again.

Let's turn our attention to mobile networks. GSM networks were introduced in most European countries around 1993. GSM networks can carry 9.6 kbit/s of data, which is of course only nice for relatively simple wireless application protocol (WAP)

services. Most GSM networks haven't advanced to higher bit rates.

What did happen was that since 1993 the number of users of GSM networks increased at an almost incredible rate. In The Netherlands this was not in the



by Johannes W. Meijer (KPN, The Netherlands)

least due to the ability to get a free GSM handheld from any of the five different operators. Handhelds that, with special thanks to Moore's Law, became smaller, less weighty and more functional every year. Last year, in 2001, all over Europe mobile network operators were busy building GPRS networks and introducing GPRS services. GPRS bit rates of up to and even above 100 kbit/s were said to be possible but much lower data transfer rates seemed likely at least in the initial stages. This was confirmed by Giuseppe Putorti who reported at the FITCE '02 Genoa Congress that with the products available today only 40 kbit/s downlink and 20 kbit/s uplink throughput is consistently achievable. Although GPRS is currently available in many countries at present less than one percent of the GSM users are regular GPRS users. The GPRS bit rates are of course an improvement with respect to the GSM bit rates but they are still low compared to the bit rates that can be offered with UMTS networks. So it remains to be seen whether customers will pick up GPRS or that they will skip it and wait for UMTS instead.

In August 2001, Vodafone announced to the surprise of the financial markets that it would introduce its UMTS network with a minimum service level at the outline fringe area of the network of 64 kbit/s. The launch of UMTS services by Vodafone was planned for the second half of 2002. Higher speeds like 384 kbit/s and 2 Mbit/s, which are needed for good-quality video communication links, would be introduced at a later date. Should this have come as a surprise to anyone? I don't think so. According to Moore's Law we require 13 years to get from 9.6 kbit/s to 384 kbit/s assuming a doubling rate of 2.5 years. By that time we will see the year 2006—that is, 1993 plus 13—appear on our calendars. In a similar way we can calculate that we would need at least 7 years to reach the 64 kbit/s target; that is, until the year 2000. Looking at it from a different angle we observe that mobile data bit rates lag those of fixed networks by approximately 5 years; that is, 1988 versus 1993 for 9.6 kbit/s. So we could expect 64 kbit/s on our mobile

Year	Network	Bit rate (kbit/s)
1988	Public Switched Telephone Network	9.6
1993	Global System for Mobile communication	9.6
1996	Integrated Services Digital Network	64
2001	General Packet Radio Service	40/20
2001	Asymmetric Digital Subscriber Line	256/64; 512/128
2003	Universal Mobile Telecommunication System	64
2006	Symmetric High-speed Digital Subscriber Line	1024; 2048
2008	Universal Mobile Telecommunication System	256; 384

6 → networks in 2001; that is, five years after ISDN became a success on our fixed networks. From both perspectives, the introduction of 64 kbit/s on UMTS networks in 2002 looked all right. Markus Blume presented results of the UMTS field trials of T-Mobile at the FITCE '02 Genoa Congress that coincide quite nicely with this view. He reported the first 64 kbit/s packet-switched data call on the T-Mobile network and noted that in the next few years the most common UMTS bearers will be 64 kbit/s, 128 kbit/s and 384 kbit/s and certainly not the 'marketing promise of 2 Mbit/s'.

A critical issue continues to be the availability of suitable UMTS terminals. Giuseppe Putorti gave as his opinion at the FITCE '02 Genoa Congress, where he presented a paper about the evolution of handsets technology from 2G (GSM) to 3G (UMTS), that one or two years are still needed to develop the 'perfect' UMTS mobile phone. He made it quite clear that the interoperability of UMTS handsets and net-

works still need a lot of testing and that the available UMTS handsets are not ready for a mass-market launch yet. So it is quite understandable that most UMTS operators have delayed the launch of their first commercial UMTS service until 2003.

We observe that mobile networks are two steps behind fixed networks in terms of transmission speed. The same will probably be the case for the services on these networks. I for one wouldn't be surprised if these services will evolve along different lines. The unexpected success of short message service (SMS) and the sudden appearance of a market for ringing tones show that this is a real and exciting prospect. There is, however, a sobering factor that we have to reckon with and that is that it normally takes years for even a compelling new service to be widely accepted in the market. It seems unlikely that UMTS services will be an exception to this rule.

So what happened to all those experts who believed that UMTS would become the next overnight success story? Apparently they

fell into what I would like to call *Licklider's trap*. It was J. C. R. Licklider, one of the originators of the Internet, who wrote in his book *Libraries of the Future* (1965) that: 'People tend to overestimate what can be done in one year and to underestimate what can be done in five or ten years.' UMTS is clearly a textbook example with respect to the first part of this statement. One only has to consider the euphoria that surrounded UMTS in the year 2000, in retrospect the sheer incredible euphoria, to agree with Licklider. Fortunately, if the second part of Licklider's statement holds true we can expect that in the next five years UMTS will take off and that in 10 years time everything will turn out the way everybody always expected it to be.

We encourage FITCE members to contribute articles to the FITCE Forum. Articles on topics of interest to European ICT professionals are welcome. Please contact the editor at forum@fitce.org

Belgium members learn about mobility technology

On 3 October 2002, Jean-François Noël of Siemens Information and Communication presented the results of a market study in one of the regular evening sessions organised by FITCE Belgium. The study 'Mobility Technology' was commissioned by Agoria-Febtel and performed by Insites Consulting. The purpose was to ascertain the degree of penetration of mobility technology in Belgian enterprise, the plans they have and their willingness to invest in this technology. The responses of 517 IT managers were analysed. Mobility in this study refers to all professional activities that are performed in another place than the regular workplace, but excluding homework.

The research indicates that many enterprises already have collaborators who are not working all the time from their fixed office. A vast potential therefore exists for the use of mobility technology. White-collar workers form a greater potential for such use than blue-collar workers. Another conclusion is that big international businesses exhibit a higher degree of mobility than SMEs working for the local market. Innovative enterprises employ more mobile personnel and the greater the turnover, the higher the degree of mobility. Finally, companies that produce both goods and services score higher.

As for the willingness to invest, it appears that there is great potential but that mobility is not currently a priority of IT managers. Only about 12% of Belgian busi-

nesses considers mobility technology as a top priority. At the top of the list we find security followed by network and e-business investments. The study concludes that the majority of companies reserves only 1-10 % of the yearly IT budget for mobility. The companies that foresee the largest investments have already invested heavily in that area in previous years. As mentioned above, these are mainly big international companies active in both goods and services.

The mobility applications were for the purpose of the study divided up in three areas: communication, inquiry and interaction. Up to now we find the most successful applications in the area of communication. Such applications support the transmission of voice and text. The willingness to invest is also greatest in this area. 'Personal Information Management' and 'Unified Messaging' are the applications with greatest appeal.

Inquiry applications allow employees mobile access to data. In terms of degree of penetration and investments, these applications remain close to the communication applications. In fact, companies hardly make a distinction between both types of application. They are together considered as the best productivity boosters.

The score of interactivity applications is significantly lower than either of the other ones. This could be due to limited knowledge about these applications. From this can be deduced that companies are only prepared to



Jean-François Noël has been active in private telephony, in particular the field of value-added applications like call centres, computer telephony integration, unified messaging, and mobility. For the past three years he has been working in the marketing department of Siemens Atea as Solution Line Manager in charge of applications.

invest in technology that they know and trust. Investments in hype-products are excluded. Solid and proven applications are preferred.

Although there clearly is a positive attitude towards mobility, it is obvious that the adoption process is slowed down by security issues and by the lack of knowledge of decision takers. Time-gain and increased flexibility are the most important motives.

Return on investments in mobility is perceived positively. Finally, a striking observation is that the desire to innovate is a greater motivator than the existing degree of mobility in the company.

Marc Lambert
(FITCE Belgium)



Call For Papers

Contributors are invited to address the theme:

‘Evolving Communications: Making Human Dreams Real’

Papers are invited for the 42nd European Telecommunications Congress of FITCE.

We are keen to have papers from across Europe as well as other countries which cover one or more of the themes outlined below. Papers which address the commercial and marketing aspects will be particularly welcome, as are papers highlighting operational experiences. Authors of papers which consider predominantly technical issues are asked to conclude with the business and customer services impact.

Themes:

A) Mobile Services and Applications

- Market situation and business cases
- Status
- Experiences of field trials
- New applications
- Managing customer expectations

B) Competition in the European Information and Communication Technology (ICT) sector

- An assessment of the benefit to business and residential customers
- European Commission and national regulators' perspective
- Incumbents' perspective
- Competitors' and new players' perspective

C) Broadband Experiences

- Economic and technical restrictions and opportunities for broadband access
- Applications for business customers
- Applications for consumers
- Business opportunities for providing broadband services

D) Future Developments and Dreams

- Technical developments
- Market-related points of view
- New commercial models (value chain)

Key messages from the previous Congress in Genoa were:

- UMTS will be profitable.
- The change-over to the next-generation networks will take more than 10 years.
- Local Loop Unbundling did not bring the expected increase in competition.
- Fibre to the home is not expected to be viable for the coming 5 to 10 years and lacks standards.
- Interoperability between the new mobile systems is not solved yet.
- No killer application was identified for new mobile and data services.

But are these conclusions still valid?

Your contributions to the themes should help us to generate a new set of messages for 2003 in the evolving world of communications!

Submissions are invited as follows:

- Abstracts of 200 words.
- A brief biography of the author(s) to accompany the abstract.
- Include the name of your national association.
- Include your full contact details including email, telephone number and address.
- Send the abstracts and the other relevant information to: Hans Otto Ehmke at FITCE.Ehmke@T-Mobile.de, and please copy the email to k.schenke@telekom.de. (Contact details: Hans Otto Ehmke, T-Mobile Deutschland GmbH, Plathnerstr. 3a, D-30175 Hannover Tel: +49 511 2882 4500; Fax: +49 511 2882 4569.)
- **Deadline for receiving abstracts is Monday 17 February 2003.**
- The papers will be selected on relevance, content and originality and authors will be advised of the outcome by the end of March 2003.
- The full text of the selected papers, in English, is required by **Friday 30 May 2003.**

The presentations will be strictly time limited to 20 minutes and there may be time for questions. All contributors selected are requested to follow the ‘Instructions for Authors and Speakers’.

Awards will be presented at the Congress for quality of presentation and for the best written paper.

FITCE looks forward to receiving your abstracts.

For information about FITCE's 2003 Congress in Berlin, please visit www.fitce.org