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Forum

Newsletter of the Federation of Telecommunications Engineers of the European Union

December 2000

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Shannonside 2000: the FITCE Congress tradition goes on

To open our new-style newsletter, John Lysaght, CD member for Ireland, reflects on FITCE's 39th European Telecommunications Congress held in August 2000 in Shannonside, Ireland.

I am delighted to be writing in this new-format *FITCE Forum* about the success of the 2000 FITCE Congress, which was organised by FITCE Ireland for the Comité de Direction.

Our parent body, the Institution of Engineers of Ireland (IEI) treated this Congress as a key step in the creation of a new Telecommunications Engineering Society, as well as a first opportunity to meet people from other FITCE associations. Our main sponsor, *eircom*, provided substantial support for similar reasons, and our co-sponsors, Alcatel, Ericsson, Siemens and Tellabs also contributed generously and actively to the organisation of the event. We believe that

Congress speakers



FITCE Forum

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all our sponsors received good value for their contributions in time as well as money.

Much of what might usually be written in *FITCE Forum* about the Congress has already been delivered to FITCE members through other channels. The technical details of the Congress are already available because all members have been sent a copy of the Proceedings document, which contains all the papers presented. A report on the awards for best presentations and best paper has been on the web site (www.fitce.org) for some weeks, as have photographs of the event (incidentally, some of the photos have been put into a space accessible only to members using username *fitce033* and password *biology*).

Visitors to that site will see that the awards were as follows:

Best Paper: Spiros Louvros, for 'A Proposed UMTS Architecture Based on ATM Technology'

Best Presentation: M. Ali Salman for 'The Role of Multi-Protocol Label Switching in the New "Datawave" Network'

Best Young Presenter: Marcel van Sambeek for 'IP Telephony: Replacing the Old World...or Creating the New One?'

So what is left to report? This writer will take the opportunity afforded by this new *Forum*, which is for the purpose of discourse between FITCE members, to take an insider view of the Congress this year, and also an overview of the Congress tradition. What do we need to do to ensure its continuing success?

Every FITCE Congress looks forward, and this year was no exception. Our theme 'Telecommunications in the 21st Century: New Dimensions, New Challenges' aimed to

Best Paper Award:
Spiros Louvros



Best Presentation Award:
Ali Salman



FITCE President Stefan Maruszczak opening the Congress

**Barcelona Congress 2001—
Call for Papers, see Page 8**

describe the way in which our field is spreading into new areas, bringing new things for us to do and new people to work with. The theme invited us to celebrate this ongoing change and to describe ways of managing it to the advantage of our customers. Indeed, our customers were represented by speakers from the regulatory dimension in the first technical session. There was a healthy proportion of young presenters, offering their fresh perspectives on the development of European telecommunications.

While nobody in this industry could dispute that it is far more

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Message from the FITCE Forum change manager

As you can see we have succeeded in our goal to restyle the *FITCE Forum*. In front of you is the first issue of the restyled *FITCE Forum*. I want to thank Paul Nichols, Peter Ingram and Hans Meijer for all their support to achieve this goal. We hope that you will feel invited to contribute to future issues. For details of dates and who to contact in your country, please see our web site www.fitce.org.

Due to some external obligations, one final issue of the 'old' *FITCE Forum* is to be sent. I hope this will not be too confusing for you.



Rudy Kusse

It is important for us to look forward than back, the FITCE Congress gives us each year an opportunity to celebrate our past. This 39th Congress included three delegates who attended the first Congress in 1961, and two of these claim to have attended every one! FITCE Ireland presented a video compilation of Ireland's 25 years of FITCE activity at the opening ceremony: also at this ceremony, awards were presented for long service to Werner Hufnagel and Gerry Condon of Germany and Ireland. This kindled an interest in other countries, and it would be good to see more historical material in future Congresses. Would any member be interested in participating in a project to create a FITCE Congress archive? This could perhaps be housed on the web site.

The strong tradition of the Congress makes it easier for the organising association to run, in two main ways. Firstly, much of the format is repeatable from year to year, with support available from previous organisers; secondly, the 'brand name' of FITCE makes it easier to obtain support from sponsors, as they know what they will get. Recent improvements in the Proceedings were very useful for us when soliciting sponsorship, and it is important for us to sustain this tradition of continuing improvement. The Irish organising team agreed three main targets for this Congress: firstly, to sustain the technical excellence of the papers programme; secondly, to inject new life into the social programme; finally, to encourage more young people to participate and thus expand and renew the FITCE community.

We can report that the first two targets were met. The response to the Call for Papers was good: this translated into lively and useful discussions at the Congress, helped by the atmosphere of the University of Limerick. The second objective was carefully addressed by the organising team, as there is very little time in the new shortened format of the Congress—Wednesday to Saturday allowing only four nights (one of which is traditionally left 'free' for delegates to choose their own activity). We chose a traditional Welcome Evening in the university; an Irish Pub Night

Spanish party in full voice at the international singsong



Werner Hufnagel accepting a presentation from the Irish Association in recognition of his long service to FITCE

provided the local flavour and the closing Gala Dance was again in the traditional format. We managed to revive the tradition of a coach trip for delegates and partners, using the Ennis Information Town as a technical visit for all delegates. Much music was generated on that coach trip, thanks to an instruction from the CD that we should actively promote 'multinational' social activity during the Congress. Thanks to everybody who made this so enjoyable. We really enjoyed ourselves together.

We tried a social innovation in the programme. We took as many digital photographs as possible and made them available during the Congress at the e-mail points. While the logistics did not work well (as the technical programme took priority on the shared computers), the photographs did add some social atmosphere. Perhaps in the future a 'JPG exchange' could be a feature of the Congress secretariat, with a selection of photos available later on the FITCE web site.

Our third target was to promote increased participation by younger members. In terms of paper presenters, this was successful: indeed, the decision to award the 'best young presenter' award was very difficult, with about five close contenders. However, we have not yet found the way to encourage younger delegates to attend. FITCE members should address this themselves, by encouraging line managers to send junior colleagues to FITCE as part of their professional development. Of course, to promote this we must continue to ensure the technical excellence and professional relevance of the programme. From our experience, this is entirely feasible for FITCE in the future, provided we actively work on it.

The organising team was small but highly effective. The main contributors to the management of the technical programme were Paul Flanagan, who headed the international technical committee; Richard Downey, who developed and implemented the audio-visual format and designed the branding—no mean feat with seven key organisations to accommodate!—and Pat Feenan, who managed the liaison with the professional conference organiser and took care of most of the administration, a very substantial contribution which he has made twice before in 1979 and 1988.



Team Austria at the international singsong

The 'hidden' and most significant innovation of FITCE 2000 was to engage a professional organiser from outside FITCE or the sponsor organisations. It was not possible as before to engage administrative staff within a sponsor organisation to handle detailed work: however the professional organiser brought a lot more to the project than administration. The organising committee feared that involving an external organiser in the planning would dilute the 'FITCE flavour'. This did not happen due to the strength of our tradition, the commitment of Meeting Point International, led by Lola O'Higgins, and the energy of the organising team who resisted the temptation to leave it all to Lola. It is our Congress and we have to manage it ourselves.

It is to be expected that the Congress will have to adapt as our industry goes through successive 'shake-outs', and it will be dishonest to suggest that it will be easy to organise Congresses in coming years. Our experience with FITCE 2000 suggests that the Congress can survive provided the CD and each organising association takes care to preserve our tradition by actively preserving what has made us successful for 40 years. Our suggestion to you, our FITCE colleagues, is that all members must participate in this effort by encouraging experts and junior colleagues to contribute papers to the Congress, and by promoting the Congress as a learning opportunity for all, but especially young engineers.

We look forward to Barcelona and beyond. See you there!

John Lysaght





A Message from the President

Since its foundation the professional environment within telecommunications has changed dramatically. To meet the demands of FITCE members today, it is important that we provide a variety of quick and efficient channels through which we communicate high-quality information to our members. Furthermore, FITCE must also keep a watchful eye on costs and ensure that the costs for providing membership services are optimised in comparison with the benefits provided.

With these reasons in mind we have taken a critical look at our communications channels. Firstly we have decided to provide a copy of the Congress Proceedings to all members so that they can all benefit quickly from the excellent material presented. The *Forum* has been restyled and will provide an easily read means by which members can keep a lively interest in FITCE. We are putting a lot of effort into developing the web site too to make it more attractive and provide content of interest to members.

So, the Congress, Proceedings, *Forum*, web site, together with e-mail communications, will present numerous opportunities for building links between FITCE members. So LET US USE THEM!

I would like to record my very sincere thanks to Tapash Ray and Anosi who have done an excellent job with the *Forum* over the past few years. I would also like to thank too the people who have brought about the new situation, and in particular Rudy Kusse, Peter Ingram, Les Brand and Paul Nichols.

Stefan Maruszczak

General Assembly and CD at Limerick

General Assembly 2000

After an introductory commemoration of former President Cecilia Russo (1970–1972 tenure), the Assembly proceeded with the approval of reports from Secretary-General, the Treasurer and the Auditors.

Stefan Maruszczak was elected for a second one-year term. The decision of the Comité de Direction in April in Prague to appoint Bert Maes as Secretary General and Georges De Vroey as Treasurer, was approved by the General Assembly. Jos Geresse and Serge Barbare were appointed as Auditors. Stefan thanked Geneviève Bolle and Paul Henin for their most valuable contribution over many years.

The *FITCE Forum* journal, which has been running for quite some time now, will be replaced by an eight-page newsletter (both in paper and in electronic format) three times a year and by a professional web site. Paul Nichols will be the Editor.

The budget of 2001, as proposed by the CD, was also approved. All delegates agreed that FITCE must become more attractive to new (young) members.

Honorary Membership of FITCE was awarded to Christopher Seymour, Professor Andy Valdar and Tapash Ray, all from the UK.

Comité de Direction

During this year's Congress, two Comité de Direction meetings were held.

Besides the normal agenda topics (internal affairs, budget preparation, miscellaneous), the following decisions were taken:

- *Next Congresses*: 2001 in Barcelona, 2002 in Italy.
- *FITCE Forum Magazine*: change from existing format to an eight-page, full colour newsletter, with information about the different national associations as well as exclusive contributions by reputed persons active

CD meet in Prague

After becoming a full FITCE member, FITCE CZ organised the first CD meeting in Prague on 7–8 April 2000.

It was prepared in cooperation with Český Telecom, a.s. in its premises in Prague. Deputy minister for Transport and Communications of the Czech Republic Mrs. Marcela Gürlichová introduced the meeting and welcomed all the participants.

Discussions focused largely on the Limerick Congress, and the new publishing arrangements for FITCE.

After the meeting, FITCE CZ prepared a Prague sightseeing and cultural programme for all participants.

in the telecommunications market (although not necessarily technical papers). A new team will be responsible for the FITCE web site (organisation and content). Rudy Kusse, appointed as the Change Manager, reported on these items.

José Van Ooteghem promised to send an English version of the Articles of Association of FITCE Belgium to all his colleagues.

New Secretary-General and Treasurer

Bert Maes, FITCE's new Secretary-General, obtained his Doctor of Law degree in 1968 at the University of Gent, Belgium, as well as an MBA at the American Graduate School of International Management in Phoenix, Arizona,

USA, in 1978. He has worked in the legal department of a bank, was Adviser to the Belgian Minister of Communications and was legal adviser at the Brussels Airport Authority. He has been active in the telecommunications sector since 1979. He was responsible for Marketing and Communications at GTE Attea (now Siemens) and Alcatel Bell between 1979 and 1990. From 1990 until 2000, he was Director of Intercai Belgium, a consultancy company. Since early 2000, he has run his own ICT consultancy company, Armada nv.

Georges De Vroey, FITCE's new Treasurer, graduated from the University of Leuven (KUL) as an engineer in electro-mechanical engineering. Now retired he worked for Belgacom from 1970–1999 in a variety of engineering

and management roles. He has also been the Belgacom representative to the Civil Communications Planning Committee of NATO. Georges is a member of the FITCE-Belgium founding committee and secretary of the FITCE-Belgium board, and has attended several FITCE Congresses since the 1970s. He maintains a strong interest in the world of telecommunications, by reading technical and economical magazines and through his work for FITCE. He is involved in the local community in cultural events and for almost 40 years has been an amateur astronomer.



FITCE 2000 congress prize winner receives award from Patrick Morley

Marcel van Sambeek, working as a consultant at KPN Research in the field of business communications, won the best paper presentation award for a young engineer at the FITCE Congress in Ireland.

Back in The Netherlands, Patrick Morley, member of the board of directors of KPN, presented the award to Marcel. Patrick congratulated Marcel with this result. He was very pleased to hear that the Congress was a great success and well organised. The high quality of the proceedings exemplified this as Patrick said.

The main topic of the paper was IP telephony, in particular communication within businesses through an IP-PBX (a private branch exchange based on IP telephony). The title of his presentation was: 'IP Telephony, Replacing the Old World ... or Creating the New One?' The paper addresses the issues involved in replacing a traditional PBX with an IP-based PBX in private networks.

Marcel demonstrated that voice-over-Internet protocol (VoIP) will initially be used for cost reduction. Initially this will be the main reason to replace the traditional PBX by an IP-PBX. However, cost reduction is only a short-term motivation to change to VoIP. In the long term, it will be value-added services that drive the VoIP market. An example is the integration of Internet and speech: choose a person on your screen with your mouse and a call will be set up to that person. The person who is calling and the



Marcel van Sambeek (right) receiving his FITCE 2000 award from Patrick Morley

person who is receiving the telephone call can then both view the same document and make the necessary changes. Another example is the virtual private office: a service in which voicemail, e-mail, fax and agenda are integrated on one web page.

The use of Voice-over-IP within the business environment will demand large investments. The 'killer application' that can create a lot of revenue is still missing. In the near future, Voice over IP will play an important role in the so-called 'new economy'. Marcel van Sambeek explained in his presentation the technical state of the art and demonstrated some scenarios on how the use of Voice-over-IP could develop in the business environment. Marcel's paper can be accessed at www.fitce.org.

Rudy Kusse (KPN, The Netherlands)

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Tapash Ray: recognition for a job well done

Many FITCE colleagues will know Tapash through his loyal support of FITCE Congresses, but also for his work as Managing Editor of the *FITCE Forum*. Through often difficult times, Tapash persistently drove the publication forward, but has now stood down from that role. In recognition of his services for FITCE, Tapash was awarded Honorary Membership of FITCE at the Limerick General Assembly.

At its Annual General Meeting in October 2000, the UK committee made a presentation to Tapash Ray in recognition of his outstanding service as Secretary of the UK association. Tapash, after some 12 years in the post, has decided to relinquish that responsibility too. Jeremy Randles succeeds him. Traditionally, a lecture is held in conjunction with the UK AGM and this will now be known as the *Tapash Ray Lecture*.

Tapash hopes that by relinquishing his FITCE tasks he will be able to devote more time to his new degree studies. Tapash has been a tremendous friend to FITCE and will be a 'hard act to follow'.



Tapash Ray (left) receives his gift from FITCE UK President Chris Earnshaw

A note from the editor

We hope that our new-style newsletter will be a lively forum for discussion among members. As well as news about FITCE itself and the national associations, we will be including other items of interest to FITCE members: topical industry issues, regulatory developments, views from industry commentators, FITCE members' achievements, explanations of industry terms, and so on.

The success of the *Forum* will depend on contributions from FITCE members themselves. We will welcome your articles. Only short articles are required, and of course photographs are very important.

Information on submitting articles to the Forum, including a list of suggested features, can be obtained from the FITCE web site, or from me.

Help us make your newsletter a great success.

Paul Nichols
(paul.e.nichols@bt.com)

Deadline for next issue: 1 February 2001



Scenes from the first FITCE national conference in the Czech Republic

FITCE CZ first national conference

The first national conference and exhibition organised by FITCE CZ (registered under CVTSS) took place in the congress hall of Olsanka hotel in Prague on 17–18 October 2000. The title of the conference was 'New Technologies and New Services in Telecommunications' and it was held under the auspices of Deputy Minister for Transport and Communications Mrs. Marcela Gürlichová.

The conference was officially introduced by FITCE CZ chairman Mr. Petr Drincev.

Vice president of Český Telecom, a.s. Mr. Petr Slováček gave an introductory speech in the name of the Czech dominant operator.

The first presentation called 'Telecommunications in the Czech Republic on the Way into the European Union' was presented by Mrs. Gürlichová. She explained national telecommunications policy and a new telecommunications law. She also described the privatisation process of Czech telecommunications companies.

Mr. Petr Drincev presented a successful integration of the Czech Republic into FITCE. He provided all important information concerning FITCE, historical progress of the integration and the advantages of FITCE membership.

Then four presentations were devoted to:

- ways of increasing capacity of symmetrical cables,
- optical cables as a catalyst of the information age,
- WDM in telecommunications network, and
- optical fibres at the beginning of a new millennium.

The next day there were five presentations presented in the morning on the following topics:

- SDH network development,
- digital technology management,
- leased lines,
- data network, and
- ISDN services.

All these presentation were presented by Český Telecom, a.s. experts.

In the afternoon there were two final presentations:

- QoS in ISDN and IP networks presented by TMP, a.s. expert Mr. Šaroch, who also presented his paper in Limerick Congress;
- the wireless last mile presented by a TTC Marconi, s.r.o. speaker.

More than 300 participants from more than 60 companies were present at the conference. Nine different firms (Alcatel Czech s.r.o., Lucent Technologies Czech Republic s.r.o. and others) exhibited their products in the parallel exhibition.

News from FITCE-Belgium

www.fitce.be

In November 1999, the FITCE representation in Belgium underwent a major change. On the initiative of José Van Ooteghem, helped by a handful of regular FITCE Congress-goers, a new organisation called FITCE-Belgium was founded. This new organisation replaced the BITT-UPITT, which is internal to Belgacom, as representative to FITCE Europe.

The goal was to adapt to the realities of today's telecommunications marketplace and thereby attempt to give a new vital impulse to the FITCE community in Belgium. The organisation is open to all operators, suppliers and others active in telecommunications. Both individuals and companies can become members.

Now, one year later, we can look back at several activities which were well-attended. We started in the spring with an evening lecture by Mr Van Heesvelde, Managing Director of BIPT-IBPT, the Belgian regulator agency. The status of such important matters as interconnection, wireless local loop, unbundling, UMTS and the evolution of the political thinking behind regulation at the European and Belgian levels were addressed.

Next came the Congress in Limerick. Belgium was well represented with about 50 members and partners. As always, it was a most gratifying experience, stimulating both intellectually and socially; our Irish colleagues really did an outstanding job.

Finally, a series of four lunch seminars was organised. Two of those are already behind us and attracted an audience of 90. The subject 'Evolution in the Access Network and Unbundling' is on many people's agenda.

We are already looking forward to the General Assembly on 13 January 2001. Besides the necessary formalities, we shall enjoy a concert and a reception. We now have 14 supporting companies and 25 companies as ordinary members. In all, together with the individual members, we have now almost 200 people on the FITCE-Belgium list. The challenge for 2001 will be to further extend our reach.

Marc Lambert

Belgium delegates at Congress 2000



FITCE web site www.fitce.org

FITCE Forum

A downloadable version of this FITCE Forum is available on the web site.

Shannonside Congress

The web site contains papers from the 2000 Congress in .pdf format. Photographs from the congress are also included—if you attended the Congress, see if you can spot yourself among them! The papers and photographs are in the members' closed user group of the web site, which can be accessed with user name 'fitce033' and password 'biology'.

Technical papers

While long technical papers will not be published in the Forum, members are welcome to offer such papers for the web site.

Travel guides

Travel information concerning member countries has been included on the web site.

Congress 2001

Full up-to-date details of the FITCE 2001 Congress in Barcelona are included.

All feedback to paul.e.nichols@bt.com

Back to the future or the concept of IP circuit switching

Through the last decades we have developed new telecommunication transmission protocols, which were thought to be the final solution for all needs.

It started with simple telegraph (digital data), rapidly developing into voice (circuit switched) with early data (telex, modem traffic) running alongside voice as minority volume.

When data volume and technical requirements developed, data started to have its own dedicated infrastructures, largely packet-switched like X.25, ATM, frame relay and latest TCP/IP.

Since traffic volumes in data are now larger than voice and as voice is largely digital as well, we now see the need to have voice running alongside data on packet-switched transmission mediums.

The challenge, however, is to meet the well-established and defined quality for voice services in a packet-switched data environment, especially IP. IP, almost by definition, is not driven by quality. This means that additional measures, technical features and management tools and efforts need to be added to the IP-based network to cope with the quality demands of voice and other real-time services. It seems that in order to create the required quality to meet business-grade performance, it is necessary to combine the best elements of packet switching—efficient use of facilities—and those of circuit switching into one transmission platform. The introduction of multi-protocol label switching (MPLS) and RSVP type of facilities brings elements of circuit switching into this new ‘paradigm’. The new concept I suggest we call *IP circuit switching* and it matches the idea of ‘back to the future’; that is, we always have to fall back to old concepts to get the new ones working to satisfaction.

In particular, the new Voice over IP (VoIP) concept will need attention to meet common quality standards. As long as traffic remains within a private corporate domain or an end-to-end controlled IP backbone structure it is relatively easy to meet the quality. Where VoIP needs to breakout to the public PSTN or, worse, to other IP backbones via interconnect agreements, those other networks must have the same and compatible technical and administrative arrangements. This puts a real heavy burden on the interconnect negotiations. We may even have to re-introduce international accounting rates for quality IP services, which sounds like a bad dream.

The future will demonstrate that this is all possible but there is a price to pay. It also indicates that the idea of a single technical solution—the converged services network—is not as simple a concept as the industry tends to think. It puts a heavy toll on the negotiations for bilateral IP network interconnects; it requires additional technical and administrative facilities, which can all be expressed in terms of effort and money.



Jos Gerrese
(Mannesmann ipulsys B.V., Vice President
New Product Management and Pricing,
The Hague)

Making waves

What does the length of women’s dresses tell us about the stock market? Nothing, you might think. But some people beg to differ. The so-called hemline indicator suggests a relation between the length of skirts and the market index. If the skirts get shorter, the index will climb higher. Simple isn’t it?

Behind this charming ‘bull markets and bare knees’ theory lies a much deeper one.

When the Russian economist Nikolai Kondratieff plotted in 1926 commodity prices, wages and other economic statistics, he discovered that they fluctuated in cycles of 50–60 years. Years of prosperity were followed by years of decline. That was not exactly what Karl Marx had predicted. So what on earth was going on?

It occurred to Kondratieff that his long wave was largely a technological phenomenon. While it is widely agreed that the gains in living standards we enjoy can be attributed to technological innovations, few are aware that innovations are generated cyclically. Research going back to 1800 indicates that basic technological innovations emerge in clusters. In the 1930s the Austrian economist Joseph Schumpeter became the most influential proponent of the longwave theory. He advocated the theory of innovation. Others followed in his footsteps. The 1987 Nobel Prize winner Robert Solow showed that technological development will be the motor for economic growth in the long run. According to Solow’s model for economic growth, if continuous technological progress can be assumed, growth in real incomes will be exclusively determined by technological progress.

Kondratieff Waves

1789 Industry
1843 Transport
1897 Electricity
1932 Production
1991 Internet

Telecommunication Waves

1800 Batteries—Alessandro Volta
1836 Telegraphy—Samuel Morse
1895 Wireless—Guglielmo Marconi
1925 Television—John Logie Baird
1991 World Wide Web—
Tim Berners-Lee

I wondered whether I could check Kondratieff’s theory in an easy way. I tried to link his theory with the innovations that were fundamental to progress in telecommunications. My results can be found in the table above. Obviously the agreement between these two sets of data is excellent.

The observant reader might ask why telephony, which was invented by Alexander Graham Bell in 1876, is missing from my list. I think that it is quite reasonable to argue that telephony is a form of telegraphy. After all according to Shannon communication is fundamentally a discrete process.

What is our position on the longwave today? Looking at the telecommunication waves it seems obvious that the actual Kondratieff wave must have taken off on 17 May 1991, when Tim Berners-Lee started the World Wide Web at CERN in Geneva. So if we can believe Kondratieff, and why shouldn’t we, on that peculiar day the latest longwave begun. So we shouldn’t be surprised if until the year 2016 the world economy will continue to grow.

Does this also imply that until 2016 the skirts of women will become shorter? I am not so sure about that. In this particular case I would suggest that we just wait and see what is going to happen.



Johannes W. Meijer
(KPN, The Netherlands)

3G—blessing or curse?

The auctions for third-generation mobile frequencies have generated a lot of money and noise. Especially in the UK and in Germany the amount of money raised was astronomically high, or perhaps should I say satellite high, as high as the satellites of Iridium. The billions of Euros that were spent on this satellite system for global mobile communications are at this point of time being burnt in the atmosphere. Although some questioned the sanity of the project right from the beginning many did not open their mouths, probably afraid of being seen as not capable of keeping up with modern times.

The comparison of 3G with Iridium is too striking not to be mentioned. The money for these projects was raised simply on the basis of 'strategy'. Strategy sometimes becomes an excuse not to make the necessary calculations. We have discussed many applications for UMTS, but the killer application has not been found yet. Or, maybe UMTS will become a killer application itself: the killer of operators who invested lots of money into licences and networks.

Of course in the headquarters of the operators many scenarios have thoroughly been looked at, and probably there will be some

ideas which are carefully cherished as secrets in order not to inform the competition. But surely those ideas have not been tested in practice. Strange, for a new taste of soup extensive consumer tests are performed, but for UMTS billions are spent just because 'we simply have to be there' or 'we cannot afford not to participate'.

A negative effect of the present developments is that the high amounts of money which have to be spent on licences force operators to separate their mobile activities and to concentrate them in companies which are listed in their own right on the stock exchange. The consequence of this is that it will be much more difficult to develop integrated fixed mobile services. In real integrated services it is very difficult to determine the division of costs for the constituent parts. Yet this must be done in detail if different companies provision integrated services.

Perhaps I am just in a sad mood when I write this. Yet I ask myself am I like the little boy who watched the emperor pass by and said, 'look he is naked', or am I just too old for the modern world?

Ton de Liefde

(Columbi, The Netherlands)

The world's second largest network after Mecca

As world partner of the world exhibition Expo 2000 in Hannover, Deutsche Telekom AG (T-Mobile International AG) assigned its 100 per cent subsidiary T-Mobil to create the official mobile radio network with T-D1.

In order to ensure a sufficient radio supply for approximately 400 000 visitors (200 000 mobile telephone users) per day T-Mobil implemented a tight mobile radio network, which was the second largest in the world after Mecca. On the 1 600 000 square metre large Expo area an efficient radio supply had been enabled by installing 200 radio cells with cell radii between 30 and 50 meters. In the open air areas as well as inside the exhibition halls and pavilions T-Mobil guaranteed a smooth and trouble-free mobile communication.

'To master the enormous demand for mobile communication we extended the T-D1 network to cover a radius of 70 kilometers', pointed out Thomas Doepke, who is development executive of the Expo network for T-Mobil.

German Pavilion—one of the architectural highlights of the world fair



T-Mobil made sure that large events did not suffer from possible power failures due to the additional load being created during these cultural programmes. A high network utilisation was guaranteed at any time. On-line monitoring analysed unused capacities from fewer frequented areas, which then could be rerouted and connected with high traffic volume in the network. With this dynamic network control, the mobile communication had been optimised during the Expo 2000.

As a world novelty T-Mobil presented the 'GSM group call'. From this benefitted the Expo Corporation, which used T-D1 as the official mobile communications network for its staff. Here the new system was proven to be right: during the pilot project on the world exhibition it was possible for the first time to make group calls simultaneously with approximately 2000 users in a GSM network. T-Mobil was the first network carrier worldwide to have tested this system approach.

T-Mobil was not only active behind the curtains, but also supported the *T-Digit* project of its parent company, Deutsche Telekom. This giant, cube shaped exhibition object had been developing into a visitor attraction. Designed as a construction with four hyper-dimensional screens the Digit presented Expo information and transferred message from all over the world; for example, the Football EM in Belgium and The Netherlands, the Tour de France and the Olympic Games in Australia. As a



Jovial atmosphere on the Expo 2000 plaza

special highlight, visitors could communicate with the cube, by sending greetings via mobile telephone, which in Germany are called *Handies*, and the guests were able to play computer games. The *T-Digit* was the multimedia link between the world and the world exhibition.

Deutsche Telekom had provided a preview of what to expect at the Expo on the Internet before the opening. *Expo-Terravision*, a three-dimensional sightseeing tour of the Expo area, had been developed.



Hans Otto Ehmke
(T-Mobil, Hannover)

40th European Telecommunications Congress

Fira Palace Hotel, Barcelona, Spain

22–25 August 2001

Call for Papers

2001 European Odyssey—Telecommunications in the E-society

Telecommunications keep on changing, the same way as the world changes day-by-day. Mobility and the Internet are the stars of this change, which are gaining position while going a further step into fixed telephone systems. Involvement in all agents within our sector, society and the different aspects of economical activity have made telecommunications the backbone of this change.

The Barcelona 2001 Congress is the meeting point for European engineers, who, coming from different European countries and different industry areas, will have the opportunity to present their new solutions on technology, regulation, management and business patterns for the telecommunication company, fixed phones, mobile phones, data and the Internet, as well as those different techniques and technologies in use.

Contributors are invited to address the theme '2001 European Odyssey—Telecommunications in the E-society' by discussing changes, risks and opportunities in telecommunications and related industries. Presentations are expected to be of interest and value to fellow professionals in European telecommunications.

Submissions for the Congress are invited as follows:

- Abstracts must consist of 200 words or less.
- A brief biography of the author(s) should accompany the abstract.
- Include the name of your national association.
- Include your full contact details including e-mail address, telephone number and address.
- Send your abstract by e-mail to Paloma Herrero, fitce2001@iies.es and please copy the e-mail to cgonza@iies.es and unicongmad@atlantaviajes.es
- The deadline for receiving abstracts is **Monday 12 February 2001**.
- Papers will be selected by committee during their meeting in Madrid on 2 March, and will be judged on relevance, technical content and originality.
- The full text of the selected papers, in English, is required by 1 June 2001.

Potential contributors should note that a prize scheme is operated for papers at the Congress.

Congress Information

For full details about the Congress including registration, hotel booking, travel and programme, please refer to the FITCE web site at www.fitce.org. Please note that registrations for the Congress and hotel reservations are required by 30 May 2001.

Barcelona

Barcelona, the capital of Catalonia, is located on the coast and bounded by the Collserola ridge and rivers Besós and Llobregat. The city is less than 150 kilometres from the Pyrenees. Barcelona's location on the shores of the Mediterranean means that it enjoys a warm, welcoming climate and pleasant temperatures all year round. Rainfall is occasionally heavy, with levels of around 1000 mm per year. This helps to maintain the many green areas around the city.

Barcelona is a city with charming streets, busy with people and full of life. There is nowhere better to make Barcelona's acquaintance than La Rambla, the bustling avenue, famous for the vivid colours of its flower stalls.

Barcelona is the city of marvels. The old town, comprising the Gothic Quarter, the Ribera and Raval districts, and famed for its historical monuments, narrow streets and Bohemian atmosphere, is a perfect place for a stroll. A wander through the maze of streets is essential in order to understand the different periods in the history of Barcelona and to admire its finest monuments: traces of the Roman wall glimpsed between well-preserved Gothic buildings, the remains of the Jewish Quarter, witnesses to the industrial expansion of the 19th century and the design of the 20th. Musicians in the medieval streets provide the ideal accompaniment.

The city also has the biggest selection of modernist architecture: a genuine open-air museum. Most of the buildings, built in this unique style, are in the Eixample, a district planned in 1860 by the engineer Ildefons Cerdà which constitutes a unique model of European urban planning. The Sagrada Família, the Casa Batlló, the Casa Amatller and the Casa Milà are some examples of this.

Barcelona is the only European capital with over four kilometres of beaches where you can enjoy the most modern amenities. Today, the Olympic Harbour and the old port, the Port Vell, are some of the main meeting places, with many bars, restaurants, shops and recreational areas.

For all Congress 2001 information, refer to the FITCE web site at www.fitce.org