annual report

2003

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European Telecommunications Standards Institute

ETSI

ETSI today

The European Telecommunications Standards Institute – ETSI – is an independent, non-profit organization whose mission is to produce telecommunications standards for today and for the future. Within Europe, it is responsible for standardization in telecommunications, broadcasting and certain aspects of information technology, and is officially recognized by the European Union (EU) and the European Free Trade Association (EFTA) as the region's competent body for standardization in these areas.

The Institute is a leading player in the drive to exploit the new opportunities offered by Information and Communication Technologies (ICT), an important enabler of the emerging technologies which will shape our future society and a significant influence on global developments in standardization.

The diversity inherent in its work means that ETSI's expertise is wide-ranging. For example, since first defining the Global System for Mobile communication (GSM™), ETSI has led the way in mobile telecommunications and now plays a major role at the international level in the Third Generation Partnership Project (3GPP™). ETSI's experts in human factors are among the foremost in Europe, if not world-wide, in ensuring the usability of devices and services. The Institute's contribution to security and the development of smart cards and electronic signatures is helping to usher in e-Business, e-Government, e-Health and other aspects of the e-Society. Its activities are enabling broadband technologies, emerging Next Generation Networks, cable communications, intelligent transport…and the list goes on.

Based in Sophia Antipolis in the south of France, ETSI unites nearly 700 Members from five continents, and brings together manufacturers, network operators, service providers, administrations, regulators, research bodies and users – providing a forum in which all the key players can contribute.

ETSI prides itself on being a market-driven organization; its Members, which represent all aspects of the industry, decide its work programme and allocate resources accordingly. As a result, ETSI's activities – and the standards and reports it produces – are closely aligned with market need.

ETSI today

Looking Back, Looking Forward

In 2003, ETSI celebrated its 15th anniversary. As we look back on a decade and a half since the Institute was first established, with just over a hundred members, minimal staff and high ambitions, who could predict where we would be today?

ETSI is now a major player on the global standardization scene, a leading enabler of the European Information Society and a champion of the development of Information and Communication Technologies (ICT).

We have a well balanced and strong membership of about 700, drawn from 55 countries around the world.

Our innovative approach to standards production has made us one of the fastest – if not the fastest – and most productive standards development organizations. We have published almost 12 600 deliverables since 1988, all of which can be downloaded from our website free of charge by anyone.

In the last 15 years we have achieved some considerable technical successes: Euro-Integrated Services Digital Networks (Euro-ISDN), GSM, Digital Enhanced Cordless Telecommunications (DECT™), the Universal Mobile Telecommunication System (UMTS™)… Our current work programme includes issues as diverse as mobile communications, broadband technologies and Next Generation Networks (NGN), communications security, intelligent transport and user accessibility.

We can rightly be proud of a multitude of triumphs over the last 15 years. So it is fitting that, in this annual report for 2003, as well as recounting our achievements for the year that has gone, we should also look forward and record the new initiatives we are supporting and the steps we are taking to meet the new challenges of coming years.

Karsten Meinhold
Chairman of the General Assembly

Francisco da Silva
Chairman of the ETSI Board

Karl Heinz Rosenbrock
Director-General

Looking Back, Looking Forward

In-house Highlights

Despite the numerous successes of 2003, one of the most prominent features in the day-to-day operation of the Institute in 2003 was a negative factor, the declining membership. A significant number of Members have left ETSI in the last two years, mostly as a result of the downturn in the telecommunications industry. However, the dramatic rate of loss reported last year has eased somewhat and, by the end of 2003, overall membership stood at about 700.

This negative membership evolution had a considerable impact on the budget for 2003 and put additional pressure on the members of the Secretariat who once again have delivered more with less.

Notable developments in 2003 included:

► In December 2003, the preparatory work regarding purchase of our premises from France Télécom was finalised and the way was made clear to complete the sale early in 2004.

► The contract with the Open Mobile Alliance (OMA) for fora hosting services was signed in June, with services provided by a separate unit, Forapolis, including an electronic working platform, a technical secretariat and Wireless Local Area Network support at plenary meetings. Discussions on providing similar support services to other fora continue.

► ETSI, together with the European Committee for Standardization (CEN) and the European Committee for Electrotechnical Standardization (CENELEC), organized a major conference on 'Accessibility for All' in March.

► Also in March, the general guidelines for co-operation between ETSI, CEN and CENELEC, on one side, and the European Commission (EC) and EFTA, on the other, were signed. In December, the Framework Partnership Agreement between ETSI and the EC was signed. The equivalent agreement with the EFTA secretariat was due for signature in January 2004.

► Numerous agreements were signed in 2003 to cement our collaborative relationships with organizations all over the world. These included Co-operation Agreements with the Telecommunications Standards Advisory Council of Canada (TSACC) and the Radio Technical Commission for Maritime Services (RTCM), and Memoranda of Understanding (MoUs) with the Asia-Pacific Telecommunity (APT) and the European Institute for Research and Strategic Studies in Telecommunications (EURESCOM). The Co-operation Agreement with the Telecommunication Technology Committee of Japan (TTC) was also renewed.

► ETSI gave support in the setting up and running of a number of workshops, including a workshop on Compensating for Packet Loss in Real-Time Applications, held in February, and a series of M-Commerce discovery events at various European locations during February and March.

► ETSI successfully hosted a number of conferences and exhibitions at its headquarters, including the Testcom conference, the Radio Solutions Conference (the Low Power Radio Association) and the ETIS Global Security Conference.

► In October, CEN, CENELEC and ETSI, together with the Open Group and the World Wide Web Consortium (W3C), took part in an initial networking meeting in preparation for the launch of the Co-operation Platform for Research and Standards (COPRAS) project.

► In February, the Secretariat successfully obtained renewal of its ISO Quality Certificate for another three years.

► The ETSI website was reorganized and redesigned.

► ETSI signed the @LIS contract to provide a 'Dialogue on Standardization' in Latin America.

► The Matchmaker programme was launched, to help candidate Accession states prepare to join the EU.

► The second contract under the EC/EFTA eEurope initiative to promote e-Standardization in Europe was completed.

► To improve efficiency, a major reorganization of the Secretariat was undertaken and implemented in December.

In-house Highlights

ETSI and the Wider World

With the spread of technological development, regional boundaries are becoming blurred; interoperability between different nation states is essential for effective international communications. As a result, although responsible for standards within Europe, ETSI's influence on the global scene is growing. Throughout 2003, the Institute supported a number of initiatives which have had a significant impact on different regions of the world. Three EC-funded activities are of particular note.

eEurope

The eEurope initiative was launched by the European Commission in 2000 to help bring the benefits of the Information Society to everyone in Europe. Much of ETSI's ongoing technical work supports the initiative and shares its goals, but, since May 2001, with additional funding provided under eEurope, progress has been accelerated on a wide range of standardization projects related to the different 'Action Lines' outlined in the eEurope strategy – and work continues:

- accelerating e-Commerce, including mobile commerce
- e-Security issues such as smart cards and electronic signatures
- broadening Internet access by enabling access over many different platforms, both wireline and wireless technologies
- the development of broadband access
- maximizing the participation of all in the Information Society
- intelligent transport
- health on-line
- e-Working.

In addition, the ETSI Plugtests™ service has run numerous interoperability testing events related to these areas of development.

The eEurope initiative also provided funding for promotional activities. Between May 2001 and the end of November 2003, when EC funding for promotional work under eEurope expired, an impressive number of brochures, articles, press releases and suchlike was produced to publicize standardization activities related to the eEurope 2002 Action Plan and subsequently eEurope 2005. Efforts also included representation by ETSI's technical experts at exhibitions and conferences in support of the same goals.

@LIS

In May 2003, ETSI signed a contract for work under the EU's @LIS initiative. @LIS was launched for a four-year period (2003-2006), during which the EU will commit resources to develop co-operation with Latin America in ICT and other issues related to the growth of the Information Society.

Under @LIS, ETSI has been chosen to design and implement a 'Dialogue on Standardization', promoting the European standardization system as well as establishing medium and long term partnerships in the development of telecommunication standards. Three layers of action are foreseen: institutional co-operation (particularly with organizations such as the Inter-American Telecommunication Commission (CITEL)), technical co-operation and the dissemination of information.

Initial tasks include the establishment of liaison with other stakeholders in @LIS, liaison with industry fora and increasing the participation from ETSI Members. In the second half of 2003, ETSI took part in meetings, seminars and exhibitions in Brazil, Peru, Chile, El Salvador and Argentina, and an ambitious programme of activities throughout Latin America has been set up for 2004.

Matchmaker

Early in 2003, following discussions in IMPACT, ETSI's international marketing and promotions committee, the Matchmaker programme was launched to help candidate Accession states prepare to join the EU. Before Accession, each state must adopt EU communications policy legislation, including the new EU directives on telecommunications. Under Matchmaker, ETSI is holding a series of meetings in different Accession states to introduce the European standardization process, the EU Directives on telecommunications, the Single European market and – significantly – the economic benefits of standardization.

The first Matchmaker seminar was held in July 2003 in Warsaw, Poland. Such was the importance attached to the issues under consideration that the meeting attracted 83 participants from 37 organizations. Successful seminars were subsequently held in Lithuania, Estonia, Latvia and Slovakia, and meetings have been planned for a number of countries in 2004. At the end of 2003, ETSI obtained a grant from the EC to further develop the Matchmaker initiative.

In addition, during the year, ETSI took part in a number of conferences and seminars in Central and Eastern European countries.

Milestones and New Beginnings
– Technical Highlights of 2003

There were significant achievements in most technical areas. A number of these are highlighted on the next few pages: developments in broadband technologies, which are central to the exploitation of ICT and the expansion of the Information Society; security issues, which, among other things, provide the secure networks and infrastructures to enable e-Commerce, e-Health, e-Government and the growth of the burgeoning e-Society; and user issues, which include some of ETSI's efforts to ensure that these exciting new developments are available for everyone.

But there are many other accomplishments worthy of mention across the full range of technical areas in which ETSI works. The following are just examples.

Highlights of 2003

► Terrestrial Trunked Radio (TETRA)
ETSI published TETRA Release 1.2, in which approximately 40 standards and specifications were updated. During 2003, TETRA experienced an 84% year on year increase in the number of contracts placed, clearly indicating the continuing success of TETRA as an ETSI standard.

► TISPAN
To offer new synergies in ETSI's approach to the standardization of NGN, the work of ETSI Project Telecommunications and Internet Protocol Harmonization Over Networks (EP TIPHON™) and ETSI Technical Committee Services and Protocols for Advanced Networks (TC SPAN) was combined in a new committee – TC Telecommunication and Internet converged Services and Protocols for Advanced Networking (TC TISPAN). EP TIPHON and TC SPAN were then closed.

► TIPHON
TIPHON Release 4 was finalized in 2003.

► Smart Cards
ETSI completed the specification of a smaller format for the smart card, the "Mini-UICC", offering exciting new application opportunities.

► Third Generation Mobile
ETSI's contribution to the development of third generation (3G) mobile communications is now channelled through 3GPP. Preparation continued on the specifications for 3GPP Release 6 and a likely freeze date has now been set for late 2004. In particular, Release 6 will include enhancements to the Multimedia Messaging Service (MMS), bringing richer functionality to the user. 3G/Wireless Local Area Network (WLAN) interworking is also an essential feature, providing 3G subscribers with a bearer for Internet Protocol (IP) -based services compatible with those offered by the packet switched domain and helping to meet the growing demand for WLAN hot spots for public network data access.

► Universal Communications Identification (UCI)
A report defining the usability issues which will help achieve the successful implementation of UCI-based networks was published.

► Next Generation Networks (NGN)
Three studies were completed into different aspects of NGN – emergency service requirements for IP networks and NGN; the migration to Internet NGN; and Broadband Multimedia Services. The resulting reports will be used to help draw up a work programme for the future standardization of NGN.

► DECT
With the completion of the high bit rate update to 20 Mbit/s, broadband DECT was introduced.

► Electronic Signatures
The current phase of work laid down in the European Electronic Signatures Standardization Initiative (EESSI) is now almost completed.

► Emergency Telecommunications (EMTEL)
ETSI is leading work on EMTEL standardization within the European region. In December, the first of four Special Reports was published, offering an overview of the requirements for communication from citizens to authorities and organizations in all types of emergencies.

► Speech Processing, Transmission and Quality
A working group was created to improve the quality of mobile networks, which will hold quarterly meetings for some 30 enthusiastic experts.

► NGN@Home
New project-style activity was launched in a number of areas, involving various ETSI committees and external organizations.

Building for Tomorrow

As well as established technologies, ETSI is working on new areas which will be highly significant in the emerging e-Society.

Intelligent Transport

Intelligent Transport covers the use of road, rail, water and air transport and navigation.

Activities are underway in support of telematics and all types of communications in road vehicles, between vehicles and between vehicles and fixed locations.

The allocation of spectrum for anti-collision radar in road vehicles is an ongoing issue for the automotive industry. A temporary right to use 24 GHz is being considered until 2014, when usage is expected to transfer to a permanent band at 79 GHz. ETSI has already provided a standard for automatic cruise control radar operating at 77 GHz and is working on standards to support operation at the other frequency bands.

Also on the automotive side, new European Standards (ENs) have been produced for Dedicated Short Range Radio (DSRC) for road transport and traffic telematics.

A new task group has been set up to deal with Intelligent Transport Systems. Among other issues, it will work on the CALM (Continuous Air-interface Long and Medium Range) project. ETSI is developing tests for protocols to enable quasi-continuous communications between vehicles, and between vehicles and the infrastructure, to provide for collision warnings.

ETSI is also examining possible activities in response to an EC Mandate on electronic road toll systems.

For the railways, the industry has decided to use GSM for the signalling of high speed railways. The same solution is proposed for the conventional railways when interoperating beyond national borders.

On the aeronautical side, two Specialist Task Forces (STFs) were set up in February 2003 in support of an EC Mandate for Air Traffic Management Systems. The STFs finalized an ETSI Technical Report (TR) on part of the Galileo navigational system, and drafted ENs on VHF Digital Link (VDL) mode 4 ground stations, part of a system which will allow pilots to 'view' other aircraft in their locality without the need for ground support.

In the area of satellite communications, a new activity on maritime earth stations operating in the Ku bands (Mar_ESV) on board vessels started in 2003. This will deliver a Harmonized Standard during 2004, allowing passengers to use the Internet on board ships.

Many of these issues will be covered in a major conference in November 2004 entitled 'The Transport Business – What can Standardization Contribute?', which is being organized by ETSI, CEN and CENELEC.

Medical Implants

Standardization of Ultra Low Power Active Medical Implants (ULP-AMIs) in Europe has progressed well and, coupled with harmonized frequency bands, will facilitate mobility within Europe for patients with implanted medical devices such as pacemakers, defibrillators and insulin pumps. The standards include unique test methods to recreate the effect of implantation in the body when measuring radio emissions.

Interactive Digital TV

Following widespread concerns about the lack of interoperability between digital TV services in Europe, the EC issued a mandate (M.331). In response, ETSI established an STF to look at standardization requirements. Widespread consultation led to the conclusion that some of the interoperability issues were the result of commercial factors favouring the use of proprietary standards, rather than the lack of open standards. Further standardization to improve interoperability is now recommended.

Multimedia Messaging for the Fixed Network

After the successful introduction of message 'texting' – the Short Message Service (SMS) – for the fixed network (Public Switched Telephone Network (PSTN) analogue and digital (ISDN) terminals), work is now well advanced with the specifications required for the Multimedia Messaging Service (MMS). This will both extend revenue opportunities for network operators and manufacturers, and lead to lower costs for customers. It also has implications for mobile systems.

Powerline Telecommunications

A measurement and analysis review project aimed at collecting and studying the characteristics of Powerline Telecommunication (PLT) networks in Europe was completed, and five ETSI Technical Reports (TRs) were published in 2003. The results of this work are helping to direct ETSI's standardization activities and ensure co-existence between PLT systems from different vendors. In the long term, ETSI is working towards the full interoperability of powerline equipment, regardless of its manufacturer. In the short term, the focus is on avoiding market fragmentation and co-existence problems, with different equipment from different manufacturers attempting to operate together on a shared power network. Good progress was made on an ETSI Technical Specification on in-house – in-house co-existence, which will allow multiple in-house systems to co-exist in the same network. Publication is scheduled for the end of 2004.

Broadband Cable Communications

ETSI continues to work on telecommunication standards based on cable TV infrastructures, including the Data Over Cable Service Interface Specification (DOCSIS®) and IPCablecom. Two ETSI Standards for DOCSIS were published during the year, one a revision, the other for the second generation. A Technical Report providing an 'availability and reliability model for IP cable access network' was also produced in 2003, along with revisions of existing Technical Specifications for IPCablecom.

Electronic Communications Networks and Services

In the light of the new EU Regulatory Framework, the EC asked ETSI, CEN and CENELEC to analyze the existing list of standards published under Article 17 of the Framework Directive and update it. They were also asked to propose whether and how the list should be adapted to encourage the harmonized provision of networks and services to ensure interoperability and improve freedom of choice for users of electronic communications services, networks and associated facilities and services. ETSI set up STF 254 to undertake the work, sought input from all technical committees and an initial response was provided to the EC at the end of November. An ETSI Special Report was prepared for publication at the end of February 2004, which will serve as the basis for future discussion with the Experts Group established within the EC Communication Committee (COCOM) and serve a useful role in improving awareness of the new EU Regulatory Framework throughout the expanded Europe.

NGN

In December, the TISPAN_NGN project was launched. The plan is to complete the first release of TISPAN_NGN specifications by mid-2005.

Competence and Service Centres

To support its technical bodies, ETSI has developed competence and service centres, which concentrate key skills and serve the whole organization in a way which increases efficiency, streamlines ETSI's processes and better addresses market needs.

The Fixed Competence Centre (FCC)

The FCC, based within the ETSI Secretariat, provides a focal point for those committees involved in the preparation of fixed network standards, and certain other activities. ETSI is committed to the demanding task of preparing the standards necessary for NGN which will fully embrace the concept of fixed/mobile convergence. Other activities supported include areas as diverse as human factors, equipment engineering, emergency telecommunications and testing methodologies.

The Mobile Competence Centre (MCC)

The MCC was formed in 1999 to provide support to 3GPP, of which ETSI is a founding Partner. The MCC is an international team comprising 22 persons from 13 countries, including representation from Korea and Japan. Comprehensive project support is provided to 3GPP through this means, which includes technical project management to all 3GPP Working Groups, website management and the day-to-day administration of the project as a whole.

The MCC is currently managing approximately 2 800 specifications which describe the 3GPP system, and is responsible for the management and implementation of all changes to them. Despite this high workload, the MCC maintained its target, with 99,9% of specifications being delivered within three weeks of the close of each Technical Specification Group (TSG) session.

A significant innovation in 2003 was the compilation of a detailed review of the new and improved features of Release 5, bringing together information formerly spread across hundreds of meeting contributions and reports. Similar exercises are now being undertaken for the other 3GPP Releases.

The Radio Competence Centre (RCC)

Based within the ETSI Secretariat, the RCC provides a focal point for those committees involved in the preparation of ETSI's radio-related standards, which cover areas such as electromagnetic compatibility, radio spectrum usage and broadband radio access. The RCC also supports those committees which are delivering radio system standards such as TETRA and DECT.

The Protocol and Testing Competence Centre (PTCC)

The PTCC assists a broad range of ETSI committees with technical support and the management of protocol specification and protocol testing standardization activities, thereby helping to improve the technical quality of ETSI standards and shorten standardization time.

During 2003, significant progress was achieved in 3GPP User Equipment (UE) conformance testing, with more than 100 Release 99 conformance test cases now successfully running on the different 3G test platforms. The PTCC and the IP Testing group, MTS-IPT, made important contributions to the testing of the Signalling Transport protocol, SIGTRAN, which resulted in an initial set of test specifications for Message transfer part 3 User Adaptation layer (M3UA) and Stream Control Transport Protocol (SCTP). The PTCC maintains and promotes Test and Testing Control Notation version 3 (TTCN-3), the popularity of which continues to grow, and significant progress was made on IPv6 testing.

The Centre has pioneered the use of IP-based test systems in standards as replacements for expensive radio-based testers. This has meant the successful development of prototype virtual testers for HiperLAN/2 and HiperACCESS broadband radio access networks, enabling faster and cheaper validation of test suites.

The ETSI Plugtests™ Service

The Plugtests service is a professional unit specializing in running interoperability testing events for any telecommunications, Internet or Information Technology standard.

The growth experienced in 2002 was maintained in 2003, with an increase to 13 in the number of Plugtests events held during 2003. This included major involvement in IPv6 testing and the first remote interoperability testing event for IPv6, held in May. Other notable successes included testing for wireline Short Message Service (SMS) and an Open Service Access (OSA)/Parlay event in April. A Java 2 Micro Edition (J2ME) event was held during a special week of activities related to Smart Cards, which involved mobile operators and mobile handset manufacturers. New topics introduced in 2003 included security (the XML (eXtended Mark up Language) format for Advanced Electronic Signatures (XadES)) and powerline communications.

Competence and Service Centres

The Human Interface with New Technology

New technologies are becoming increasingly difficult to use. The Information Society offers exciting opportunities and enormous potential for improving life. But it will only become an effective reality if there is widespread participation, where all users have access to the emerging services.

This is 'e-Accessibility', a concept prioritized by the EC in their eEurope initiative. It means developing devices and services which take account of the needs of users; the easier a product is to use, the greater will be its commercial success. At the same time, special attention is required so that the young, the elderly and those with disabilities are not excluded. Creating e-Accessibility represents a major challenge for network operators, device manufacturers and service providers.

Within ETSI, the main focus of activity on e-Accessibility is ETSI Technical Committee Human Factors (TC HF).

Different Users – Different Needs

TC HF addresses a variety of issues related to the special needs of different groups of users, including the young, the old and disabled people. As user interfaces become more complex, design becomes increasingly important.

In April, a Technical Report (TR) was published on the accessibility of mobile telephones and services and Internet access by children up to the age of 12.

Multimodality – the presentation of information content using more than one sensory modality (vision, touch, hearing, smell, speech, gestures etc) – can compensate to a certain degree for sensory impairments by offering alternative means of access to ICT. Work in 2003 on multimodality at the user interface of ICT systems and terminals resulted in an ETSI Guide (EG) on the human issues involved in the design of equipment and services.

New Technical Developments

TC HF is working on a number of new technical developments which will improve access for everyone, but which may also be particularly beneficial to certain groups of users. One such area is Universal Communications Identification (UCI), which will eventually enable all telecommunication users to be identified by a name rather than a long string of digits. A major milestone was reached in November 2003 with the publication of a TR, based on best practice, dealing with the usability issues which are crucial to the successful implementation of a UCI-based network. Also in November, a TR on the use of UCI to improve communications for the young, the elderly and disabled people was published. TC HF also completed two EGs on common identification schemes for Next Generation Networks.

Other work has focussed on the assignment of characters on the 12-key telephone keypad of ICT devices for most of the European languages, leading to an ETSI Standard (ES) which, for the first time, comprehensively standardizes letters, digits and special characters.

TC HF continues its work on the user interfaces of mobile devices and services, providing simplified access to information and communication services. An EG, due in 2004, is eagerly awaited.

Other human factors work in 2003 resulted in the publication of one TR on the human factors implications of work in call centres and another offering guidelines for real-time person-to-person communication services.

Accessibility for All conference

To help mark 2003 as the European Year of People with Disabilities, CEN, CENELEC and ETSI organized a major conference on 'Accessibility for All' in March 2003. Held in Nice, France, the conference examined the contribution of standards to improving accessibility to a variety of modern products, services and environments. The event attracted over 200 delegates from all over the world.

Asking the Users

ETSI always tries to obtain as much input as possible from users to improve the suitability of its standards. The ETSI User Group recently undertook a study to find out what users want from their Internet Access, to establish criteria to compare the quality of service (QoS) available from different Internet Service Providers. Their findings were published in October as a TR, which is expected to influence future standardization activities both within and outside ETSI. The User Group has also been studying user interoperability criteria, finalizing a TR on the subject which is due for publication early in 2004.

In related work, ETSI Technical Committee Speech Processing, Transmission and Quality Aspects (TC STQ) is producing an EG setting parameters for acceptable QoS parameters.

Broadband

Broadband multimedia services are the result of convergences between telecommunications, radio communications, information technology and home electronics, and broadcasting and interactive applications, coupled with a variety of networks which include IP-based fixed and mobile networks. This developing technology offers access to real-time multimedia communications, opening up opportunities in a range of applications and services including e-Government, e-Learning, e-Health and e-Business.

As the deployment of packet-based technologies increases, service providers will find an increasing need to interwork between the different transport technologies, both in their own networks and with those of other service providers. ETSI is devising a flexible network environment in which harmonization can be achieved between disparate protocols and applications, by stressing their common capabilities and achieving invisible support and the sharing of capabilities.

The diversity inherent in Broadband Multimedia Services requires that the network architecture will enable users to obtain the information content they want, in any media, any time, anywhere, over any facilities. What is needed is a new network model – the Next Generation Network (NGN).

Industry urgently needs a set of new standards for the successful deployment of Broadband Multimedia Services; their absence could present a barrier to the introduction of NGN architectures and systems and impede the deployment of new information services and applications in Europe. During 2003, three STFs, funded under the EC's eEurope initiative, looked at different aspects of NGN. They examined emergency service requirements for IP networks and NGN, the migration to Internet NGN and Broadband Multimedia Services. Three ETSI Technical Reports were produced which were discussed at a public workshop, the results of which have been used to help draw up a work programme in ETSI for the future standardization of NGN.

Wireline technologies

xDSL

ETSI is very active in the definition of physical layer standards for DSL (Digital Subscriber Line) technologies – the so-called xDSL family, which has grown continuously out of ISDN with one success after another. These are modem technologies, designed to operate on telephone wires intended originally for voice-band communication (300Hz to 3,4kHz). Bandwidth utilization has increased by two orders of magnitude over the last ten years or so – from under 100kHz for narrow-band ISDN to over 10MHz for VDSL (Very high-speed DSL).

ETSI's standardization of these technologies has been key to their success in Europe. Current activities include the application of all DSL technologies in Europe, co-existence with legacy systems and infrastructures and rational frequency management in the local loop.

The Convergence of Telecommunications and Broadcasting Technology

Broadband cable networks, built initially for TV distribution, are evolving to support an ever wider range of products, including enhanced broadcast, interactive broadcast, data communications, telecommunications and multimedia. They are serving as an alternative means of access to the new services available in the Information Society.

ETSI is continuing to work on telecommunication standards based on cable TV infrastructures, including the Data Over Cable Service Interface Specification (DOCSIS®) and IPCablecom. IPCablecom is an end-to-end system for delivery of time-critical communications services, including telephony and Internet access, via cable TV infrastructures. It uses IP and advanced packet transmission to solve the current problems of Internet-based telephone calls.

Powerline Telecommunication (PLT)

PLT uses the existing public and private mains power wiring for the transmission of telecommunication signals, offering the ability to provide high speed Internet access via electrical networks in the home and at work. In 2003, good progress was made in a number of areas including in-house – in-house co-existence, which will allow multiple in-house systems to co-exist in the same network.

Wireless Technologies

3GPP

The Universal Mobile Telecommunications System (UMTS), the 3G mobile system specified by 3GPP, employs an innovative radio interface (UTRA, based on Wideband- and Time Division- Code Division Multiple Access technologies) and an evolution of the core network of GSM. By integrating a broadband radio interface operating many times faster than that of GSM, UMTS will be able to offer even greater capabilities, adding a new tier of high-value mobile multimedia services, voice and data.

DECT

DECT is a radio technology specified by ETSI which has become another world-wide success. It provides flexible digital radio access cordless communications for use in residential, corporate and public environments.

The major achievement of 2003 was the introduction of broadband DECT, with the completion of the high bit rate update to 20 Mbit/s. This capability will permit, for example, very fast Internet access and the creation of Wireless Local Area Networks (WLANs) based on DECT.

A new Technical Specification (TS) on interworking with IP for Voice over IP (VoIP) was also completed, which includes mobile IP, offering the ability to use DECT mobility for roaming in the IP network. This TS completes the specifications in support of speech via the Internet; work in 2004 will now concentrate on adding capabilities for interworking with multi-media services supported by the Session Initiation Protocol (SIP).

Satellite Multimedia Systems

ETSI has been working on broadband satellite integration and the interworking of IP networks. Satellite offers both wider choice and broadband coverage to sectors of the population not economically covered by wireline solutions. In 2003, a number of important deliverables were produced.

Broadband Radio Access Networks (BRAN)

ETSI prepares standards for equipment providing broadband (25 Mbit/s or more) wireless access for both business and residential applications. These fixed wireless access systems are intended as high performance, quick to set up, competitive alternatives to wire-based access systems.

ETSI has published standards for three types of Broadband Radio Access Networks (and is working on various extensions):

- HiperLAN2 – for private use as a WLAN-type system with superior Quality of Service and security compared with similar technologies, as well as a complementary access mechanism in hot spot areas for public mobile network systems.
- HiperACCESS – with data rates up to 120 Mbit/s for downlink and 80 Mbit/s for uplink, intended for broadband multimedia fixed wireless access and back-haul for 2G (GSM) and 3G (UMTS) mobile systems, offering a flexible and competitive alternative to wired access networks. The standardization of this technology focuses on frequency bands above 11 GHz, in particular the 31,8-33,4 GHz and 40,5-43,5 GHz bands.
- HiperMAN – aiming principally for a similar usage as HiperACCESS, but targeted at different market segments (eg wireless DSL-like service) and using a different part of the spectrum; the HiperMAN standard is optimized for frequency bands below 11 GHz and for obstructed or non-line of sight conditions. One of the main features of HiperMAN is low price; it offers economical options for mesh networks, with the possibility of self-installation by users.

ETSI completed the technical specifications for HiperACCESS and HiperMAN in 2002 and 2003, respectively. Since then, work has continued to enhance them. Conformance test specifications for the interoperability of both HiperACCESS and HiperMAN systems are also progressing well and are due for completion in 2004.

Home Networks

ETSI continues to work on the use of broadband services in the home. This will enable a wide variety of applications to enrich the quality of life, including health care for the elderly, but also new and exciting multimedia Internet services, voice, video, videoconferencing, interactive gaming, high speed Internet access, telecommuting, management of white goods, metering, security, monitoring and intelligence.

Security

One of the major challenges facing standards-makers today is the convergence of conventional switched telephony and IP solutions. This offers enormous opportunities but it also opens the door to a new range of security risks. ETSI has a dedicated security working group addressing standardization in this area.

In addition, terminal devices are becoming smarter, increasing the possibility of attack by means such as viruses and Trojan horses. Protecting customers has thus become a top priority for manufacturers, network operators and service providers.

In developing areas such as e-Learning, e-Health, e-Government and e-Business, the challenge is to get technology not just implemented but also widely used. This requires a reliable and secure network infrastructure in which users can trust, where privacy, confidentiality and the integrity of the information communicated are guaranteed. Standardization, sometimes in support of legislative actions, has an important role to play here too.

From its inception, ETSI has been at the leading edge in setting security standards and is engaged in numerous security activities related to the use of ICT.

Electronic Signatures

Reliable electronic signatures can authenticate the identity of a person doing business electronically in the same way that a written signature guarantees the identity of a person signing a written contract. With electronic signatures to validate transactions, the way is open to exploit the Internet for secure document exchange.

Standards to support the use of electronic signatures and public key certificates are essential to the development of electronic commerce. ETSI is working to provide a set of standards and to harmonize specifications at the international level to maximize market take-up.

With the publication of a number of reports and specifications in 2003, ETSI has now almost completed the current phase of work laid down in the European Electronic Signature Standardization Initiative (EESSI); the last deliverables will be finalized in 2004. Work in support of business self-regulation also progressed well in 2003 and is nearing completion.

Efforts to achieve global harmonization continue; a major accomplishment in this area has been the completion of the first phase of mapping between the ETSI Qualified Certificate Policy (QCP) and the US Federal Public Key Infrastructure Bridge (FPKI) Policy. Mutual recognition between the QCP and the FPKI Bridge policy is significant for the establishment of trust in electronic transactions between Europe and the US, in areas such as education and health. Promotion of its standards on the international scene and liaison with other organizations now represents an increasing part of ETSI's work on electronic signatures.

In November 2003, ETSI's Plugtests service organized the first ever interoperability testing event for implementations of the XML (eXtended Mark up Language) format for Advanced Electronic Signatures (XadES).

Smart Cards

ETSI is working to create a smart card platform for 2G and 3G mobile communication systems on which other organizations can base their system specific applications. In particular, this allows users access to global roaming by means of their smart card, irrespective of the radio access technology used. The work is therefore crucial to the growth of mobile commerce.

The major achievement of 2003 in the evolution of the smart card platform was the specification of a smaller format for the smart card. The new form factor, the 'Mini-UICC', measures only 12x15 mm, just less than half the size of the existing Plug-in card. This will allow the development of smaller devices for data transmission and offer additional communication and financial applications. This in turn will drive the growth of other new technologies, particularly 3G mobile.

The very first technical reports concerning electromagnetic compatibility were also published in 2003, and a new transport protocol for fast, secure end-to-end communication between applications was produced.

Lawful Interception

Lawful interception plays a crucial role in helping law enforcement agencies to combat terrorism and serious criminal activity. It is therefore an essential part of the infrastructure supporting electronic transactions and a key factor in the growth and development of the Information Society. ETSI's standardization helps facilitate the economic realization of lawful interception in compliance with national and international conventions and legislation.

ETSI made good progress in 2003; three new ETSI Technical Specifications (TSs) were finalized: on the handover specification for IP delivery, and the service specific details for e-mail services and for Internet access services.

In addition, work continues to revise and enhance the main handover specification for the lawful interception of telecommunications traffic (TS 101 671). In September 2003, this TS achieved significant market recognition when it was implemented and became operational within the fixed network of KPN, a prominent network operator in the Netherlands.

The Security of Mobile Communications

ETSI is a major contributor to the development of mobile communications through 3GPP. Good progress was made throughout 2003 on specifications for Release 6, which include support for Digital Rights Management (DRM) and 3G/WLAN interworking.

TETRA and GSM for Railways

ETSI has standardized the security aspects of mature technologies such as TETRA and GSM for the railways (GSM-R). Maintenance and clarification of these standards remain ongoing responsibilities.

Algorithms

ETSI continues to provide cryptographic algorithms to support a variety of technologies. The new encryption algorithm developed for GSM, A5/3, is expected to be deployed in the near future to help counter possible new threats to GSM ciphering and security. A5/3 will provide users of GSM phones with an even higher level of protection against eavesdropping than previously available.

Network and Information Security

In July 2002, CEN and ETSI launched a new Joint Group on Network and Information Security (NIS) in response to the European Commission's call for 'a comprehensive strategy on security of electronic networks including practical implementing action'. The Group's report was published in 2003, containing an extensive inventory of security standards work. It recommends standardization to improve the availability of secure electronic communication, including e-Commerce and the exchange of information within a European environment and beyond.

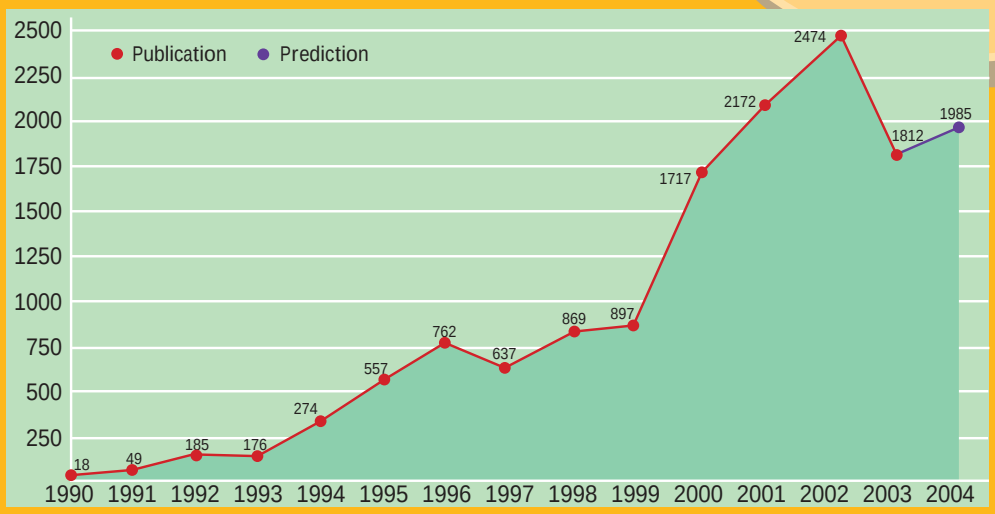
In particular, the report recommends work to improve interoperability, to upgrade standards and to protect home users and Small and Medium-sized Enterprises (SMEs).

Standards Production

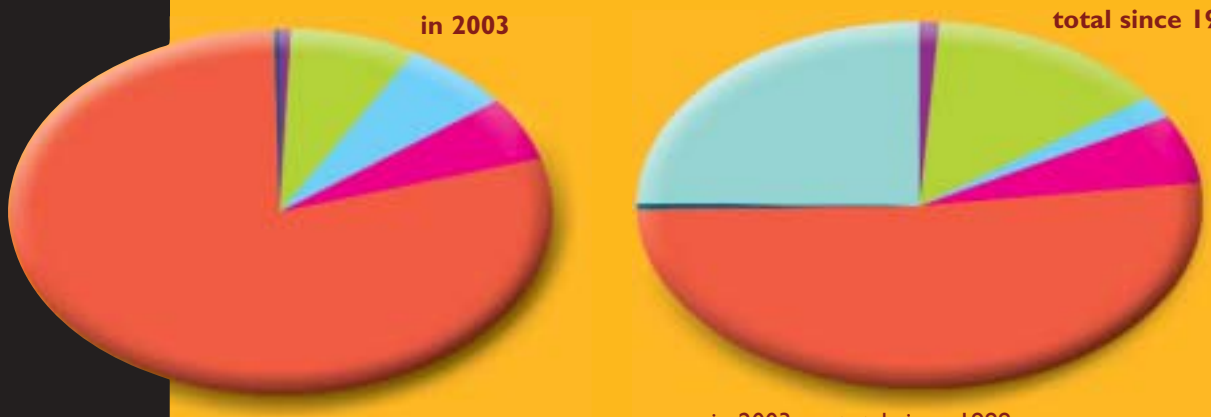
Compared with 2002, the number of deliverables published in 2003 dropped (from nearly 2 500 to just over 1 800), due in large part to lower production of 3GPP-based ETSI deliverables. However, the length and complexity of the individual documents published was considerably greater, with the result that output during 2003 remained roughly similar to the record levels achieved in 2002 (254 573 pages published in 2003 compared with 258 362 in 2002).

By the end of 2003, ETSI had published a total of almost 12 600 deliverables since the Institute was established in 1988.

The number of deliverables published, for each of the years 1990 - 2003 and the prediction for 2004.



Distribution by type of published deliverable



	in 2003	total since 1988
ETSI Guide (EG)	12	143
European Standard (telecommunications series) (EN)	138	1 798
ETSI Standard (ES)	116	243
Technical Report (TR)	103	812
Technical Specification (TS)	1 436	6 561
Special Report (SR)	7	34
Old deliverable type	0	2999

Specialist Task Forces and Other Funded Projects

Specialist Task Forces (STFs) are groups of highly skilled experts brought together from different ETSI Member organizations for limited periods to perform specific technical work under the direction of an ETSI committee. STFs are set up to accelerate the production of urgently needed standards, and it is estimated that, on average, the time saved using an STF is about 40%.

ETSI also organizes funded projects to provide technical support such as subcontracts for study, investigations, workshops etc.

In 2003, STFs were funded from the ETSI budget, the voluntary contributions of Members, and the EC and EFTA, mainly under the eEurope initiative. The total amount spent on experts' work in 2003 was about 3,25 M€.

In addition, the 3GPP partners and ETSI funded 'MCC Task Forces', to define formal test methods for 3G terminal equipment and subcontracts to specialist laboratories to assess codec performance. This work amounted to 870 k€.

Altogether (including MCC Tasks), 53 STFs were active during 2003, involving 158 experts and costing a total of about 4,12 M€. This was spent in the following areas:

STFs + MCC tasks and subcontracts: resources spent in 2003

EC/EFTA funding

For the year 2003, the EC and EFTA contribution to the ETSI standardization infrastructure was 1,8 M€, plus 130 k€ for visibility work, specifically activities within the Matchmaker programme.

The EC/EFTA contribution to the activities to be performed in specific contracts in 2003 included a further 1,345 M€, to support the eEurope 2005 initiative, Order Vouchers for which were signed at the end of December 2003. A further 130 k€ was committed to support two mandated activities related to the New Regulatory Framework: work in STF 254 on standards in support of Article 17 of the Framework Directive, and in STF 255, on digital TV and Article 18. The funding for these two STFs was finalized by Order Vouchers signed in September 2003. The funding provided will cover standardization activities to be completed in the third quarter of 2005.

Membership

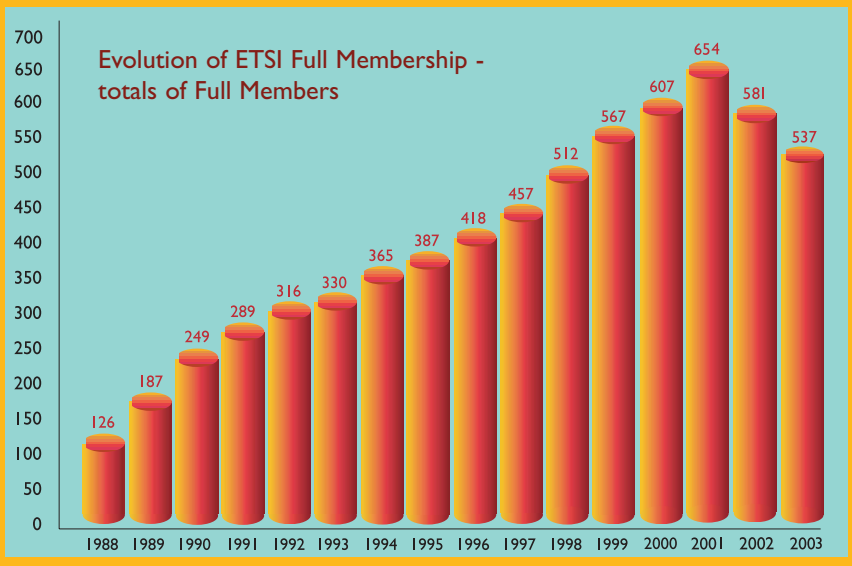
A significant number of Members have left ETSI in the last two years, mostly due to the downturn in the telecommunications industry. Some of this reduction in membership has come from mergers, but it is particularly sad to note that many of these former Members went bankrupt.

The declining membership which was recorded in 2002 continued in 2003, although the dramatic rate of loss reported last year has eased somewhat. Overall, membership fell from 770 to 699 between the end of 2002 and the end of 2003 – a drop of 9% compared with 12% in the previous year. Nevertheless, this negative membership evolution had a considerable impact on the budget for 2003 and will undoubtedly continue to do so for coming years.

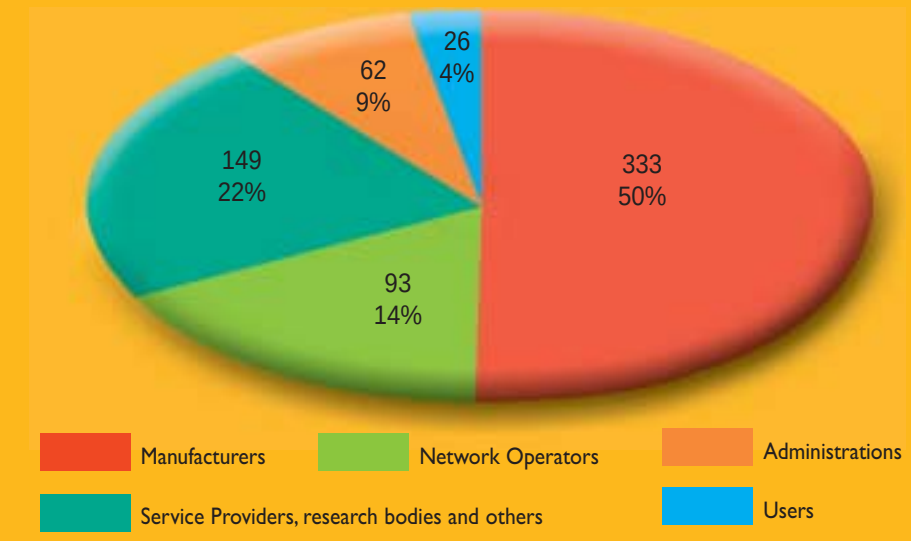
Full membership dropped by 7,5% on 2002 figures, to 537, drawn from 35 European countries. Albania joined ETSI; at the end of 2003 the total number of countries represented in all categories of membership was 55. Associate membership dropped to 126, representing 19 non-European countries, and at the end of 2003, there were also 36 Observers from 16 different countries.

Despite the severe financial constraints on many companies in the telecommunications sector, interest in membership of ETSI is still high; during 2003 there were 61 new applications for membership (36 for Full Members, 23 for associate membership and 2 for Observer). Efforts to enhance relationships with existing Members and to target new ones where relevant are being undertaken as part of the 2004 business plan.

The European Commission and the European Free Trade Association Secretariat, which hold special roles as Counsellors, attend the General Assembly and the ETSI Board and continue to play an active part in ETSI's work.



Full and Associate Membership by category



Membership by type

	01-01-2003	31-12-2003
Full Members	581	537
Associate Members	149	126
Observers	40	36
Total	770	699

Membership by country (Full and Associate Members and Observers)

Albania	1
Algeria	1
Andorra	1
Australia	4
Austria	11
Belgium	23
Bosnia Herzegovina	2
Bulgaria	4
Canada	14
China	5
Croatia	3
Cyprus	2
Czech Republic	5
Denmark	21
Egypt	2
Estonia	1
Finland	14
France	77
Georgia	1
Germany	90
Greece	5
Hungary	5
Iceland	2
India	8
Iran	1
Ireland	12
Israel	15
Italy	29
Japan	2
Korea	2
Latvia	3
Lithuania	1
Luxembourg	4
Malaysia	1
Malta	2
Netherlands	26
Norway	8
Poland	6
Portugal	2
Romania	3
Russian Federation	6
Singapore	2
Slovakia	2
Slovenia	2
South Africa	4
Spain	16
Sweden	21
Switzerland	16
Taiwan	7
Tunisia	1
Turkey	8
Ukraine	1
United Arab Emirates	2
United Kingdom	136
United States of America	56
55 countries in total	699

The Financial Situation

The management of the finances of ETSI is described by
- the budget report
- the financial statements (balance sheet and income and expenditure statement) which are established according to French laws and regulations.

ETSI has been fully liable to corporate taxes since 1 January 2000.

Mr Pierre Casagrande, nominated auditor by the 30th General Assembly, has audited the 2003 ETSI accounts and certified that the annual financial statements are true, sincere and give a fair view of the activities carried out during the past financial year.

Budget Maintenance

The key points of the budget management, compared with 2002, are the following:

Expenditure – In total, expenditure decreased by 7% and the budget has been underspent by 2,7%. Secretariat costs decreased by 8% due to a cost-saving programme. 6,1 M€ were spent on the Mobile Competence Centre (MCC) and 1,8 M€ on the Protocol & Testing Competence Centre (PTCC). The remaining Funded Work Programme Budget amounted to 2,5 M€ (without overheads), which was mainly (72%) financed by eEurope contracts funded by the EC and EFTA. 0,7 M€ were spent on Plugtests activities, half of which was funded under eEurope.

Income – Members' contributions decreased by 19%. 51% (11 M€) of the budget was funded by Members' contributions, which is a much lower percentage than in 2002 (60%). The contribution of the 3GPP Partners (2,7 M€) decreased due to cost reductions within 3GPP. EC/EFTA contributions amounted to 4,6 M€, mainly for the development of the eEurope programme and the annual performance contract. Income generated by support services supplied to fora and consortia (Forapolis) increased significantly in 2003, due to a new contract signed in the middle of the year.

2003 Budget

INCOME (k€)		EXPENDITURE (k€)	
Members' contributions and Observer fees	10 970	Secretariat	8 756
EC/EFTA funding	4 651	Special Projects	969
Contributions from 3GPP & MESA Partners	2 654	Mobile Competence Centre (MCC)	5 633
Members' voluntary funding	591	Protocol & Testing Competence Centre	1 815
Sales	501	Funded Work Programme	2 483
Support to fora	565	Plugtests	679
Financial income	325	Support to fora	683
Other income	1 039	Provision and losses	278
TOTAL INCOME	21 296	TOTAL EXPENDITURE	21 296

The Financial Situation

Financial Statements for the Year 2003

The final accounts and the balance sheet are summarized below.
The fiscal accounting period is 1 January 2003 - 31 December 2003.

Statement of Income and Expenditure Year 2003

	Income (€)	Expenditure (€)
Income	20 902 653	
Purchases		11 152 673
Expenses		10 040 724
Investment management	330 326	13 810
Extraordinary income & expenses	63 208	69 990
Corporate Income Tax		18 990
TOTAL	**21 296 187**	**21 296 187**

For 2003, income balanced expenditure.

Summary of the Balance Sheet

Assets

Net amounts at:	31 December 2002 (€)	31 December 2003 (€)
Fixed Assets	1 884 950	1 546 516
Debtors	2 796 005	3 334 308
Securities/cash	11 151 039	11 717 892
Adjustment accounts	13 063	30 910
TOTAL ASSETS	**15 845 057**	**16 629 626**

Liabilities

Net amounts at:	31 December 2002 (€)	31 December 2003 (€)
Equity	8 331 645	8 331 645
Provisions	150 000	150 000
Creditors	6 087 933	7 042 631
Adjustment	1 275 479	1 105 350
TOTAL LIABILITIES	**15 845 057**	**16 629 626**

ETSI-NEWS

ETSI-NEWS is an electronic newsletter that provides the latest information on the activities of ETSI Technical Bodies, ETSI press releases, forthcoming ETSI meetings, ETSI and 3GPP events etc...

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ETSI-NEWS

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