

SPECIAL ISSUE

"An Overview of 1997's Main Trends and Key Events"

1. LEGISLATION AND POLICIES

Trends: The year 1997 was dominated by the global trend towards liberalisation of the telecoms sector. This concerns in particular the EU, Canada, Japan and all other countries that have signed the WTO Basic Telecoms Agreement. As for the USA, liberalisation under the 1996 Telecoms Act is being delayed by US Courts.

EUROPE

At European Union level, the year 1997 was marked by the final preparations for full liberalisation of the telecoms market by 1 January 1998, an event which is the culmination of a process initiated in 1987 with the Green Paper on telecommunications. As the deadline approached, the European Commission opened infringement procedures against several Member States to ensure that they fully transpose the 1998 regulatory package into national legislation in due time.

With the new liberalised telecoms environment in place, the Commission turned towards the future with a Green Paper on the convergence of telecoms, media and information technology sectors which aims to launch a Europe-wide debate on how the convergence sectors should be regulated in the future. This may set the basis of future regulatory developments.

The Commission also adopted key policy documents aimed at stimulating the development of electronic commerce, a fast-emerging market which is expected to be worth at least 200 billion Ecu at world level by the year 2000. This concerns in particular a Communication on electronic commerce that identifies key areas where actions must be undertaken and a follow-up Communication that aims to ensure the Europe-wide availability of digital signatures and encryption, which is key to the rapid take-off of electronic commerce.

As regards the EU information society policy, the Commission updated its Rolling Action Plan, thus providing a comprehensive picture of all related policy initiatives at Community level.

At EU Member State level too, the year 1997 was dominated by the preparation for the 1998 liberalisation, in particular with the adoption of new telecoms acts and the establishment of independent national regulatory authorities. Licenses were awarded to the new fixed-network operators. In most Member States, incumbent operators will be challenged by at least one and up to

four major new entrant in the fixed-network market.

The generalised trend towards privatisation of incumbent telecoms operators also gained further momentum in 1997, in particular with the partial sell-off of France Télécom and Italia Telecom. In Spain, government privatised 60% of the state-owned TV signal transmitter Retevisión to turn into the country's second telecoms operator.

The EU telecoms liberalisation agenda also serves as a model for non-EU countries, as is illustrated by the case of Switzerland. The Swiss Parliament approved legislation aimed at fully liberalising the Swiss telecoms market in 1998 and the Swiss government announced the sell-off of 49% of the incumbent operator SwissCom.

UNITED STATES

As regards domestic telecoms, the US Federal Communications Commission worked towards defining clear rules for the implementation of the 1996 US Telecoms Act. But it got slammed twice by the Eighth US Circuit Court of Appeals in St. Louis which rejected federal rules on grounds that the FCC overstepped its authority in areas that fall under state responsibility, in particular network interconnection charges and leased lines. These rulings create uncertainty and will delay the full liberalisation of the US telecoms market. The FCC also denied regional telecoms operators such as SBC Communications and Ameritech the right to offer long-distance services on grounds that their home market were insufficiently open to competition. But US District Court Judge Joe Kendall decided to let US regional operators enter the long-distance market without having to meet preliminary conditions, a decision the FCC said it would oppose.

Concerning foreign aspects of telecoms, the FCC proposed to modify the accounting rate system by creating a "benchmarking" system aimed at comparing the settlement rates telecoms operators pay to each others to complete international calls with a view to have settlement rates that are closer to actual costs. Carriers that do not offer rates within the benchmark limits laid down by the FCC would face restrictions to enter the US market. These rules have raised concern throughout the world due to their unilateral and extra-territorial character and have been challenged in US Courts by several operators.

The FCC also adopted new rules on access to the US telecoms market and non-US licensed satellite systems for telecoms operators of World Trade Organisation (WTO) member countries. The move aims to enforce the February 1997 WTO Basic Telecoms Agreement and does not concern carriers from non-WTO countries. However, the FCC reserved the right to impose additional conditions in case of potential anti-competitive harm and to deny authorisations if there is a very high risk for competition. These rules have also proven to be controversial at global level.

As regards broadcasting, the FCC adopted standards for the next generation of high-quality digital TV sets. But before digital TV can be launched, the FCC has yet to make frequencies available and to issue licenses. This is to be done in 1998. The FCC also approved plans to introduce digital TV in the USA over a 10-year period.

As far as on-line communication is concerned, the US Supreme Court ruled that legal provisions of the 1996 US Telecoms Act, the so called Communications Decency Act, which aimed to outlaw the transmission over PC networks of indecent or patently offensive material to minors, are unconstitutional as they breach freedom of speech protected under the US Constitution's First Amendment.

As an alternative, US President Clinton decided to support a Web site rating system similar to those introduced for TV to protect US youngsters against on-line pornography. Combined with existing filtering technologies, the rating system would allow parents to ban child access to Web sites that contain what they consider as being inappropriate contents. President Clinton also signed into law the No Electronic Theft Act, a bill aimed at curbing copyright breaches.

CANADA

The Canadian Radio-television and Telecommunications Commission (CRTC) adopted measures to fully liberalise Canada's telecoms market by 1 January 1998 and to encourage convergence between telecoms and broadcasting. New telecoms entrants were allowed to offer local services in 1998. As regards convergence, cable TV operators were immediately allowed to offer local telecoms services, while telecoms companies were entitled to apply for broadcasting licenses to enter the market in 1998.

JAPAN

The Japanese Diet passed legislation aimed at restructuring the telecoms industry and allowing domestic, long-distance and overseas carriers to enter each other's market.

The amendment to the Nippon Telegraph and Telephone (NTT) Law aims to split up the domestic telecoms giant into three companies: one specialised in long-distance and international services and the two others respectively in charge of Eastern and Western Japan. All three companies will be put under the umbrella of a holding company. While the deadline for completing the restructuring is the end of fiscal year 1999, NTT was allowed to offer overseas services starting from September 1997. Legal restrictions on the offer of data communications between foreign countries and the development of networks abroad are to be lifted in 1998. The Japanese government also said that it would resume the partial sell-off of NTT, which is still 65%

state-owned, in the course of 1998.

As for the amendment to the Kokusai Denshin Denwa (KDD) Law, it aims to let the overseas carrier to enter the domestic telecoms market.

OTHER COUNTRIES

The South Korean government has awarded two telecoms licenses for long-distance services and local services, thus breaking up the monopoly of Korea Telecom (KT) over local services and the duopoly of KT and Dacom in the long-distance market.

The Indian government has broken up the monopoly of the state-owned international carrier Videsh Sanchar Nigam (VSNL) in the Internet access market.

The Israeli government has decided to break up the monopoly of the national telecoms operator Bezeq in the domestic market by January 1999. It also agreed to let the UK operator Cable & Wireless to increase its stake in Bezeq to 20% from 10%.

WORLDWIDE

The 1997 World Radiocommunications Conference (WRC 97), a global forum on the use of radio frequencies and satellite orbits, reached agreement on how to proceed with new global satellite-based broadband systems, thus allowing for an efficient usage of spectrum and opening up this market to competition. The accord will allow notified systems to take off, in particular Celestri, Teledesic and Skybridge.

On 15 February 1997, 69 countries, including 35 economically less-advanced nations, signed the World Trade Organisation (WTO) Basic Telecoms Agreement, thus agreeing to open up the world's telecoms market to competition by 1 January 1998. These countries represent 93% of the global telecoms market worth 400 billion Ecu. With the WTO accord, telecoms activities will be covered by a common set of multilateral rules submitted to the WTO dispute settlement mechanism, in particular as regards legally binding commitments regarding market access and national treatment.

In addition, 54 countries agreed on a common set of regulatory principles aimed at securing more effective access and national treatment. However, the WTO accord also includes a number of individual derogations as well as significant differences regarding the scope of each country's commitment. Several nations also opted for delayed or gradual implementation of their pledges until 2000 and sometimes 2010.

A Ministerial Conference on Global Information Networks attended by ministers of the EU, the European Free Trade Area (EFTA), Central and Eastern Europe, the USA, Russia, Japan and Canada, and representatives of industry, users and international organisations agreed on key principles for the growth of information networks in Europe.

A Ministerial Declaration underlined the importance of the availability of capital for start-ups and SMEs, the principle of non-discriminatory taxes on the use of global networks, the respect of privacy, the availability of encryption and digital signatures, and rules of responsibility and police co-operation to fight illegal and harmful content.

An Industry Statement insisted on the role of governments in creating a favourable business environment and bringing new technologies to classrooms, and the leading role of industry in setting global standards. As for the User Statement, it stressed the necessity to take account of the needs of people, in particular as regards universal service, data protection, secure transmissions, employability as well as redress and complaint systems.

2. INFORMATION INFRASTRUCTURES

Trends: At global level, the focus is on broadband satellite systems, three of which (Celestri, Teledesic and Skybridge) will be able to take-off following the WRC 97 accord. From a European perspective, the good news is that one of these projects is Europe-led. In Japan, the emphasis is on local network development in the wake of liberalisation.

EUROPE

The year 1997 was marked by the emergence of the first Europe-led global satellite-based broadband communications system for business and residential users, Skybridge, a \$3.5 billion worth project led by the French telecoms equipment manufacturer Alcatel.

Skybridge would compete with five similar US-sponsored systems, including Motorola's M-Star, Lockheed Martin's Astrolink, AT&T's Voicestar, Hughes's Spaceway as well as Bill Gates, Graig O. McCaw and Boeing's Teledesic. So

far, Skybridge, Teledesic and Celestri are the most advanced projects.

Skybridge's strength lies in the fact that it is the only system that has a foothold in Europe, North America and the Asia-Pacific region. Indeed, it is linked to CyberStar, a similar system covering the USA developed by Loral Space & Communications, and has the backing of France's Aérospatiale and Japan's Toshiba, Mitsubishi and Sharp.

JAPAN

In the wake of the liberalisation of the Japanese telecoms market, the trend amongst new entrants is to develop local and long-distance networks to be in a position to compete with the domestic telecoms giant Nippon Telegraph and Telephone (NTT).

As in Europe, the private networks of utilities plays a key enabling role in this process. This is illustrated by the decision of the overseas operator Kokusai Denshin Denwa (KDD) to interconnect its Japan Information Highway (JIH), a 700 million Ecu worth submarine optical fibre network to be develop around Japan's three main islands by mid-1999, with the private network of nine electricity utilities as well as the networks of the long-distance operators DDI, with which it will merge, and Teleway.

As for the Japanese long-distance and overseas operator Japan Telecom (JT), it intends to develop a wireless local telecoms network aimed at connecting large corporations to its long-distance network within a distance of 2 km of the network.

3. MARKETS AND COMPANIES

Trends: In Europe, the year 1997 was marked by intensified industry preparation for telecoms liberalisation, with new alliances, the consolidation of existing ones, and dramatic shifts of alliances, as well as the explosion of digital TV channels, mainly over satellite platforms. The telecoms situation in Japan bore many similarities with that in Europe, except that the making of alliances only really started in 1997. But the Asian crisis will postpone most telecoms investments in South-East Asian countries. In the USA, 1997's main market event was the WorldCom-MCI merger. This event highlighted the key role of US capital markets in allowing US firms to make important raids on foreign groups. As regards global telecoms alliances, important shifts of alliances and drawbacks (e.g. BT-MCI, Unisource-Telefonica) raise many uncertainties.

EUROPE

Telecoms

In Denmark, the US telecoms operator Ameritech agreed to take a 42% stake in the incumbent Danish operator Tele Danmark. The two companies are already partners in the consortium that owns 49.9% of the national Belgian operator Belgacom. Ameritech's move seems aims at gaining access to the Nordic telecoms markets.

In Italy, the incumbent operator Telecom Italia is rivalled by three new entrants. Albacom, a joint venture set up by BT, the Italian bank Banca Nazionale del Lavoro (BNL) and the Italian media group Mediaset, received the backing of the Italian energy utility ENI. Infostrada, a joint venture between the former Italian computer giant Olivetti, which in 1997 agreed to sell its PC business and refocus on telecoms, and the US telecoms operator Bell Atlantic, received support from Germany's Mannesmann. As for Wind, a joint venture set up by Deutsche Telekom and the Italian electricity utility Enel, it received the backing of France Télécom.

In France too, three new entrants are challenging the incumbent, France Télécom. Cégétel, a telecoms joint venture between the French water utility CGE, BT and Mannesmann received the support of the national railway company SNCF, which chose it as a partner for its telecoms network and service subsidiaries. Bouygues Télécom, a joint venture between the French media and construction group Bouygues and Telecom Italia, received the backing of Germany's Veba. As for Suez-Lyonnaise des Eaux, a cable TV operator, it decided to enter the telecoms market on its own.

In Germany, where four new entrants (Mannesmann Arcor, o.Tel.o, Vebacom, Viag Interkom) are challenging Deutsche Telekom, there were major alliance adjustments. One of the most dramatic move was the decision by the UK operator Cable & Wireless (C&W) to quit Vebacom, a joint venture with Germany's Veba. It was replaced by the German energy utility RWE, which itself had decided to leave Viag Interkom, a joint venture established by Britain's BT and Germany's Viag. As for Viag Interkom, it received the support of the Norwegian telecoms operator Telenor. Local operators are also emerging, as is illustrated by the decision of the Swiss incumbent operator SwissCom and two German energy utilities, Badenwerk and Energie-Versorgung Schwaben, to set up a regional joint venture, Communications Network Services.

In Spain, a single new entrant emerged, Retevisión, the former state-owned TV signal transmitter, which teamed up with Telecom Italia and the Spanish energy utility Endesa.

At Europe-wide level, the Spanish operator Telefonica decided to quit the pan-European venture AT&T-Unisource Communications Services and join forces instead with BT and its US partner MCI. The Portuguese operator Portugal Telecom too decided to team up with BT and MCI. To seal the alliance, the four companies agreed to swap small stakes. The move would have resulted in the creation of a powerful alliance covering North American, Latin American and Europe. Its core would have been formed by Concert, a new company that was to result from the merger between BT and MCI. But MCI's decision to merge with the US operator WorldCom instead of BT risks undermining the alliance. As of AT&T-Unisource, it managed to fill-in the blank left by Telefonica by joining forces with Telecom Italia, which agreed to take a 30% stake. Telecom Italia and AT&T also agreed to join forces in the Latin American market.

Audiovisual

In Britain, British Digital Broadcasting (BDB), a joint venture set up by the UK media companies Carlton Communications and Granada Group, received a license from the UK Independent Television Commission (ITC). BDB will invest 400 million Ecu in the launch in 1998 of digital TV based on terrestrial broadcasting.

In Germany, the media groups Kirch and Bertelsmann ended a bitter dispute by agreeing to take joint control of the pay-TV channel Premiere and to merge their digital pay TV operations. The move was facilitated by the decision of the French pay-TV group Canal+ to sell its stake in Premiere, which it traded against Kirch's 45% stake in the Italian pay-TV channel Telepiu. Bertelsmann and Kirch also agreed with Deutsche Telekom to offer their digital pay-TV channels over the operator's cable TV network, the country's largest. Deutsche Telekom would operate a technology-neutral platform allowing all broadcasters to offer digital TV channels over its network.

In Italy, the French pay-TV group Canal+ signed a preliminary accord with three leading Italian telecoms and media groups, STET, RAI and Mediaset, to jointly set up an open platform for digital TV. The move would lift uncertainty regarding the emergence of rival digital TV platforms, including on one side STET-RAI, which had already agreed to form a digital TV joint venture, and on the other side the leading pay-TV channel Telepiu, which is 90% owned by Canal+ and 10% by Mediaset. The move would represent a further strengthening of Canal+'s European digital TV operations.

In Spain, the two rival digital TV groups Canal Satellite and DTS got entangled in a bitter dispute over decoding technologies following the adoption of legislation requiring digital TV operators to use a single decoding technology. While Spanish authorities argued that a single decoder would facilitate consumers' life, Canal Satellite said that the decision aimed to support rival DTS. The legislation was modified after the European Commission opened infringement proceedings against the Spanish government on grounds that the legislation could have potential adverse effects on the digital TV market.

NORTH AMERICA

The main event in the US telecoms sector in 1997 was the decision by the country's fourth and second largest telecoms operators, WorldCom and MCI, to merge. The move would result in the creation of the only US carrier that offers a full range of local, long-distance, overseas and Internet services. The move, which dealt the UK operator BT a serious blow, could also be a bad omen for other European operators, in particular France Télécom and Deutsche Telekom, which could have to secure their ties with the US long-distance operator Sprint to avoid a similar misadventure. More generally, the merger underlines the key role of US stock markets in providing the financial resources needed to rapidly create global winners such as WorldCom.

With the growth of electronic communications, the role of the networking industry is growing rapidly, thus resulting into a far-reaching consolidation process amongst market leaders. Hence, 3Com agreed to a 6 billion worth merger with the US leading modem manufacturer US Robotics, while Ascend spent \$3.7 billion on the purchase of Cascade, a high-speed switching technologies specialist. The process started in 1996 with the purchase of StrataCom by the market leader, Cisco Systems, for \$4 billion.

In 1997, the US industry demonstrated again its unquestioned leadership in chips. The world leader in PC chips, Intel, released a new line of PC chips, the Pentium II, only months after upgrading its Pentium with the MMX technology. An important trend however is that Intel is coming under increased competition from two US rivals, AMD with its K6 chips and Cyrix with its 6x86MX. Both AMD and Cyrix chips have comparable performances than Intel's but they priced considerably lower. Intel is therefore trying to expand into new markets, in particular flash memory chips which are used in portable equipment, with its new StrataFlash. Indeed, while Intel has 85% of the PC chip market, it only has 33% of the flash memory chip market.

JAPAN

The liberalisation of Japan's telecoms market unleashed a wave of alliances and mergers that led to consolidation of the industry. The stake for new entrants is to reach a critical size to compete with Nippon Telegraph and Telephone (NTT). Three major players emerged: Kokusai Denshin Denwa (KDD), Japan Telecom and DDI.

The first large merger was that of the long-distance operator Japan Telecom (JT) and the overseas carrier International Telecom Japan (ITJ). Behind the venture are major Japanese companies, including the private railway company JR, which owns JT, and the trading houses Mitsubishi, Mitsui and Sumitomo, which are ITJ's major shareholders.

Second on the list is the planned merger of the overseas carrier KDD and the long-distance operator Teleway Japan, a subsidiary of the Japanese car manufacturer Toyota, which is due to be completed by 1 October 1998. The merger would follow the full privatisation of KDD, to be carried out by the summer of 1998.

Competition in the Japanese digital satellite broadcasting market gained further momentum in 1997 with now three systems on the air: JSkyB, which is owned by the US media giant News Corp. and Japan's Softbank, Fuji TV Network and Sony; PerfecTV, which is owned by the Japanese trading houses Mitsui, Itochu, Sumitomo and Nissho Iwai; and DirecTV Japan (DTVJ), which is led by America's Hughes Communications. However, JSkyB and PerfecTV announced merger plans in late 1997.

4. MULTIMEDIA APPLICATIONS AND PRODUCTS

Trends: The worldwide focus is on Internet access, which is gaining tremendous momentum in Europe. Meanwhile, US firms are further confirming their leadership in Internet software, on-line services and electronic commerce. As for interactive TV, the situation is contrasted, but it is clear that is no longer on top of the industry's agenda.

EUROPE

The offer of high-speed Internet access is becoming a major focus in Europe, thus reflecting the growing maturity of the Internet market. While this market had so far been dominated by independent service providers (ISPs), well-established telecoms operators, cable TV operators and broadcasters are now vying for position.

A generalised trend amongst European telecoms operators is to rely on ADSL, a technology that allows to use regular phone lines for high-speed data transmission. ADSL trials have been or will be launched by several European operators, including BT, France Télécom, Telefonica and Telia. At least two European operators, Belgacom and Austria Telecom, are moving towards commercial deployment of ADSL. The French telecoms maker Alcatel dominates the world's ADSL market with a 30% share.

But telecoms operators face competition from cable TV operators that are upgrading their networks to offer high-speed Internet access and interactivity. Trials have been launched, and commercial deployment has been launched, for instance by Suez-Lyonnaise des Eaux in France and TVD in Belgium.

Competition also comes from digital satellite TV platforms such as CanalSatellite and BSkyB, which intend to offer their customers Internet access and e-mail alongside interactive services such as home-banking and teleshopping.

Meanwhile, the world's largest ISP, UUNet, a subsidiary of the US operator WorldCom, is strengthening its grip on the European corporate Internet market with the purchase of large European ISPs, for instance Internet-Way in France or NLnet in the Netherlands. UUNet also has operations in the UK, Germany, Belgium and Luxembourg.

The commercial deployment of interactive TV services is slowly gaining momentum in Europe with at least one ambitious plan: British Interactive Broadcasting (BIB). BIB is a joint venture which was set up by the leading UK operator BT and the leading UK pay-TV group BSkyB in partnership with the UK Midland Bank and the Japanese electronics group Matsushita. BIB will invest 375 million Ecu in developing the technological platform and digital set-top boxes. The system, which has yet to win regulatory approval, is due for launch in mid- 1998 and would offer home shopping and banking, educational and community programming, Internet access and e-mail.

Digital satellite broadcasters are likely to play an important role in this respect, as they intend to offer interactive services alongside Internet access. Canal+ in particular has announced the launch in 1998 of the Multimedia Home Platform, the next-generation set-top box which would serve as a single control interface for all household appliances. It would also offer access to the Internet and new interactive services.

NORTH AMERICA

As in Europe, high-speed Internet access is a major focus in North America, where ADSL is also gaining momentum. It is tested by several telecoms operators, including BellSouth, Pacific Bell and SouthWestern Bell. At least three operators, Ameritech Bell Atlantic and Bell Canada, are moving towards commercial deployment.

Consolidation of the Internet access market is already well advanced. In fact, 50% of the Internet traffic would be dominated by WorldCom and MCI, which have agreed to merge. WorldCom strengthened its grip on the Internet market by purchasing the networking divisions of the world's two leading proprietary on-line services, Compuserve and America OnLine (AOL). This came on top of UUNet Technologies, the world's leading corporate Internet access provider, which Microsoft owns 15%.

As in Europe, the cable industry also intends to play a key role in the Internet market. For instance, the North-American Channel HyperLinking Organisation (NACHO), which groups leading US cable TV, supports TV On-Line (TVOL), a technology developed by Worldgate Communications which allows cable operators to offer cut-price high-speed Internet access over the TV set via a set-top converter box.

US companies continue to dominate the Internet software market. A key element here is the role of the software giant Microsoft, whose strategy is to build upon its dominance of the PC operating system and software markets to play a leading player in all segments of the Internet market. Microsoft also uses its huge financial resources to buy smaller players with a leading edge in market niches. Microsoft also took a 15% stake worth \$1 billion in Comcast, the fourth-largest US cable TV operator. The money will be used to upgrade Comcast's network to fibre optics with a view to connecting 85% of its with 4.3 million subscribers with high-speed links by the end of 1998. This first investment in a network operator illustrates Microsoft's willingness to expand its control of the value-added chain of multimedia beyond software, content and the dissemination platform.

The outlook for interactive TV in North America looks rather gloomy with most companies down-scaling their plans. The cable TV giant Time Warner, for instance, announced that it would pull the plug on its Orlando interactive TV experiment, the Orlando Full Service Network, by the end of 1997. The trial cost \$100 million, which was more than originally foreseen, ran into technical difficulties and triggered less consumer enthusiasm than expected. As a result, Time Warner watered down its commercial interactive TV plans. For 1998, it only foresees the launch of near-video-on-demand and Internet access services in a few US cities, while video-on-demand and high-speed Internet access will wait until 1999.

As for the US regional operator SBC Communications, it too decided to scale down its interactive TV plans. The retreat would include dropping a trial in Texas and the development of an advanced network in Southern California, as well as reducing its involvement in two ventures with other Baby Bells, Tele-TV and Americast.

ASIA-PACIFIC

The telecoms operator Hong Kong Telecom announced the launch before the end of 1997 of a large-scale commercial deployment of interactive TV, including music and video-on-demand, and karaoke services. This follows a three-year experiment.

The Japanese electronics groups Hitachi, Fujitsu and NEC have unveiled a platform for secure on-line transactions, the Banking Transaction Protocol, which would allow users to check account balances, wire money and make payments over the Internet. The protocol, which was approved by 11 major Japanese banks, was prepared by the Secure Electronic Commerce Environment (SECE) Study Group, which was set in 1996 by the three partners to develop a common platform for electronic commerce. The SECE platform would be compatible with the Secure Electronic Transactions (SET), a secure on-line payment system developed by the US credit card giants Visa and MasterCard but it would cater for the specific needs of the Japanese market.

5. SOCIAL, SOCIETAL AND CULTURAL

Trends: The use of new multimedia technologies in schools was again on top of the agenda both in Europe, the USA and Asia. Internet censorship too remains an issue.

EUROPE

At European Union level, a group of leading European and US high-tech companies agreed to establish a European Education Partnership (EEP) which serves as a forum for the launch of large-scale projects in Europe's classrooms. This was followed by the announced launch of another private-led initiative, the Private Foundation for Educational Multimedia. The Foundation, to be set up in early 1998, would support public-private partnerships and the dissemination of best practices, and would also act as a think tank. Participating companies are all members of the EEP.

At EU Member State level, new initiatives were launched in several countries, for instance Britain, France and Germany. The UK government pledged to invest 140 million Ecu in updating computers and software in schools as part of its plans to establish by 2002 the National Grid for Learning, a nation-wide network connecting all schools, universities and libraries. The French government launched a three-year plan to give all students, pupils and teachers access to multimedia tools and an e-mail address, and to establish a nation-wide network, Educnet. As for the German government, it pledged to wire up all schools by the beginning of the academic year 2001/2002.

NORTH AMERICA

A major event in the USA was the adoption by the Federal Communications Commission (FCC) of rules aimed to ensure that all US schools and libraries can afford access to the Internet. Under the scheme, schools would enjoy discounts of 20% to 90% on telecoms tariffs. Funding will come from a Universal Service Fund (USF) which would provide up to \$2.25 billion per year starting from 1998.

ASIA-PACIFIC

Multimedia for schools also tops the agenda in the Philippines, where the telecoms operator Philippine Long-Distance Telephone signed an agreement with the US computer group Oracle for the launch in 1998 of Phil-Net, an advanced network that would give college students in the Philippines access to the Internet and on-line educational content via network computers (NCs).

Internet censorship is on the agenda in Vietnam, where government issued complex rules requiring all users to receive a license before posting information on a Web site. The provision of information that is inconsistent with the license could lead to the licence's removal, a fine or even imprisonment.

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