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Resolution on the Future Regulatory Framework

The Union's telecommunications policy took a major step forward with the adoption by the Telecommunications Council of a Resolution outlining the future regulatory framework to accompany the liberalised telecommunications environment from 1 January 1998. This follows the agreement by the Council of Ministers last November on 1 January 1998 as the date for the full liberalization of telecommunications infrastructure. That is the same date as that agreed in July 1993 for the removal of the remaining monopolies over the public voice telephony service in the Member States. The Resolution endorses the results of the public consultation carried out by the Commission during the first half of this year on infrastructure liberalization and provides a political framework for a common Union-wide approach on the three key regulatory issues: interconnection, universal service and licensing. The Commission will bring forward proposals to address these areas between the summer and the end of the year.

Resolution results from a broad public consultation

Agreement in Council builds on the consensus established in the Commission's public consultation on the Infrastructure Green Paper, and on the support expressed by the European Parliament. The Commission met with more than 200 organizations and received more than 1000 pages of written comments from the telecoms industry, service providers and users, as well as from other organizations in fields such as broadcasting, consumer interests and the trade unions. The consultation produced widespread support for both the liberalization proposals and accom-

panying regulatory framework for the liberalized environment. In early May, the Commission reported on the outcome of this consultation to the Council and to the European Parliament.

Council confirms political support for effective liberalization

The Council has now agreed on the following principles for the Commission's proposals for legislation on the future regulatory framework:

- Telecommunications markets are open to all operators and service providers which satisfy objective and non-discriminatory licensing requirements;
- In order to guarantee that all citizens and businesses throughout the Union can access at least basic telecommunications services at an affordable price, the future framework at a European level will require Member States to identify which companies are to provide universal service. It will also establish common rules for identifying the cost of universal service in each Member State and for sharing any burden associated with providing universal service amongst market players;
- The main commercial issue after 1998 will be the terms upon which new players can interconnect with today's incumbent operators and with each other. The creation of common rules for interconnection is essential in order to ensure that every end user in the Union can contact every other user.
- Priority is to be given to commercial negotiations, though supported by common rules on interconnection and by existing competition provisions of the Treaty. Regulatory authorities will have an important role to play in overseeing the technical and commercial aspects of interconnection negotia-

tions in order to avoid discrimination and to promote the development of competition.

- Account must be taken of the social impact of telecommunications liberalization.
- The Council has reaffirmed the Union's commitment to effective and comparable access to worldwide markets. Agreement on the shape of the future regulatory environment for telecommunications will substantially assist the Community in achieving this aim in the context of the on-going multi-lateral trade discussions within the World Trade Organization.

Legislative programme

In the light of the Council's position, the Commission is already preparing proposals to translate these policy objectives into legislation, which it will present during the second half of the year. These proposals will have to be adopted by Council and Parliament during 1996 so that they can be implemented by Member States in good time for the effective opening of telecommunications markets, on 1 January 1998.

At the same time, discussions at a Union level should not prevent Member States from moving forward more rapidly in preparing for a liberalized environment. In particular, Council specifically called on the Member States to make progress in promoting the adjustment of tariffs in preparation for competition and to publish as early as possible their proposed licensing or authorization schemes, so that future market players will be authorized to start operating from day one of the new liberalized environment.

Telephone

Following multiphased evaluation, a traffic measuring system (*Traffic Measuring Operations System TM-OS*) has been ordered for planning purposes. The new system will replace the TM-85 system currently in use, as after implementation of expansion stage 7 this can no longer be used and, besides, has reached its physical limits. As a planning tool TM-OS will furnish data for medium and long-term planning of the national and regional network.

Switzerland has the most dense *publiphone network in Europe*: at the end of 1994, 12 278 public call stations (telephone booths) were in operation. In addition to these stations, telephone calls can be made from more than 45 273 privately leased publiphones. Furthermore, a common customer wish will soon be met, in that Post Cards may also be used for calls from publiphones; trials are going on in the city of Berne. In the second half of 1994 old publiphones at over 3000 locations were replaced by new 'card-only stations', representing a first step towards conversion from coin-to-card-operated stations. By changing to modern charge cards, Telecom PTT is looking to restrain the present unreasonably high costs incurred by vandalism, theft and coin sorting. The Publiphone Card service should thus cover its costs by 1996. Moreover, publiphones are soon to become more attractive: Telecom PTT recently started a pilot operation for the use of Post Cards (chip cards) in publiphones in the city of Berne. If the test is successful, the successive nationwide conversion of equipment to Post Cards will begin in autumn 1995. In a further stage it is planned to introduce a prepaid one-way chip card to replace the current charge card. Later, calls may be made from publiphones using other cards. The following fixed microwave links went into operation: in the regional network Erstfeld-Schiltwald with a transmission capacity of 34 Mbit/s and Amsteg-Chilcherberg with a transmission capacity of 34 Mbit/s as a link for the secondary route Zürich Insurances Glattbrugg to Zürich Insurances Schlieren (4×2 Mbit/s); for a remote unit Arosio-Lugano/Cinque Vie (16×2 Mbit/s); and in the trunk network the SDH trunk link Basle/Gross-

peter to Lugano/Cinque Vie, STM-1/4 GHz (1 + 1). The latter can be configured STM-1 or PDH as desired. An IBS (Intelsat Business Service) link was set up with Brazil via the Intelsat satellite at 307° East (Atlantic Ocean). Two new Natel-C base stations and 38 Natel-D GSM base stations were put into operation.

Teleinformatics

42 new international leased lines were put into operation by the Leased Circuit Service Centre. 61 international leased lines were set up by the Leased Circuit Service Centre (LCSC).

Telemed, Telecom PTT's total solution for health services, offers comprehensive communication solutions for health services. Users are doctors, hospitals, health insurance companies, laboratories, pharmacies and the pharmaceutical industry. In close cooperation with experts in these fields, total telecommunication solutions have been developed to meet the requirements of health services for the fast and individual transmission of information. Telecom PTT in Olten is the centre of competence for the Telemed project.

Radio, Television, Radiocommunications

In Airolo the *fixed microwave radio link* from the multipurpose installation to the exchange went into operation with a transmission capacity of 4×2 Mbit/s for feeding the Natel base station. The 4×2 Mbit link from Fanas to Valzeina was also put into operation.

In the *Intelsat network*, one IDR (Intermediate Data Rate) link each was set up with Malaysia and Australia via the satellite at 60° east.

The *Natel-C base stations* at Cressier, Hemmiken and Schinznach went into operation, as well as the following *Natel-D GSM base stations*: Cugy, Eschenbach, Finsterhennen, Gampe-len, Granges, Ins, Kallnach, La Neuveville, Le Noirmont, Mattstetten, Müntschemier, Payerne Landi, Pratteln, Prez-vers-Noréaz, Rosé, Schweizerhalle-Muttenz, Sumiswald, Zurich Stauffacher and Zurich Wiedikon.

For Radio Gonzen the transmitter and transposer installations at Valzeina, Buchserberg and Walenstadtberg were converted to mono.

In the *Telepage Swiss Network I* the new Oberhasli base station went into operation to improve service in the area around Zurich Airport. For the Radio Paging Network II (security services), a total of 28 additional base stations were put into operation in the areas of the Olten, Rapperswil and Zurich TDs.

Recently, the first ground was broken for the *new construction and conversion of the Säntis building* (together with the Säntis Cableway Ltd.). This was the official start of construction work, which will go on for about five years. Additional antenna sites will be put up for microwave radio (expansion of the caverns), and the present 84-m antenna tower will be replaced by a 113-m tower.

The Glion (Vaud) tunnel radio system went into operation. The system transmits five channels for the Canton as well as RSR 1 VHF radio broadcasts (ARI and RDS).

During the month under review eleven more base stations were put into operation for the radio communications network II (security services) of the Telepage Swiss radio paging service.

The Leuk satellite earth station, control centre for all earth stations in Switzerland, ran two courses on telecommunications via satellite for employees of the Basle and Zürich Telecom directorates.

As the first German-language television station to do so, 3sat is bringing its programmes mainly in 16:9-screen format and broadcasting operations are being converted to the new television standard PALplus. All 3sat's own productions from its home studio at the Mainz ZDF broadcasting

centre can be received in the new technology, as well as a number of films and documentaries. The new studio has five 16:9-cameras and digital studio management. The outgoing digital signal is guided directly to the PALplus coder.

Miscellaneous

A meeting for the preparation of the *World Radio Conference (CPM)* was held in Geneva. 409 representatives from 65 administrations and 17 international organizations and industrial associations participated. Their task was to draw up the report which will be discussed by delegates at the World Radio Conference (WRC-95). The *European Public Telecommunications Network Operators' Association Frequency Management (ETNO-FM)* held its ordinary meeting in London. This was called in order to determine frequency requirements for present-day and future systems and, on the basis of the results of studies or in reply to proposals from other international bodies, to work out so-called Draft Common Positions (DCP). Amongst its most pressing tasks at the moment is the preparation of DCPs for the WRC-95, the determination of future frequency requirements for radio local loops and the cooperation on DSI Phase II of the CEPT/ERC/FM working group. Berne was the venue for the 3rd meeting (CEPT7WGFM/PT22) of representatives from radio monitoring services in Belgium, Bulgaria, England, France, Germany, Holland, Poland, Spain, Sweden and Switzerland. A report to the attention of the Working Group Frequency Management (WGFM) was approved. This paper contains *inter alia* proposals as to how CEPT countries should act with regard to crossborder measurements; the introduction of an interface for the remote control of measuring installations was also put forward, with a view to standardizing equipment. At the 23rd General Assembly of ETSI, held recently in Nice (France), mem-

bers discussed a report from their High Level Task Force on a major analysis of the future telecommunications market, the industry and the regulatory environment. In approving 30 recommendations the Assembly agreed to a radical change in structures and procedures, in order to adapt to the changes in the telecommunications environment. It is intended to extend the Institute's field of activities in all aspects of the inter-working technologies, especially by forming partnerships. ETSI will continue to draft standards, with the aim of making them international standards, but will not itself function as an international standards body. ETSI is prepared to handle certain projects together with partners at an international level.

At the fifth Meeting of the CEPT Preparatory Group for the 1995 World Radio Conference the European Common Proposals were approved and are to be sent to the administrations for comment by 18 August. The proposals of the Voluntary Group of Experts, calling for simplification of radio regulations, received general support. Switzerland could agree to the earlier utilization of mobile satellite bands in the 2-GHz range starting in the year 2000. The schedule for introduction of single sideband modulation in short-wave radio is to be adhered to. A proposal to eliminate the Morse code test for amateur radio operators in frequency bands below 30 MHz will be looked into.

Téléphone

Le mandat relatif à la commande du système de mesure du trafic VM-OS pour la planification (système opérationnel de mesure du trafic) a été attribué après une évaluation en plusieurs phases. Ce nouveau système devra remplacer le VM85, qui ne pourra plus être utilisé après le démarrage de l'étape d'extension 7 et aura atteint en outre ses limites techniques. L'instrument de planification VM-OS devra fournir des données

pour la planification à moyen et à long terme des réseaux national et régional.

La Suisse dispose du réseau de publiphones le plus dense d'Europe: à la fin de 1994, 12 278 postes publics (cabines téléphoniques) étaient en service, auxquels s'ajoutaient 45 273 publiphones loués par des privés. Par ailleurs, on sera bientôt en mesure d'accéder à un vœu souvent émis par nos clients, celui de la «compatibilité» de la Postcard avec les publiphones; un essai est actuellement en cours dans la ville de Berne. Durant le second semestre 1994, les anciens publiphones ont été remplacés à plus de 3000 emplacements par de nouveaux appareils n'admettant que les cartes; le premier pas vers le remplacement des postes à monnaie par des postes à cartes a ainsi été franchi. En équipant ses appareils pour l'utilisation de cartes modernes de paiement, Télécom PTT vise à diminuer les frais actuellement excessifs que lui occasionnent le vandalisme, le vol et la manutention de la monnaie. Le service Publiphone devrait ainsi couvrir ses coûts d'ici à 1996. D'ailleurs, les publiphones gagneront très prochainement en attrait: dans la ville de Berne, Télécom PTT a récemment commencé un essai pilote en vue de l'utilisation de la Postcard (carte à puce) dans des publiphones. Si ce test s'avère concluant, l'équipement progressif des appareils pour l'utilisation de la Postcard se fera dans toute la Suisse dès l'automne 1995. Au cours d'une étape ultérieure, on prévoit d'introduire une carte à puce prépayée et non rechargeable pour remplacer la taxcard actuelle. Plus tard, on pourra utiliser également d'autres cartes pour téléphoner dans les publiphones.

Télématique

Le centre de service des circuits loués (LCSC) a mis en service 42 nouveaux circuits loués internationaux.

Radio, télévision, radiocommunications

A Airolo, une liaison hertzienne fixe entre l'installation à usage multiple et le central, d'une capacité de transmission de 4x2 Mbit/s, a été rendue opérationnelle pour alimenter la station de base Natel. En outre, une *liaison de 4x2 Mbit/s entre Fanas et Valzeina* a été mise en service.

Dans le réseau *Intelsat*, une liaison du type IDR (Intermediate Data Rate) a été établie avec la Malaisie et une autre avec l'Australie par un satellite situé à 60°Est (Océan Pacifique).

Les stations de base Natel C de Cressier, Hemmiken et Schinznach ont été mises en exploitation, de même que les stations de base Natel D GSM suivantes: Cugy, Eschenbach, Finsterhennen, Gampelen, Granges, Anet, Kallnach, La Neuveville, Le Noirmont, Mattstetten, Müntschemier, Payerne Landi, Pratteln, Prez-vers-Noréaz, Rosé, Muttentz Schweizerhalle, Sumiswald, Zurich Stauffacher et Zurich Wiedikon.

Pour *Radio Gonzen*, les émetteurs et réémetteurs de Valzeina, Buchserberg et Walenstadtberg ont été équipés pour la diffusion en monophonie.

Dans le réseau *I de Telepage Swiss*, la nouvelle station de base d'Oberhasli a été mise en exploitation en vue d'améliorer la couverture de la zone entourant l'aéroport de Zurich. Dans le réseau *radioélectrique d'appel II* (services de sécurité), 28 stations de base supplémentaires au total ont été rendues opérationnelles sur le territoire des directions des télécommunications d'Olten, de Rapperswil et de Zurich.

Récemment, le premier coup de pioche en vue de la construction et de la transformation du complexe du *Säntis* a été donné (en collaboration avec la société «Säntis Schwebebahn AG»). Les travaux, prévus pour durer quelque cinq ans, ont ainsi commencé officiellement. Des emplacements supplémentaires (agrandissement des cavernes) pour antennes seront réalisés pour les faisceaux hertziens, et la tour d'antennes de 84 m de haut sera remplacée par une tour de 113 m.

Divers

A Genève, une *réunion de préparation à la Conférence mondiale des radiocommunications (CPM)* a eu lieu, à laquelle ont pris part 409 délégués de 65 administrations et de 17 organisations internationales ou industrielles. Elle a eu pour tâche d'élaborer le rapport destiné aux délégués qui participeront à la Conférence mondiale des radiocommunications (WRC-95). L'«*European Public Telecommunications Network Operators' Association Frequency Management*» (ETNO-FM) a tenu sa réunion ordinaire à Londres. Celle-ci a eu pour but d'évaluer les besoins en gammes de fréquences des systèmes actuels ou futurs et de développer, sur la base des résultats d'études ou en réponse à des propositions d'autres organes internationaux, des «*Draft Common Positions*» (DCP). Les tâches les plus urgentes de cette association ont consisté à mettre au point des DCP pour la Conférence mondiale des radiocommunications (WRC-95), à analyser les besoins futurs en gammes de fréquences pour les «*Radio Local Loops*» et à collaborer à la phase II DSI du groupe de travail CEPT/ERC/FM.

A Berne s'est tenue la 3^e réunion (CEPT/WGFM/PT22) des délégués chargés de la surveillance des radiocommunications, venus de Belgique, de Bulgarie, d'Allemagne, d'Angleterre, de France, de Hollande, de Pologne, de Suède, de Suisse et d'Espagne. Un rapport a été adopté à l'intention du «*Working Group Frequency Management*» (WGFM). Ce document renferme des propositions, indiquant notamment comment les pays de la CEPT devraient effectuer des mesures transfrontières; il préconise également l'introduction d'une interface pour la télécommande des installations de mesure aux fins de normalisation des appareils.

Telefono

Dopo un esame approfondito, l'incarico di allestire un sistema di misurazione del traffico per scopi di pianificazione VM-OS (sistema operativo di misurazione del traffico) stato assegnato definitivamente. Il nuovo sistema sostituisce quello in esercizio, il VM85, che dopo l'introduzione del livello di estensione 7 non può più essere impiegato, anche perché è giunto ai limiti di capacità. Lo strumento VM-OS deve fornire i dati per la pianificazione a medio e a lungo termine della rete nazionale e regionale.

La Svizzera dispone della rete di publifoni più estesa d'Europa: alla fine del 1994 erano in esercizio 12 278 posti telefonici pubblici (cabine telefoniche). Oltre che da queste stazioni si poteva telefonare da 45 273 publifoni noleggiati da privati. Tra poco, per soddisfare le richieste di numerosi clienti, si potrà telefonare anche con la Postcard. A tal fine è in corso una prova nella città di Berna. Nella seconda metà del 1994, in oltre 3000 punti i vecchi publifoni sono stati sostituiti con apparecchi per sole carte. Ciò rappresenta il primo passo verso la sostituzione degli apparecchi a moneta con quelli a carte. In questo modo Telecom PTT cerca di ridurre gli elevati costi provocati da atti di vandalismo, furti e dal trattamento delle monete. Il servizio «Publifon-Card» dovrebbe coprire i costi entro il 1996. Nel prossimo futuro i publifoni devono diventare più attrattivi. Telecom PTT ha avviato infatti da poco nella città di Berna un esercizio pilota per l'impiego della Postcard (carta chip) nei publifoni. Se si otterrà il successo sperato, nell'autunno del 1995 tutti gli apparecchi della Svizzera saranno gradualmente adattati alla Postcard. In un secondo tempo si prevede di introdurre al posto dell'attuale Taxcard una carta chip monouso pagabile in anticipo. Più tardi sarà possibile telefonare nei publifoni anche con altre carte.

Teleinformatica

Il leased Circuit Service Center ha messo in funzione 42 linee noleggiare internazionali.

Radio, televisione, radiocomunicazioni

Ad Airolo è stato messo in esercizio, per l'alimentazione della stazione base Natel, un collegamento in ponti radio fisso tra l'impianto a scopi multipli e la centrale, con una capacità di trasmissione di 4×2 Mbit/s. Inoltre è stato messo in funzione il collegamento 4×2 Mbit Fanas-Valzeina.

Nella rete Intelsat sono stati attivati sul satellite 60° est (oceano Pacifico) due collegamenti del tipo IDR (Intermediate Data rate) risp. con la Malesia e con l'Australia.

Per il Natel C sono state messe in esercizio le stazioni di base di Cresier, Hemmiken, Schinzach e per il Natel D le stazioni di base GSM di Cuggy, Eschenbach, Finsterhennen, Müntschemier, Payerne, Landi, Pratteln, Prez-vers-Noréaz, Rosé, Schweizerhalle Muttentz, Sumiswald, Zürich Stauffacher e Zürich Wiedikon.

Per Radio Gonzen, i trasmettitori e i ripetitori di Valzeina, Buchserberg e Walenstadtberg sono stati adattati alla trasmissione in monofonia.

Per migliorare il servizio nella regione attorno all'aeroporto di Zurigo è stata messa in esercizio nella rete Telepage Swiss I la nuova stazione di base Oberhasli. Per la rete di radiochiamata II (servizi di sicurezza) sono state messe in funzione nella regione delle direzioni Telecom di Olten, Rapperswil e Zurigo 28 stazioni di base supplementari.

Recentemente è stato dato l'avvio ufficiale ai lavori di costruzione e trasformazione dell'edificio del Sântis (insieme con la funivia del Sântis AG), che dureranno circa cinque anni. Verranno realizzate ulteriori postazioni per antenne nel settore dei ponti radio (ampliamento delle caverne) e la vecchia torre di 84 m verrà sostituita con una di 113 m.

Diversi

A Ginevra ha avuto luogo una seduta per la preparazione della conferenza mondiale sulle telecomunicazioni (CPM). Vi hanno preso parte 409 rappresentanti di 65 amministrazioni e di 17 organizzazioni internazionali e società industriali. Il loro compito è stato quello di redigere il rapporto che sarà presentato dai delegati alla conferenza mondiale sulle radiocomunicazioni (WRC-95).

La European Public Telecommunication Network Operators' Association Frequency Management (ETNO-FM) ha tenuto la sua conferenza ordinaria a Londra. Quest'ultima è stata organizzata per stabilire il fabbisogno di frequenze per i sistemi attuali e futuri e per elaborare, sulla base di risultati di studi o come risposta a proposte di altri organi internazionali, cosiddetti Draft Common Positions (DCP). Fra i loro incarichi urgenti vi è attualmente l'elaborazione di DCP per la WRC-95, la determinazione del futuro fabbisogno di frequenze per Radio Local Loops e la collaborazione alla DSI Phase II del gruppo di lavoro CEPT/ERC/FM.

A Berna ha avuto luogo la terza seduta (CEPT/WGFM/PT22) dei rappresentanti delle organizzazioni di sorveglianza delle radiocomunicazioni provenienti da Belgio, Bulgaria, Germania, Inghilterra, Francia, Olanda, Polonia, Svezia, Svizzera e Spagna. È stato approvato un rapporto all'attenzione del Working Group Frequency Management (WGFM). In questo documento vi sono, fra l'altro, proposte sul comportamento che i Paesi CEPT devono adottare quando effettuano misure in zone situate oltre il confine; si è anche discussa l'introduzione di un'interfaccia per il telecomando di impianti di misura per raggiungere la normazione degli apparecchi.

Telefon

Der Auftrag für ein Verkehrsmesssystem für Planungszwecke VM-OS (Verkehrsmess-Operationssystem) wurde nach einer mehrphasigen Evaluation vergeben. Das neue System soll das in Betrieb stehende VM85 ersetzen, das nach Einführung der Ausbaustufe 7 nicht mehr eingesetzt werden kann und zudem an seine physikalischen Grenzen angelangt ist. Das Planungsinstrument VM-OS soll Daten für die mittel- und langfristige Planung des nationalen und regionalen Netzes liefern.

Die Schweiz verfügt über das dichteste Publifonnetz Europas: Ende 1994 standen 12 278 öffentliche Sprechstellen (Telefonkabinen) in Betrieb. Nebst diesen Stationen kann in über 45 273 gemieteten Privatpublifonen telefoniert werden. Bald soll zudem einem weitverbreiteten Kundenwunsch entsprochen werden können, indem auch die Postcard «publifonfähig» gestaltet wird: Ein Versuch ist in der Stadt Bern im Gange. In der zweiten Jahreshälfte 1994 wurden an über 3000 Standorten alte Publifone durch neue «Nur-Kartenstationen» abgelöst, womit der erste Schritt zur Umstellung von Münz auf Kartenstationen getan wurde. Mit der Umrüstung auf moderne Zahlkarten bezweckt die Telecom PTT, die heute unverhältnismässig hohen Kosten einzudämmen, die durch Vandalismus, Diebstahl und die Münzverarbeitung entstehen. Die Dienstleistung «Publifon-Card» soll dadurch bis 1996 kostendeckend werden. Die Publifone sollen in naher Zukunft überdies attraktiver werden: In der Stadt Bern nahm die Telecom PTT kürzlich einen Pilotbetrieb zum Einsatz der Postcard (Chip-Karte) in Publifonen auf. Bei erfolgreichem Verlauf des Tests beginnt ab Herbst 1995 gesamtschweizerisch die sukzessive Umrüstung der Apparate auf die Postcard. In einem weiteren Schritt ist als Ersatz der heutigen Taxcard die Einführung einer vorauszubehaltenden Einwegchipkarte vorgesehen. Später soll in Publifonen auch mit weiteren Karten telefoniert werden können.

Teleinformatik

Durch das Leased Circuit Service Center wurden 42 neue internationale Mietleitungen eingeschaltet.

Radio, Fernsehen, Funk

In Airolo wurde die fixe Richtfunkverbindung Mehrzweckanlage-Zentrale mit einer Übertragungskapazität von 4X2 Mbit/s zur Anspeisung der Natel-Basisstation dem Betrieb übergeben. Ferner wurde die 4X2-Mbit-Verbindung Fanas-Valzeina dem Betrieb übergeben.

Im Intelsatnetz wurden auf dem Satelliten 60° Ost (Pazifischer Ozean) je eine Verbindung vom Typ IDR (Intermediate Data Rate) mit Malaysia und mit Australien eingeschaltet.

Die Natel-C-Basisstationen Cressier, Hemmiken und Schinznach wurden in Betrieb genommen, sowie folgende Natel-D-GSM-Basisstationen: Cugy, Eschenbach, Finsterhennen, Gampelen, Granges, Ins, Kallnach, La Neuveville, Le Noirmont, Mattstetten, Müntschemier, Payerne Landi, Pratteln, Prez-vers-Noréaz, Rosé, Schweizerhalle Muttentz, Sumiswald, Zürich Stauffacher und Zürich Wiedikon. Für Radio Gonzen wurden die Sender und Umsetzeranlagen Valzeina, Buchserberg und Walenstadtberg auf Mono umgestellt.

Im Telepage-Swiss-Netz I wurde zur Verbesserung der Versorgung im Gebiet um den Flughafen Zürich die neue Basisstation Oberhasli in Betrieb genommen. Für das Funkrufnetz II (Sicherheitsdienste) wurden im Gebiet der Telecomdirektionen Olten, Rapperswil und Zürich total 28 zusätzliche Basisstationen in Betrieb genommen.

Kürzlich fand der erste Spatenstich für den Neu- und Umbau des Sântisgebäudes (zusammen mit der Sântis-Schwebbahn AG) statt. Die Bauarbeiten von etwa fünf Jahren Dauer wurden damit offiziell aufgenommen. Es werden zusätzliche Antennenplätze im Bereich Richtfunk (Er-

weiterung der Kavernen) erstellt, und der Antennenturm von derzeit 84 m wird durch einen Turm von 113 m ersetzt.

Verschiedenes

In Genf wurde eine Tagung zur Vorbereitung der Weltfunkkonferenz (CPM) durchgeführt. Es nahmen 409 Vertreter von 65 Verwaltungen sowie von 17 internationalen Organisationen und Industrievereinigungen teil. Ihre Aufgabe war es, den Bericht auszuarbeiten, den die Delegierten der Weltfunkkonferenz (WRC-95) erörtern werden.

Die European Public Telecommunications Network Operators' Association Frequency Management (ETNOFM) hielt ihre ordentliche Tagung in London ab. Diese wurde anberaumt, um den Frequenzbedarf für die heutigen und künftigen Systeme festzustellen und auf der Grundlage von Studienergebnissen oder als Antwort auf Vorschläge anderer internationaler Gremien sogenannte Draft Common Positions (DCP) auszuarbeiten. Zu ihren dringlichsten Aufgaben gehören derzeit die Ausarbeitung von DCP zur WRC-95, die Ermittlung des künftigen Frequenzbedarfs für die Radio Local Loops und die Mitarbeit an DSI Phase II der Arbeitsgruppe CEPT/ERC/FM.

In Bern fand die 3. Tagung (CEPT/WGFM/IPT22) von Vertretern der Funküberwachung aus Belgien, Bulgarien, Deutschland, England, Frankreich, Holland, Polen, Schweden, der Schweiz und Spanien statt. Es konnte ein Bericht zuhanden der Working Group Frequency Management (WGFM) verabschiedet werden. Dieses Papier enthält unter anderem Vorschläge, wie sich die CEPT-Länder bei grenzüberschreitenden Messungen verhalten sollten; ebenso wird die Einführung einer Schnittstelle zur Fernsteuerung von Messanlagen propagiert, um eine Normierung von Geräten zu erreichen.

Technologie für das virtuelle LAN

Digital Equipment Corporation hat ihr Lösungsangebot für Konfiguration und Verwaltung lokaler Netzwerke erneut ausgebaut. Mit zwei für Ethernet ausgelegten Switches aus der Produktfamilie PORTswitch 900 lassen sich beliebige Netzwerkanlüsse zu logischen LAN-Segmenten verbinden. Sie bringen die Switching-Technologie auf den Desktop und machen die auf dem Schaltprinzip beruhende Vermittlungstechnik für Ethernet-Netzwerke mit Kupferleitungen verfügbar. Gleichzeitig wurde die Version 4.0 von HUBwatch für PC-Plattformen angekündigt. Die grafischorientierte Netzwerkverwaltungs-Software auf SNMP-Basis unterstützt neu den GIGAswitch/ATM, den führenden ATM-Switch für Hochleistungsnetzwerke. Die Neuerungen sind für Arbeits- und Projektgruppen ausgelegt und geben Netzwerkverantwortlichen die Werkzeuge in die Hand, um vorhandene Bandbreiten für anspruchsvolle Client/Server- und Desktop-Anwendungen zu optimieren sowie den Zeit- und Kostenaufwand für Veränderungen im Netzwerk zu reduzieren. Zusammen mit der Architektur des DEChub 900 MultiSwitch lassen sich virtuelle LANs aufbauen und verwalten, die den Anforderungen an Leistung und Flexibilität von morgen genügen.