

Annual Report

Telekom-Control GmbH

Business Year 2000

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Preface

In accordance with the regulations set forth in §121 of the Austrian Telecommunications Act (TKG) of 1997, this document contains Telekom-Control GmbH's annual Activity Report for the year 2000. Telekom-Control GmbH's business year is the same as the calendar year.

In addition to submitting this report, Telekom-Control GmbH also makes every effort to provide the interested public with comprehensive information regarding its proceedings on its web site (<http://www.tkc.at>). Therefore, this report can be downloaded as a .pdf file from the TKC web site under "Telecom Regulation in Austria" / "Activity Reports", or under "Publications" / "TKC Publications" / "Activity Reports". This makes it possible for the interested public (provided they have Internet access) to find up-to-date information on decisions made by Telekom-Control GmbH and the Telekom-Control Commission, and to obtain summarized information on our regulatory activities in these activity reports. In addition, Telekom-Control GmbH plans to publish comprehensive information on the development of the Austrian telecommunications markets at two-year intervals.

The first report of this kind, known as the "Austrian Telecommunications Report 1998-1999" and covering the first two years of telecommunications regulation in Austria, has been available since August 2000 and can be ordered from Telekom-Control GmbH's Info Management department (Mariahilferstrasse 77-79, A-1060 Vienna) or downloaded from the Telekom-Control GmbH web site (<http://www.tkc.at>) under "Publications" / "Telecommunications Report".

The 2000 Activity Report is divided into three main parts: Chapter I describes Telekom-Control's regulatory activities in the year 2000, and Chapter II provides information on the company, in particular its use of funds and the development of its human resources. Chapter III (Appendix) contains a calendar of the Telekom-Control Commission's decisions and the indexes for this report. Moreover, this document begins with a three-page management summary of Telekom-Control GmbH's regulatory activities, especially for readers who do not have time to read the entire report.

Management Summary of Regulatory Activities

Opening of Markets and Licensing

- Fixed-link network:
In the year 2000, Telekom-Control GmbH received 28 license applications, four of which were later withdrawn by the applicants. One application could not be processed completely in the reporting period. As of December 31, 2000, a total of 71 voice telecommunications licenses and 67 leased-line licenses had been awarded to 97 companies. By the end of 2000, twelve of the licenses awarded were relinquished by the licensees, thus reducing the total number of licensees to 90 companies. At the end of the year 2000, 61 of those companies were operating on the fixed-link market. In general, the number of new licensees on the Austrian fixed-link market decreased markedly. A large number of new operators can no longer be expected on these markets.
- Mobile communications:
In November 2000, six licenses to operate 3rd-generation mobile communications networks (UMTS) were awarded. In addition to the four existing mobile network operators, two new providers will enter this market, specifically 3G Mobile Telecommunications GmbH (Telefonica) and Hutchison 3G Austria GmbH. A TETRA (terrestrial trunked radio) communications license was awarded for the greater Vienna area, and additional frequencies were allocated to Mobilkom and max.mobil (in accordance with § 125 Par. 3 TKG). Preparations for allocation procedures for WLL licenses (planned for Q1/01) and additional GSM frequencies without obligatory nationwide coverage (planned for Q2/01).

In the third year of market deregulation, the fixed-link market appears to have entered a phase of consolidation. By awarding licenses and allocating frequencies accordingly, the regulatory authority succeeded in creating the conditions for dynamic competition on the 3G mobile communications market in Austria.

Companies with Significant Market Power (SMP Operators)

- The following operators were identified as having significant market power on the four telecommunications markets in Austria (fixed-link, mobile communications, leased lines and interconnection market):
 - Telekom Austria: Fixed-link, leased lines, interconnection
 - Mobilkom: Mobile communications, interconnection
 - max.mobil: Mobile communications

The identification of SMP operators serves as a point of departure for the most important regulatory measures in the Austrian telecommunications markets. These decisions form the basis for the most essential regulatory intervention in the telecommunications markets. In the year 2000, a comprehensive SMP study was only necessary in the case of the interconnection market.

Interconnection and Network Access

- A total of 19 procedures regarding interconnection issues were initiated in the year 2000 (composed of 33 proceedings in 1999), and 36 procedures were completed in the course of the year. Only two procedures were left incomplete in the reporting period, specifically those regarding access to online services in all networks and unbundling. The following specific issues had to be dealt with in these procedures:
 - Fixed-link interconnection 2000 (comprehensive decision/order)
 - Low-level network interconnection
 - Carrier pre-selection
 - Number portability
 - Procedure Z 19/99: Interconnection for carrier network pre-selection
 - Local-loop unbundling for ISPs (Z 18, 29/99) and leased-line operators (Z 3/00)
 - Access to online services from alternative networks

- Access to online services in all networks
- Local-loop unbundling (procedure not yet completed)

In the year 2000, a comprehensive interconnection decision (Z 30/99ff) was made for the first time, with a view to creating a uniform "reference document" to govern the central issues and aspects of interconnection in fixed-link communications. In the field of mobile communications, the key decisions in the reporting period were Procedure Z24/99 and the ensuing procedures. The core issue in these decisions was the uniform setting of termination fees for the three main mobile network operators at ATS 1.90 (to be reached by gradual reduction) as of January 1, 2001.

- Toward the end of the reporting period, the following traffic types and fees were to be offered by Telekom Austria in connection with fixed-link interconnection negotiations:

		Fees as of 12/31/1999 in eurocent	Telekom-Control Commission decision of March 27, 2000 (Z 30/99)		Average reduction Percentage (weighted by traffic volumes)
			Peak (weekdays 8am-6pm) in eurocent	Off-peak (weekdays 6pm-8am, Sat, Sun, and holidays) in eurocent	
Termination	local	1.02	1.02	0.51	-20%
	regional	1.82	1.53	0.73	-33%
	national	2.40	2.25	0.87	-29%
Transit	regional	0.39	0.29	0.15	-39%
	national	0.76	0.51	0.29	-44%
Origination	local	1.24	1.02	0.51	-34%
	regional	2.03	1.53	0.73	-40%
	national	4.00	2.91	1.09	-45%

The setting of competitive interconnection fees is a decisive factor in the successful liberalization and promotion of competition, as interconnection fees can account for 40-60% of total costs to new telecommunications operators.

- At the end of the reporting period, the following termination fees were to be offered for calls to mobile networks in the course of mobile network interconnection negotiations:
 - Mobilkom: ATS 1.90
 - max.mobil.: ATS 1.90
 - Connect: ATS 1.90

These interconnection fees were set for the three main mobile network operators in Austria in order to reduce rates for calls to mobile networks and thus allow the end consumer to benefit from the developments in this field.

Regulation of Competition I (non-discrimination, network access issues, abuse of significant market power)

- In the year 2000, Telekom-Control GmbH carried out a total of 10 procedures in the field of competition regulation. This number for 2000 is conspicuously lower than for 1999, in which 15 such procedures were carried out. One possible explanation for this decrease is that Procedure Z30/99 (and the ensuing procedures) conveyed a strong signal of continuity in Austrian regulatory practice, and that the market participants are more willing to adhere to these orders.

Regulation of Competition II (General Terms of Service)

- The general terms of service stipulated by SMP operators are subject to approval requirements. The Telekom-Control Commission completed a total of 14 approval procedures in the year 2000; in four cases, the operator's applications were (partially) rejected. These

procedures concerned the rate applications submitted by Telekom Austria and handled in Procedures G 33/00, G 36/00 (federal telecommunications grants) and G 44/00.

- The general terms of service of other telecommunications service providers are only subject to notification. A total of 29 procedures regarding reported terms of service in voice communications were initiated; 27 of these procedures were completed in the year 2000. A formal objection was not raised by the regulatory authority in any of these procedures.

Number Administration

- In the year 2000, more than 750 number assignment decisions were issued (rejection rate: 4%). This figure shows a decrease of some 550 decisions in comparison to 1999. The reason for this decrease is that there were far fewer re-applications for numbers in 2000 than in 1999.
- The average duration of the allocation process was reduced significantly, from 17 days in 1999 to 10 days in 2000. In the year 2000, 50% of all decisions were issued within 5 days, and 90% were completed within 14 days. In 1999, the first duration (for 50%) was 8 days.

Arbitration in End-Consumer Disputes

A total of 894 complaints were filed for arbitration by Telekom-Control in the year 2000. 854 such cases were closed in the reporting period; however, it must be noted that this also includes a number of complaints filed in 1999. A separate report on the regulatory authority's arbitration activities is scheduled for completion at the end of Q2/01.

Universal Service

- Intensification of TKC's preparatory work for the calculation of universal service costs.
- Continuation of preparatory work on subscriber directories and information services.
- Monitoring of the developing market for information services during the reporting period.

Establishment of Work Groups and International Activities

- Continuation of activities in the Technical Coordination Work Group. This group, which was founded as a forum for communication and information among operators and manufacturers, handled selected issues such as number portability, carrier pre-selection, collocation and unbundling. As planned, TKC restricted its activities in this group to the role of an observer and moderator.
- Internationalization of regulatory activities through participation in European initiatives, such as events organized by the European Commission or by the Independent Regulators Group (IRG). In the reporting period, TKC employees took part in a total of 95 international events.

Public Consultations

Only two consultation procedures were carried out in the year 2000. One procedure concerned questions on the allocation of wireless local loop frequencies in Austria planned for Q1/01. The second procedure was carried out in order to get a general overview of the state of technology in Austria with regard to electronic signatures. Both procedures are documented on the TKC web site under "Consultations".

Supervisory Authority for Electronic Signatures

Since the Austrian Electronic Signatures Act (*SigG*) went into effect, TKC has been responsible for making the necessary preparations in order to fulfill its duties as supervisory authority for electronic signatures, despite uncertainties with regard to financing (the funds for this purpose were not secured until December 2000). In terms of administration, this objective was attained in the year 2000.

Nine procedures were carried out by the Telekom-Control Commission in accordance with the Signatures Act. At the beginning of the year, four existing certification service providers reported their business activities to the regulatory authority.

Only one provider applied for accreditation under § 17 SigG for its planned provision of secure electronic signature services. However, Telekom-Control GmbH was forced to reject the provider's application for accreditation because the provider in question was unable to present any form of certification from a confirmation center.

I Regulatory Activities

I.1 Introduction

On November 1, 1997, Telekom-Control GmbH began its activities as a regulatory authority under the Austrian Telecommunications Act of 1997 (TKG). The Telekom-Control Commission was formed around the same time (November 24, 1997) and is established alongside Telekom-Control GmbH. In accordance with Telekom-Control GmbH's legal obligations, this Activity Report is to summarize the business year 2000.

The declared objective of this report is to present the regulatory authority's extensive activities in the business year 2000 as well as the initial effects of these activities on the Austrian telecommunications market. Telekom-Control GmbH's activities fall into two different areas:

The first area of activity is based on Telekom-Control GmbH's general responsibility for regulatory issues in telecommunications; according to § 109 TKG. The regulatory authority carries out procedures independently, especially those regarding competition issues. In addition, Telekom-Control GmbH administers Austrian telephone number ranges and acts as an arbitration center for (end) consumers in disputes between network operators and (end) consumers. Since the Austrian Electronic Signatures Act (*SigG*, or Signatures Act) went into effect, Telekom-Control GmbH and the Telekom-Control Commission (as the decision-making body) are also responsible for regulatory activities related to the Signatures Act.

Telekom-Control GmbH also acts as agent to the Telekom-Control Commission in procedures carried out before the Commission. Under § 110 Par. 2 TKG, Telekom-Control GmbH is responsible for carrying out the Telekom-Control Commission's operative activities. In this capacity, Telekom-Control GmbH's employees are bound by the instructions of the Telekom-Control Commission's Chairman. In addition to administrative support, these activities also include providing the Telekom-Control Commission with the information necessary for decision-making. An exhaustive list of the Telekom-Control Commission's responsibilities can be found under § 111 of the Telecommunications Act. This report attempts to present the activities of the regulatory authorities separately according to its different responsibilities; due to their considerable significance, the decisions of the Telekom-Control Commission are given additional attention. However, the effects of these regulatory activities can only be described with due attention to the cooperation between the two regulatory bodies.

Telekom-Control Commission and Telekom-Control GmbH

In enforcement of the Austrian Telecommunications Act of 1997 (TKG, BGBI I 100/1997), two regulatory authorities were established in Austria: The Telekom-Control Commission and Telekom-Control GmbH. The separation of these two units' responsibilities is clearly defined. § 109 of the Telecommunications act assigns Telekom-Control GmbH the general responsibility for all duties assigned to the regulatory authorities, unless these are reserved for the Telekom-Control Commission. Under § 111 TKG, the following duties are reserved for the Telekom-Control Commission:

- Granting, withdrawal and revocation of licenses, as well as granting consent for license transfers and changes;
- Allocation of frequencies intended for public mobile communication services
- Approval of terms of service and fees, as well as the right to raise objections to terms of service
- Calculation of the financial compensation to be paid from the Universal Service
- Calculation of the contributions to be paid into the Universal Service

- Identification of service providers with significant market power (SMP operators)
- Definition of the terms of interconnection in cases of dispute
- Definition of the terms of concurrent use of antenna masts
- Decisions regarding non-adherence to § 44 TKG (the provision prohibiting cross-subsidies).

In accordance with its responsibilities, the Telekom-Control Commission was established as a panel authority with the powers of a court (Art. 133 No. 4 B-VG) and makes its decisions independently and unanimously.

Since the Telecommunications Act was amended in June 2000 (BGBI. I No. 26/2000, June 1, 2000), the Austrian Administrative Court (VwGH) has been set for a legal means of filing appeals against decisions made by the Telekom-Control Commission. The Telekom-Control Commission was established alongside Telekom-Control GmbH, which is also responsible for carrying out operations for the Commission. In this context, the employees of Telekom-Control GmbH are bound by the instructions of the Chairman of the Telekom-Control Commission (or of the member of the Telekom-Control Commission named in the Rules of Procedure).

In order to meet the justified need for information on the part of the Austrian National Council (one of the houses of the Austrian legislature) and of the interest public regarding the use of funds by Telekom-Control GmbH, a separate chapter is devoted to Telekom-Control GmbH as a company and to its structure, budget and staff (the regulatory authority's most valuable resource).

I.2 Fundamental Duties of the Regulatory Authority

Regulation should never be regarded as an end in itself. For this reason, the Austrian legislator defined general objectives for the deregulation of the telecommunications markets in § 1 of the Telecommunications Act, as well as special objectives for the regulation of competition in § 32, as a set of direct guidelines for the activities of the regulatory authority. These objectives guide all of Telekom-Control GmbH's activities and were used as a starting point (in effect as a mission statement) for Telekom-Control GmbH's vision and culture statements, both of which were created during the reporting period. The vision and culture statements are part of Telekom-Control GmbH's Organizational Handbook and serve as the main foundation for the actions of the regulatory authority and its employees.

Our Vision

1. Putting Austria at the Top

Our organization is dedicated to the Austrian telecommunications markets. The goal of our activities is to enable Austria's telecommunications markets to occupy one of the top places in the European information society.

2. Maintaining Competition

In order to promote the development of high-quality services, we are obliged to create the necessary conditions for increasingly self-driven, fair and transparent competition.

3. Information, acceleration, regulation.

No output without input.

In order to make competent, practical, rapid and effective decisions, our organization conducts fundamental research on an ongoing basis. Ongoing market observation and analysis are therefore among our main tasks. This is the only way to develop anticipatory strategies, to act proactively, and to secure the high quality standards of our work. Through additional efforts as a moderator and in mediation and consultation, we also do everything in our power to promote self-regulation.

4. Competence, transparency, consistency

We will make every effort to act as a service-oriented competence center for our customers. This also requires the highest possible degree of transparency on the inside and the outside, as well as the appropriate speed and consistency in making and enforcing our decisions.

5. Dedicated to Independence

We make our telecommunications policy decisions independently of any and all network operators or political intervention.

6. The Law is our Benchmark

In the course of fulfilling our legal duties, we ensure that all of our decisions can be reviewed and justified according to the law.

The requirements provided for in the law and our vision statement represent the framework within which our employees carry out the duties assigned to the regulatory authority. The manner in which Telekom-Control GmbH regards itself as an organization is defined in our Culture Statement.

Telekom-Control sees itself as an active and transparent authority which cultivates relationships with Austrian telecommunications market participants and performs its duties using a broad basis of information and with full attention to its regulatory objectives.

For this reason, the decisions of the regulatory authority are published on the Telekom-Control GmbH web site (<http://www.tkc.at>), with due observation of European Law and data protection legislation, in

order to provide the interested public with detailed information on the activities of Telekom-Control GmbH and the Telekom-Control Commission.

Formal procedures are an essential component of the regulatory authorities' work. However, Telekom-Control GmbH also makes effort to develop strategies aimed at finding compromises between market participants with opposing interests on the basis of the laws in force even before formal procedures become necessary. Such activities may come in the form of mediation or in assuming the role of a moderator in telecommunications forums. Telekom-Control GmbH emphasizes both of these areas consciously in order to reduce formal regulation to the minimum necessary for effective competition. The activities of Telekom-Control GmbH beyond the scope of formal regulation also include consultations.

In order to meet the need for the highest possible degree of transparency, Telekom-Control GmbH has been using public consultations as a source of information since it began its activities. During the reporting period, consultations on the following subjects were opened on the Web:

- Consultation on the allocation of wireless local loop frequencies in Austria
- Consultation regarding the requirements imposed on user hardware by the Electronic Signatures Act

Steps in a Consultation Procedure (in general)

The following steps are generally carried out in the course of a consultation procedure:

- Creation of a consultation document (including a catalog of questions)
- Publication of the consultation document (on the TKC web site, <http://www.tkc.at>)
- Compilation of consultation results
- Publication of consultation results
- Analysis of and conclusions from the consultation for regulatory purposes

From Telekom-Control GmbH's point of view, the World Wide Web is the best-suited medium for carrying out these consultation procedures. In addition to any consultation documents provided, the results of each consultation are made available to the interested public on the TKC web site under the menu item "Consultations".

Aside from these consultation procedures, Telekom-Control GmbH also makes efforts to maintain contact with licensee companies by holding regularly scheduled network operator meetings. This forum, which is held on Telekom-Control GmbH's premises at approximately two-month intervals, gives the network operators an opportunity to discuss relevant issues or to comment on significant decisions, thus ensuring that the network operators are informed as thoroughly as possible.

Press conferences on Telekom-Control Commission decisions, press information sessions, personal interviews with media representatives and active participation in telecom-related events all served to complete the regulatory authority's information offerings in the year 2000.

Since February 1999 (including the reporting period), meetings of the "Technical Coordination Work Group" (AK-TK) have been taking place at regular intervals. This platform for discussion and coordination was established upon Telekom-Control GmbH's initiative in order to meet the constantly growing need for coordination among network operators on the Austrian market. Founded as a self-governing body, the Work Group serves as an information hub and performs valuable services in coordination among network operators without imposing any procedural or official requirements. Telekom-Control GmbH has no voting rights in the Technical Coordination Work Group and acts as a moderator whenever necessary.

The description of these activities is also intended to underline the manner in which Telekom-Control GmbH performs its tasks. However, this description can only be a rough one, as it is the sum of all activities and the actions of the organization that best characterizes Telekom-Control GmbH's work for the telecommunications markets and consumers in Austria. In order to give the public more insight into the values which guide the actions of TKC and the individuals within the organization, the TKC Culture

Statement (Our Values) was created as an addition to the TKC Vision Statement and is published in this document for the first time.

Our Values (Culture Statement)

1. Equal Rights for all Customers

It is our duty to deal with all market participants unbureaucratically and without bias or prejudice. We will strive to act quickly and efficiently, while strictly adhering to the principles of objectivity and independence.

2. Team Spirit

Our organization is a team in which well-educated and highly motivated employees cooperate in an interdisciplinary context to fulfill our duties efficiently and responsibly.

3. Responsibility and Trust

Our flat hierarchy, with its rapid decision-making processes and clear responsibilities, guarantees an expedient internal flow of information and cultivates a sense of responsibility supported by mutual trust.

4. A respectful culture

In carrying out our duties, we communicate and interact with each other openly and respectfully, as well as delivering constructive criticism and acknowledging each other's achievements.

5. Developing Strengths

Recognizing and promoting the strengths of each individual in the organization is our philosophy in practice. We will do everything in our power to ensure the personal and professional development of all our team members.

6. Improvement is Essential

The constant willingness to explore and learn about new subjects is a basic principle of our behavior. We will leave no stone unturned in finding new ways to fulfill our duties better and more competently, and we will be prepared at all times to support each other in this process.

I.3 Regulatory Framework and Central Issues

I.3.1 Liberalization and Regulatory Authorities

The role of the regulatory authorities in the process of liberalizing the Austrian telecommunications markets can be best understood in light of the fundamental problems involved in deregulating these markets. In many EU member countries, the provision of telecommunications services and the operation of telecommunications networks were reserved for state-owned post, telegraph and telecommunications administrations (PTTs). In 1987, the Green Paper on the Development of the Common Market for Telecommunications Services and Equipment (COM(87) 290; June 30, 1987) began the European Union's highly ambitious program with the declared goals of completely deregulating the telecommunications sectors in all member countries and of creating a common European telecommunications market. January 1, 1998 was set as the deadline by which the predominantly state-owned telecommunications monopolies were to be dismantled. Certain areas, such as the terminal device market (late 1980s) and the mobile telecommunications market (mid-1990s) were opened up to competition even earlier. The last step was to deregulate the fixed-link telecommunications networks and fixed-link voice telephony, which until recently were dominated by the state monopolies as "reserved services". The theoretical background to the opening of markets and the promotion of competition is formed by the extremely rapid development of digital communications technology and transmission technology (optical fiber), as well as the resulting belief that fixed-link telephone services are no longer suited for a (natural) monopoly situation. The positive practical experiences seen in the deregulation of the US and UK telecommunications sectors were also significant factors in this process. Finally, practical experience in state-owned monopolies (and other areas), the obvious deficiencies in innovation and customer service as well as the resulting inefficiencies played an essential role in these decisions. Furthermore, the belief arose that telecommunications, being a multi-level technology, will play a decisive strategic role in the long-term development of economies in the European Union.

The EU's decision for complete deregulation, which has had widespread effects on the duties of the previously dominant monopolies, was (and still is) a radical step requiring a comprehensive rethinking in the institutions assigned to open up the telecommunications markets. This process has manifested itself in the complete rejection of traditional monopoly regulatory authorities, typically seated in postal ministries, to embrace the creation of new telecommunications regulatory authorities which are independent of all influences from network operators and service providers. This independence is to be ensured with respect to the (previous) monopoly and to its owner. The basic concept does not provide for classic competition authorities in these regulatory bodies, but institutions which actively promote the process of opening markets. Only later, once a sufficient degree of competitive intensity has been reached, will the role of these authorities as a competition regulator for the sector enter the foreground. In many EU member countries, the establishment of an independent regulatory authority with the explicit duty of opening up markets and promoting competition in order to improve service ranges, enhance quality and (not least) reduce prices in the interest of consumers and the economy as a whole was a completely new concept and a formidable challenge for the legislature.

The European body of legislation, with which regulatory authorities are to promote and further the opening of markets, also adheres to this new quality standard for regulatory authorities. This framework was established in a number of EU directives (including the Interconnection Directive, Voice Telephony Directive as well as the Licensing Directive) to be incorporated in the member countries' domestic legislation. In addition to the directives, there are numerous Commission recommendations and several important documents published by the ONP Committee which describe the contents of the directives without being part of the legislative requirements. In Austria, this European body of legislation was implemented in the Telecommunications Act of 1997.

I.3.2 Companies with Significant Market Power (SMP Operators)

The European regulatory framework is essentially based on the idea that enterprises with significant market power (SMP operators, having significant market power in accordance with the Telecommunications Act of 1997) are subject to certain restrictions and obligations *ex ante*, and (in contrast to general competition laws) that it is not necessary to abuse this market power to avoid these restrictions and obligations.

SMP Operators: Decisions of the Regulatory Authority

Pursuant to § 33 Par. 1 No. 1 TKG, a company is considered to have significant market power if it is not exposed to any (or dispensable) competition on the technically and geographically relevant market, or if the criteria listed under § 33 Par 1 No. 2 TKG are met. In accordance with Art. 4 Par. 3 of EU Directive 97/33/EC, § 33 Par. 2 of the Austrian Telecommunications Act defines potentially significant market power in cases where an enterprise commands a market share of more than 25% of the technically and geographically relevant market. In cases where a company's market share is far below or far above the 25% limit, a review of the criteria listed under § 33 Par. 1 of the Telecommunications Act is not performed unless the regulatory authority sees indications which could potentially contradict the probable assessment of the company's market power. If a company's market share is 25%, the company's market power will be reviewed using the criteria listed in § 33 Par. 1 No. 2.

The identification of enterprises with significant market power is especially important in the initial phase of liberalization, in which the position of the former monopoly generally remains unchallenged. In many cases, it is only through this process of identifying significant market power and the related legal consequences that new service providers are able to commence business activities. Accordingly, the regulatory consequences linked to identifying significant market power are asymmetrical and designed to support the process of deregulation and the development of competition.

The goal of the provisions under § 33 TKG is to identify those enterprises which have a considerable degree of power on the market (cf. Art. 4 Par. 3 of EU Directive 97/33/EC). As specified in § 33 Par. 2 TKG, control of the market in the general sense used in competition legislation is not required in this context.

Cost-related pricing, which is required in the end-consumer rates of SMP operators in leased-line and fixed-link services, is especially relevant in this context. In accordance with 97/33/EC, operators with significant market power are subject to the fundamental requirements of cost-related pricing in interconnection fees, of non-discrimination and transparency on the following markets: Fixed-link telephone services, leased lines and the interconnection market (especially important for mobile network operators).

Numerous regulatory measures are related to the status of having significant market power in accordance with the Austrian Telecommunications Act. It is thus necessary to perform a legally binding assessment to determine which of the enterprises are currently affected by these regulations on the technically and geographically relevant sub-markets.

In accordance with § 33 Par. 4 TKG, a procedure to identify the enterprises with significant power on the interconnection services market was initiated by a resolution of the Telekom-Control Commission on October 27, 1999. After comprehensive fact-finding studies, the procedure (M 2/99) was completed on July 31, 2000 and gave rise to the following decisions:

In the year 2000, Telekom Austria (Decision M 2/99-99) and Mobilkom Austria AG (Decision M 2/99-100) were identified as having significant power on the interconnection services market under the Austrian Telecommunications Act.

In its session on December 20, 2000 the Telekom-Control Commission furthermore resolved to initiate a new procedure in order to identify enterprises with significant market power under § 33 Par. 4 TKG on all four telecommunications markets (mobile communications, fixed-link telephone services, leased lines and interconnection services).

I.3.3 Opening of Markets and Licensing

In comparison to 1997, 1998 and 1999, the year 2000 saw a marked decrease in the number of license applications for fixed-telephony services. This is due to the fact that the majority of telecommunications companies already have licenses, and that interest is waning among companies that have not entered the field. The year 2000 also saw the start of a consolidation phase in licensing.

For example, a number of previously granted licenses were relinquished and a number of license applications were withdrawn in the course of the year. Likewise, the number of applications for extensions of service rollout deadlines increased in 2000.

License Awards on the Austrian Telecommunications Markets

In general, it should be noted that under § 14 TKG a license is only required for rendering public voice telephone services and for the public provision of leased lines using self-operated fixed-link telecommunications networks. In addition, licenses are required for rendering mobile voice telephone services and other public mobile communications services using self-operated mobile communications networks.

Due to the limited availability of frequencies required for mobile communications services and the operational necessity of a certain minimum frequency range, a limited number of mobile network operators can be allowed in Austria. Accordingly, the regulatory authority was instructed to put the frequencies assigned to it by the Federal Ministry of Science and Transport (now the Federal Ministry of Transport, Innovation and Technology) out to tender and to allocate them to the applicant(s) which will ensure the most efficient use of the frequencies; this is determined by the license fee offered under § 21 TKG.

Fixed voice telephony network licenses

In contrast to mobile licenses, the number of fixed-link licenses to be granted is not limited, nor do these licenses have to be put out to public tender; licensing only requires the review procedures stipulated for all license awards under § 15 Par. 2 TKG.

The license fee amount is therefore not determined by a public tender but is based on the administrative expenses incurred by carrying out the review procedures.

Fixed-link and leased-line licenses are subject to a uniform fee of ATS 70,000,-. These license fees, which are very low by international comparison, represent a conscious effort to reduce the barriers to market entry, thereby signaling easy access to the market for new providers.

In the year 2000, Telekom-Control GmbH received 28 license applications, four of which were later withdrawn by the applicants. One application could not be processed completely in the reporting period. As of December 31, 2000, a total of 71 voice telecommunications licenses and 67 leased-line licenses had been awarded to 97 companies.

By the end of 2000, twelve of the licenses awarded were relinquished by the licensees, thus reducing the total number of licensees to 90 companies. At the end of the year 2000, 61 of those companies were operating on the fixed-network market.

License Awards on the Austrian Telecommunications Markets (Continued)

Mobile communications licenses

UMTS/IMT-2000

Probably the most significant event in the field of mobile communications was the allocation of frequencies and the awarding of licenses for UMTS/IMT-2000. Article 3 of 1999/128/EC, the decision taken by the European Parliament and Commission on December 14, 1998 regarding the coordinated introduction of a 3rd-generation wireless mobile communications system in the European Union, requires member countries to take all measures necessary to enable the gradual, coordinated introduction of UMTS services in their territories pursuant to Art. 1 of Directive 97/13/EC by January 1, 2002.

On May 5, 2000, the Federal Minister of Transport, Innovation and Technology assigned the 1900-1980 MHz, 2020-2025 MHz and 2110-2170 MHz frequency ranges to the Telekom-Control Commission for this purpose. The invitation to tender was published in the *Wiener Zeitung* on July 10, 2000, one month after the amendment to the Telecommunications Act (BGBI I No 26/2000) regarding allocation procedures went into effect. 12 frequency packages of 2x5 MHz each in the paired range and 5 packages of 1x5 MHz each in the unpaired range were put up for auction.

The allocation procedure was divided into two parts: Once the applications had been submitted, the regulatory authority checked whether all prerequisites were met in accordance with § 15 Par. 2 No. 1 and 2 TKG. Applicants which did not fulfill the prerequisites would have been excluded from the frequency allocation procedure in accordance with § 49a Par. 6 TKG. The second part of the frequency allocation procedure was carried out in the form of an auction in two stages. The minimum bid per frequency package was set at ATS 700 million in the paired range and ATS 350 million in the unpaired range.

The tender submission period, which lasted two months in accordance with § 49a Par. 3 No. 4 TKG, ended on September 13, 2000 at 2:00pm. At that point, six companies had submitted applications: Connect Austria Gesellschaft für Telekommunikation GmbH (abbreviated as "Connect"), Hutchison 3G Austria GmbH (abbreviated as "Hutchison"), Mannesmann 3G Mobilfunk GmbH (abbreviated as "Mannesmann"), max.mobil Telekommunikation Service GmbH (abbreviated as "max.mobil"), Mobilkom Austria AG (abbreviated as "Mobilkom") and 3G Mobile Telecommunications GmbH (abbreviated as "3G Mobile"). After reviewing the applications to verify that all prerequisites were met in accordance with § 49a Par. 1 in conjunction with § 15 Par. 2 of the Telecommunications Act and to identify any group affiliations among applicants (Section 4.3.1 of the Tender Documentation) the Telekom-Control Commission decided to admit all of the applicants to the auction. The start of the auction was then scheduled for November 2, 2000 at 8:00am. The auction was held in a central venue rented expressly for the purpose of the auction. Bids were submitted using a system of networked computers. In the first stage, the twelve frequency packages from the paired range were auctioned off. The bidders were allowed to bid on 2 packages ('small license') or 3 packages ('large license'), depending on the indications made in their applications. Depending on individual demand and bidding behavior, this made it possible for a total of four to six licenses for packages of 2x15 MHz or 2x10 MHz to be acquired. The first stage of the auction ended on November 3, after 14 rounds. Each of the six applicants acquired two frequency packages. The bidders who were successful in the first stage were admitted to the second stage, which began immediately after the end of the first stage. Only three bidders acquired additional frequencies in the second stage of the auction.

Mobilkom and max.mobil acquired 2 frequency packages, while Hutchison 3G acquired one package. In total, Connect acquired 2x10 MHz for ATS 1.652 billion, Hutchison purchased 2x10 MHz + 5 MHz for ATS 1.913 billion, Mannesmann acquired 2x10 MHz for ATS 1.557 billion, max.mobil 2x10 MHz + 10 MHz for 2.345 billion, Mobilkom 2x10 MHz + 10 MHz for ATS 2.360 billion, and 3G Mobile acquired 2x10 MHz for 1.616 billion. The Republic of Austria's revenues from awarding 3rd-generation mobile licenses thus totalled ATS 11.443 billion.

The fact that the proceeds from the auction were low in comparison to those in Germany and Great Britain can be attributed to lower demand in Austria. In light of the number of applicants and the recent results of the German UMTS auction, which had turned out unfavorably for the network operators, all of the six applicants in Austria apparently regarded a reduction to two packages each as an attractive bidding strategy. As the results of the auction in Germany had already demonstrated, the auction procedure proved to be very conducive to competition with regard to the resulting market structure. This procedure was selected because there was still uncertainty before the auction as to how much spectrum would be necessary to operate a network and as to the optimum number of providers from an economic standpoint. With six network operators, the Austrian mobile communications market will be one of the most competitive in Europe.

The licenses and frequency allocations were granted for nationwide service in Austria for a period of 20 years. Each of the licensees will be required to offer a population coverage level of 25% by the end of 2003 and 50% by the end of 2005, using self-operated networks. UMTS licensees which also operate a GSM network will be required to make network capacity available for a period of four years to the licensees who do not operate their own GSM networks but offer a coverage level of at least 20% ("national roaming").

TETRA

In 1999, the license award procedure had already been initiated for a digital trunked radio communications system (TETRA) with intensive preparations and an invitation to tender. The tender submission period ended on November 29, 1999, at which point three companies had submitted applications. The review performed in accordance with § 15 Par. 2 showed that all of the applicants had fulfilled the fundamental prerequisites for licensing. All three applicants were thus admitted to the auction, which took place on February 3, 2000, on Telekom-Control GmbH's premises. The minimum bid originally set in the tender documentation was ATS 5 million. One company specified an opening bid of ATS 10 million in its application. The auction was carried out as a multiple-round procedure. In the end, the highest bidder was TetraCall Bündelfunk Errichtungs- und Betriebs- GmbH with its bid of ATS 66.5 million. The license was awarded on February 7, 2000.

WLL-Wireless Local Loop

The procedure for allocating frequencies for wireless local loop systems in the 26 GHz range was also initiated in 1999. At the time, the local Telecommunications Offices were still in charge of this procedure. However, Telekom-Control GmbH assumed a support function, especially in the process of preparing the auction, which was scheduled to take place in April.

After a complaint was filed by one of the applicants who was excluded from the auction, the Federal Administrative Court ordered a suspension of the procedure and later reversed the decision to exclude the applicant in question; the auction was thus delayed at first, then the procedure was discontinued entirely.

The amendment to the Austrian Telecommunications Act (mentioned above) transferred responsibility for frequency allocation in this field to Telekom-Control GmbH as of June 1, 2000. Once the necessary preparations had been made, a new allocation procedure was initiated for this frequency range on September 15, 2000. At the end of the tender submission period, seven companies had filed applications. After the review of the applicants in accordance with § 15 Par. 2 of the Telecommunications Act, all seven applicants were admitted to the auction. The auction was scheduled to begin in early

February 2000, again using auction software for the submission of bids, but (unlike the UMTS/IMT-2000 auction) it was not held in a central venue.

Frequency allocations under § 125 Par. 3 TKG

In the year 2000, regional allocation procedures were also held for the GSM-1800 frequency range under § 125 Par. 3 TKG, resulting in frequency allocations to Mobilkom Austria AG and max.mobil. The decisions issued by the Telekom-Control Commission on September 25, 2000 then removed the regional restrictions on frequency use in this range for Mobilkom as well as max.mobil.

GSM-1800

On December 22, 2000, an invitation to tender was published for the allocation of frequencies for mobile voice communications and other mobile communications services using self-operated mobile communications networks. The tender submission period ended on February 26, 2001, and the auction was planned for Q2/01.

8 frequency packages from the range dedicated to public digital GSM-1800 cellular mobile communications systems under the Austrian Frequency Utilization Ordinance (BGBI. II No. 364/1998) are to be auctioned off in this procedure.

The auction will be carried out in an open, ascending, simultaneous, multiple-round format. In the course of this procedure, all frequency packages will be auctioned off at the same time. The minimum bid for each 2x2 MHz frequency package is ATS 100 million.

I.3.4 Interconnection and Network Access

The second major area of activity in the context of deregulation involves creating the conditions necessary for new market participants to offer their services on the market. This is only possible using asymmetrical regulation based on the identification of SMP operators in cases where the starting point was in effect a monopoly consisting of a single telecommunications enterprise before the opening of the markets.

The concept of open network provision (ONP) is of crucial importance in this context. In order to enable competition between new providers and the former monopoly (generally a partly or wholly state-owned enterprise), access to telecommunications networks has to be secured for new providers, essentially by the interconnection of networks. Network interconnection is a highly complex issue which covers the following aspects:

- Technical interconnection
- Services to be enabled by interconnection
- Fees for interconnection services

European regulatory framework imposes a comprehensive obligation upon SMP operators to enable interconnection; the precise definition of this obligation is left to each member country's legislature. One especially important regulation dictates that interconnection services are to be priced in relation to their cost. The FL-LRAIC (forward-looking, long-run, average incremental costs) pricing concept has emerged as a guiding principle in this context. This concept dictates that new service providers do not have to pay the full distributed costs incurred by the SMP operator based on their historical purchase prices, but only for the services that can be attributed directly to interconnection at its cost to an efficient network operator.

Interconnection Decisions Issued by the Regulatory Authority

A total of 19 procedures regarding interconnection issues were initiated in the year 2000 (after a total of 33 in 1999). A total of 36 procedures were completed in the year 2000. Only two cases opened in the business year 2000 could not be closed in this reporting period. Specifically, these procedure were Z 10/00 (access to online services in all networks), for which a partial decision was issued in 2000, and Z 12, 14 and 15/00, (unbundling). At the outset, one can thus reasonably argue that 2000 was a highly productive year with regard to interconnection issues. For example, it is worth noting explicitly that 2000 was the first year in which the regulatory authority made efforts to issue a comprehensive decision on interconnection in order to create a reference document in which all essential interconnection issues and aspects are summarized for fixed-link telecommunications. In short, one could say that the most important aspects of interconnection were covered by Decision Z 30/99. For further information on this regulatory issue, please refer to the long version of this decision on the Telekom-Control GmbH web site (<http://www.tkc.at>; all company and trade secrets have been removed from this version of the document). Another, similarly important decision taken by the Telekom-Control Commission in 2000 was its order regarding termination fees for calls to mobile networks. This decision was preceded by (in part) heated and polemic discussions in the media, which were not especially conducive to an objective treatment of the subject.

The following issues had to be dealt with in interconnection-related procedures during the reporting period:

- Fixed-link interconnection 2000 (comprehensive decision/order)
- Low-level network interconnection (fixed-link services)
- Interconnection / termination in mobile networks
- Carrier pre-selection
- Number portability
- Z 19/99 Interconnection for carrier network pre-selection
- Local-loop unbundling for ISPs (Z 18, 29/99) and leased-line operators (Z 3/00)
- Access from alternative networks to online services in the 07189xx number range in the Telekom Austria network (Z 27/99)
- Access to online services in all networks (Z 10/00)

Fixed-link interconnection 2000

In the procedures Z 30/99ff (Applicants: Colt Telecom Austria GmbH, Connect Austria Gesellschaft für Telekommunikation GmbH, max.mobil Telekommunikations Service GmbH, NETnet Telekommunikations GmbH and UTA Telekom AG), Z 31/99 (Applicant: TelePassport Telekommunikationsdienstleistungen GmbH) and Z 33/99 (Applicant: Telekabel Wien GmbH) as well as Z 1/00 (Applicant: European Telecom International AG), applications were submitted to the Telekom-Control Commission regarding the terms of interconnection between the fixed-link networks of alternative operators and that of Telekom Austria (TA).

The steps taken in these procedures can be summarized as follows:

- Appointment of an official expert to compile a commercial evaluation
- Appointment of an official expert to compile a technical evaluation
- Appointment of external experts to calculate capital costs, with special attention to the telecommunications market
- Appointment of external experts to create a bottom-up model
- Compilation of evaluation reports by official and external experts
- Statements of the parties to the proceedings regarding the applications and evaluations
- Composition of statements by the experts in response to the statements submitted by the parties to the proceedings
- Decision and official order by the Telekom-Control Commission

In the decisions issued on March 27, 2000 (Z 30/99f, Z 31/99), April 3, 2000 (Z 33/99) and April 17, 2000 (Z 1/00), the Telekom-Control Commission issued an overall order introducing regulations to govern the terms of interconnection between the fixed-link network of the alternative operators and that of Telekom Austria. The general section of the decision will remain in force indefinitely, while the traffic-related interconnection fees set in the decision will remain valid until March 31, 2001.

In designing its systematic approach to the order, the Telekom-Control Commission adhered to its goal of creating a clear, flexible and easily understandable definition of interconnection terms. The Commission came to the conclusion that maintaining the "modular system" used in existing interconnection orders would be an appropriate means to that end. The general section of the order governs the following:

- Object of the order
- Technical implementation
- Planning and ordering of network interconnection points
- Planning and ordering of link capacities
- General issues related to interconnection fees
- Quality assurance
- Handling of disturbances/problems
- Liability, as well as the duration and termination of the interconnection relationship.

The order's 19 appendices form an integral component of the order and essentially concern the following areas:

- Technical specifications for interconnection
- Traffic types and the setting of interconnection fees
- Regulations concerning carrier networks
- Low-level network interconnection
- Access to toll-free services and emergency calls
- Services with regulated maximum prices, value-added services without price regulations, private networks and personal services.

The central issue in the order was its regulation of the fees charged for interconnection. In general, the principle of cost-related pricing (pursuant to § 41 Par. 3 TKG, in conjunction with § 9 Par. 3 of the Interconnection Ordinance) applied in this decision is to be understood as an unequivocal measure to ensure that FL-LRAIC is implemented over time.

After a comprehensive analysis of existing and developing pricing models for the procedures in question, the Telekom-Control Commission came to the conclusion that the best approach to the FL-LRAIC of an efficient operator can be obtained by using two methods (top-down as well as bottom-up). In the opinion of the Telekom-Control Commission, this arithmetic means delivers the most reliable value for interconnection fee amounts in accordance with the principle of cost-related pricing. These mean values were taken as the basis for determining traffic-related interconnection fees for termination as well as local and regional origination. In its order, the Telekom-Control Commission assumed that the top-down model (assuming a 20% potential for improvement) as well as the bottom-up model would return accurate, independent values. A value based on the results of the top-down calculation (without efficiency reductions) was assumed as the fee for national origination as well as national and regional transit.

Table 1 (see page 26) gives an overview of the interconnection fees set in the decision. This overview also indicates the average reduction of interconnection fees as compared to those applied until December 31, 1999.

In addition, the "Interconnection 2000" decision also took the utilization of network capacity into consideration by differentiating between peak and off-peak rates, . Finally, the principle of reciprocity was applied for similar services, in line with regulatory practice to date.

In conclusion it has become clear that the decision in question has brought about a marked reduction in traffic-related interconnection fees and thus doubtlessly contributed to intensifying competition on the interconnection services market.

Low-level network interconnection

In response to an application submitted by Telekabel Wien GmbH, Procedure Z 2/00 was initiated before the Telekom-Control Commission in mid-January 2000. The application requested interconnection with the Telekom Austria network on the lower level of the network hierarchy. In contrast to the Telekom-Control Commission's decision of November 3, 1999 (Z 14/99), which stated that interconnection at low levels of the network hierarchy must generally be possible, the applications submitted by the parties to the procedure contradicted each other in the fees they requested. Telekabel Wien GmbH requested that termination fees be set at different levels depending on whether the termination originated from interconnection traffic from the Telekabel Wien network to the Telekom Austria network at the level of the subscriber exchange or vice versa. On the basis of a technical evaluation report, the Telekom-Control Commission issued an order on May 9, 2000 to account for the differences between the network structures of the parties to the procedure. The order remained valid until December 31, 2000. A fee in the amount of ATS 0.21 (peak) and ATS 0.10 (off-peak) was set for low-level termination from the Telekom Austria network to the Telekabel Wien network. This fee is equal to the interconnection fee for regional termination. In contrast, the fee for interconnection traffic from the Telekabel Wien network to the Telekom Austria network at the level of the subscriber exchange was set at ATS 0.14 (peak) and ATS 0.07 (off-peak).

On September 4, 2000, Procedure Z 11/00 was opened before the Telekom-Control Commission at Telekom Austria's request. The application was for interconnection of Telekom Austria's public telecommunications networks with that of Telekabel Wien GmbH at exchanges below the level of the transit exchange. In this context, the application requested that the interconnection fees for termination from the Telekom Austria network into the Telekabel network and vice versa be adjusted to ATS 0.14 (peak) and ATS 0.07 (off-peak). In its decision of October 23, 2000, the Telekom-Control Commission rejected the application due to an existing order concerning the parties to the procedure (Z 2/00) which prohibits appeals to and decisions by the Telekom-Control Commission.

Mobile network interconnection

In its session on July 31, 2000, the Telekom-Control Commission made five different unanimous decisions regarding the interconnection of the Telekom Austria/UTA fixed-link networks with the max.mobil network (Z 4/00, Z 24/99) and the interconnection of Mobilkom's mobile network with the mobile networks operated by tele.ring, Connect and max.mobil via Telekom Austria's transit network (Z 6/00, Z 7/00, Z 8/00).

Along with these decisions, the termination fees for the Connect, max.mobil, Mobilkom and tele.ring mobile networks were set. The orders, which were each agreed upon by two parties to the negotiations, provide for a gradual reduction of termination fees for Connect and max.mobil. The mobile termination fees already set by the Telekom-Control Commission in previous procedures for Mobilkom and tele.ring (Z 8/99 of November 11, 1999 and Z 5/00 of March 20, 2000) were confirmed.

In justifying its decisions, the Telekom-Control Commission explained that access to the consumer is an 'essential facility' which can not be substituted, i.e., customers are only reachable via the mobile network to which they subscribe. This can lead to monopoly-like profit-taking on the interconnection market, which formed the basis for these interconnection decisions. Because tele.ring, Connect and max.mobil do not have significant power on the interconnection market, it was necessary to set an appropriate fee for termination services. The appropriate fee is based on the theoretical market price for termination services in a competitive market. The Telekom-Control Commission came to the conclusion that this fee – analogous to the fee set for Mobilkom in November 1999 – should be ATS 1.90 per minute. The Telekom-Control Commission also took the principle of promoting market access for new enterprises into consideration in its decision by setting varying effective dates for the new termination fees. As a newcomer, tele.ring is not subject to this principle of uniform market price regulation.

The interconnection decisions made in July 2000 have prepared the stage for the reciprocal application of interconnection fees in mobile communications as well. In order to avoid disruptive intervention and to allow the network operators to adjust to the changes, the Telekom-Control Commission decided not to order immediate changes in the interconnection fees between max.mobil. and Connect. These fees will be reduced gradually, in accordance with regulatory practice to date.

Carrier pre-selection

At the request of Colt Telecom Austria GmbH, Connect Austria GmbH, max.mobil Telekommunikation Service GmbH, UTA Telekommunikation Service GmbH, tele.ring Telekom Service GmbH and Tele2 Telecommunication Services GmbH, Procedures Z 21/99, Z 23/99 and Z 28/99 were opened before the Telekom-Control Commission in November and December 1999. The applications requested interconnection with the Telekom Austria network for the purpose of establishing long-term carrier pre-selection.

On the basis of a technical evaluation report as well as an commercial evaluation report, the Telekom-Control Commission issued orders on March 7, 2000 (Z 21/99 and Z 28/99) and March 20, 2000 (Z 23/99) in response to these applications. The orders will remain valid until September 30, 2001. The regulation introduced for tele.ring in the Z 23/99 order differed in that the parties were able to reach a contractual agreement. In this procedure only the fees were set, as the remaining issues were covered by the agreement between the parties.

According to the orders, carrier network pre-selection also includes the number ranges for international calls, national calls, calls to mobile networks, local calls as well as calls to private networks and personal services in the 0720, 0730 and 0740 number ranges. Calls to emergency numbers, public interest numbers, online service numbers, toll-free services, services with regulated maximum fees and value-added services were excepted. Due to technical considerations, a transitional solution had to be found for local calls; until December 31, 2000, the area code was still required for these calls. As of January 1, 2001, this condition was to be remedied, and Telekom Austria was assigned to report to the Telekom-Control Commission at two-month intervals on progress in the network implementation necessary to meet this requirement. In addition, the Commission ordered the separate handling of calls using call-by-call selection as opposed to carrier pre-selection, to be enabled by January 1, 2001.

The fee for setting up or changing the connection via carrier pre-selection was set at EUR 6.88 (ATS 94.61) per change.

Number portability

At the request of UTA Telekommunikation Service GmbH, European Telecom International AG, max.mobil Telekommunikation Service GmbH and tele.ring Telekom Service GmbH, Procedures Z 22/99, Z 25/99 and Z 26/99 were opened before the Telekom-Control Commission in November and December 1999. The applications requested a partial interconnection order in which the mutual conditions were created for the portability of geographic numbers and service numbers between the applicants' networks and the Telekom Austria network.

On the basis of a technical evaluation report as well as an commercial evaluation report, the Telekom-Control Commission issued partial orders on March 27, 2000 (Z 22/99) and on April 3, 2000 (Z 25/99 and Z 26/99) in response to these applications. The orders will remain valid until March 31, 2001. Due to the high degree of complexity in the procedure, these partial orders only covered geographic numbers. The Telekom-Control Commission later issued further interconnection orders (May 9, 2000) to govern service number portability. These orders cover both geographic portability as well as operator portability. In technical terms, portability is to be ensured by onward routing. The fee for portability was set as a one-time flat fee of EUR 8.66 (ATS 119.14) plus a fee of EUR 1.68 (ATS 23.13) for each additional copper wire pair (for geographic numbers).

Z 19/99 Interconnection for carrier pre-selection

In October 1999, Procedure Z 19/99 was opened before the Telekom-Control Commission at CyberTron Austrian Digital Telekom AG's request. The application called for an interconnection order between the applicant's network and that of MCN Millennium Communication Network GmbH. Furthermore, the application requested access to the MCN network by means of carrier pre-selection. During the ongoing procedure, the parties were able to reach a termination agreement. On February 7, 2000, the Telekom-Control Commission rejected CyberTron's application for interconnection by carrier pre-selection, justifying its decision with the fact that MCN does not have significant power on the relevant markets.

Local-loop unbundling for ISPs (Z 18, 29/99) and leased-line operators (Z 3/00)

In the procedures Z 18/99 (Applicant: Gredenberg & Augustin OEG), Z 29/99 (Applicants: at-net Dr. Franz Penz and Silver Server – Oskar Obereder) and Z 3/00 (Applicant: Salzburger Stadtwerke AG), applications were submitted to the Telekom-Control Commission for unbundled access to Telekom Austria's subscriber lines (local loops). In these procedures, the Telekom-Control Commission called in official experts to write technical evaluation reports, which were then handed over to the parties to the procedure for their comments.

After considering the technical evaluations and – as far as possible – the parties' input, the requested unbundling orders were issued. These orders essentially extended the effects of the order issued in Procedure Z 1/99 to include Internet service providers and leased-line operators.

The Telekom-Control Commission's decision was based on the fact that Internet service providers and leased-line operators are also providers of telecommunications services and thus have a right to access the local loops in the SMP operator's network. For this reason, Telekom Austria now has to make the "last mile" to the consumer accessible to all telecommunications service providers on the market, even in cases where broadband services such as high-speed internet connections or video-on-demand services are offered. In addition to high-bit-rate utilization of the local loops with ADSL/HDSL, SDSL connections were also provided for. The costs of leasing unbundled local loops, to be borne by the alternative telecommunications service providers, amount to ATS 170.00 (plus VAT) per month and subscriber standard copper wire pairs, irrespective of the transmission capacity used. This price had already been set in Procedure Z 1/99. A one-time fee of ATS 750.00 per copper wire pair is also to be paid to Telekom Austria as the "takeover fee" to cover the work involved in unbundling. Unbundling will be physically implemented by means of collocation in Telekom Austria's exchanges or by substitute collocation (outdoor container/cabinet on adjacent property or passive extension of the local loop to one of the network operator's/service provider's points of presence).

Like the unbundling order (Z 1/99), the orders mentioned above also expired on September 30, 2000. After various alternative network operators had requested a new unbundling order in September 2000, a temporary solution was agreed upon in which the current regulations would remain in effect until the new orders were passed (planned for February 2000). Incidentally, these decisions were confirmed by the ordinance recently passed by the European Parliament and Commission on unbundled access to the local loop. With its decisions, the Telekom-Control Commission managed to achieve uniformity in access by all providers to the SMP operator's public telecommunications network and to create strong incentives for providers to offer low-cost broadband services for Internet access.

Access from alternative networks to online services in the 07189xx number range in the Telekom Austria network (Z 27/99)

Procedure Z 27/99, in which Telekabel Wien GmbH requested an interconnection order for access to certain online services in Telekom Austria's network, treated the issue of subscriber dialup access from an alternative operator's network to Internet service providers using a number in the 07189xx range in the Telekom Austria network. The steps taken in these procedures can be summarized as follows:

- Appointment of official experts to create evaluation reports examining the general technical conditions for transferring online traffic and for an economic review of the costs thereby incurred in Telekom Austria's network
- Appointment of external experts to calculate capital costs, with special attention to the telecommunications market
- Review of the technical and business documentation provided by Telekom Austria
- Creation of technical and commercial evaluation reports
- Decision and official order by the Telekom-Control Commission

In this procedure, the Telekom-Control Commission decided that within three months of the decision, Telekom Austria was to enable online traffic from alternative networks to Internet service providers that are reachable nationwide using a 07189xx number in the Telekom Austria network.

In contrast to Telekom Austria's view that it is not obligated to enable interconnection for data services, the Telekom-Control Commission determined that connections to online service numbers are not packet transmissions, but technically no different from conventional calls; the connection does not leave the voice telephone network before it is handed over to the ISP's PoP switching station, which means that interconnection services are to be provided for online service access.

In order to reduce the load at the level of the transit exchanges, alternative operators were encouraged to transfer online traffic to Telekom Austria's network primarily at lower levels in the network hierarchy. For this reason, Telekom Austria was required to make a matrix available to alternative operators with all existing online service numbers in the 07189xx range in its network. For each local network, the matrix shows a low-level network interconnection point for each of the online service numbers, provided the Internet service provider has a point of presence within a radius of 50 km from each local network. This ensures that online service numbers that are reachable nationwide in the 07189xx number range in the Telekom Austria network are accessible through a maximum of 23 interconnection points at a low level of the network hierarchy.

In consideration of the elements of the Telekom Austria network used, the termination fees were set at ATS 0.12/minute during peak times (0.04 off-peak) for online traffic transferred at a lower level of the network hierarchy and ATS 0.21/minute during peak hours (0.10 off-peak) for transfer at the level of the transit exchange.

The original validity period of this order (until December 31, 2000) was extended until March 31, 2001 with the consent of all parties involved.

As a consequence of the Telekom-Control Commission's decision, alternative network operators can now offer their customers access to online services using the area code 071891 in the Telekom Austria network, thus improving their ability to compete in providing the population with low-cost Internet access services.

Access to online services in all networks (Z 10/00)

In procedure Z 10/00, MCI Worldcom applied for an interconnection order for mutual access to toll-free online services. The steps taken in these procedures can be summarized as follows:

- Appointment of official experts to create technical evaluation reports examining the general conditions for mutual toll-free access to online services and for a commercial review of the costs thereby incurred in the Telekom Austria network
- Review of the documents submitted by Telekom Austria
- Creation of the technical and commercial report
- Issue of a partial decision by the Telekom-Control Commission

In this procedure, the Telekom-Control Commission ruled that Telekom Austria and MCI Worldcom were to enable mutual access to toll-free online services using toll-free numbers in the 080400xx range within two weeks of the decision.

When subscribers call an online service number in the 080400xx range, the network operator does not charge them a fee for the connection. The charges for the overall access and Internet service are collected by the Internet service provider from the end consumer on the basis of a separate agreement between the consumer and the ISP. The fee agreement between the network operator connected to the ISP and the ISP itself is not officially regulated, it is governed by individual contracts under private law.

In order to avoid overloading the voice telephone network with the longer connection times involved in online services, the order calls for online traffic to be primarily handled through interconnection points at lower levels in the network hierarchy. The order called for Telekom Austria to provide the alternative network operators with a list with a maximum of 23 interconnection points for the transfer of online traffic at lower levels in the network hierarchy, making access to online services in the 080400xx number range possible from all local networks in Austria. With the exception of Vienna, a clearly defined interconnection point is to be offered for the transfer of online traffic in every local network in Austria. The conditions applying to alternative network operators are analogous to those used for ISPs.

The interconnection fees are to be charged among the network operators in the same way as in voice telephony carrier network traffic. This means that a network operator that transfers network traffic from a subscriber in its network to an ISP connected to a different network receives a fee of ATS 0.14/min. (peak) or ATS 0.07/min. (off-peak) for transfers at a lower level in the network hierarchy and a fee of ATS 0.21/min. (peak) or ATS 0.10/min. (off-peak) for transfers at the level of the transit exchanges. If online traffic is transferred to an ISP connected to another operator's network using a transit network, the transit network operator receives a fee of 0.04/min. (peak) or ATS 0.02/min. (off-peak).

The Telekom-Control Commission's decision pursues two main goals: On the one hand, it creates clear general conditions for managing online service interconnection using the defined 080400xx number range, an area which has been characterized by a lack of clarity but has been growing constantly due to the Internet boom with this decision paying due attention to preserving network integrity. On the other hand, ISPs are allowed more leeway, with the possibility of billing their customers directly for the overall service; ISPs can now offer a variety of attractive services, even flat rates, without having the customer receive an additional bill for online connection services from his/her network operator.

Toward the end of the reporting period, the following traffic types and fees were to be offered by Telekom Austria in connection with fixed-link interconnection negotiations:

		Fees as of December 31, 1999 in eurocent	Telekom-Control Commission decision of March 27, 2000 (Z 30/99)		Average reduction Percentage (weighted by traffic volumes)
			Peak (weekdays 8am-6pm) in eurocent	Off-peak (weekdays 6pm-8am, Sat, Sun, and holidays) in eurocent	
Termination	local	1.02	1.02	0.51	-20%
	regional	1.82	1.53	0.73	-33%
	national	2.40	2.25	0.87	-29%
Transit	regional	0.39	0.29	0.15	-39%
	national	0.76	0.51	0.29	-44%
Origination	local	1.24	1.02	0.51	-34%
	regional	2.03	1.53	0.73	-40%
	national	4.00	2.91	1.09	-45%

Table 1: Interconnection Traffic Types

As in 1999, the decisions mentioned earlier and taken in the business year 2000 regarding interconnection created the regulatory basis for allowing new network operators to continue their activities on the Austrian telecommunications markets and to compete with Telekom Austria. This competitive situation led to an additional reduction of rates for calls in the Austrian fixed-link network (see page 34, Fixed-Link Voice Telecommunications Networks).

In addition to ordering interconnection fees in fixed-link communications, the Telekom-Control Commission also issued regulatory decisions for interconnection services in mobile networks in the business year 2000, in particular Z 24/99 and the ensuing procedures. Toward the end of the reporting period (or starting January 1, 2001), the Telekom-Control Commission's decisions called for the following interconnection fees to be offered by the mobile network operators for call termination in mobile networks after a gradual reduction (agreed upon in the interconnection negotiations):

Mobilkom:	ATS 1.90
max.mobil:	ATS 1.90
Connect:	ATS 1.90
tele.ring:	ATS 2.70

In 2000, the marked reduction of interconnection fees for termination services in mobile networks also led to a decrease in charges for calls to mobile networks. In light of the growing number of subscribers in the mobile networks, this development can be regarded as another significant step toward the objectives named in the Austrian Telecommunications Act (§ 1 TKG).

I.3.5 Regulation of Competition

The development of competition in Austria, for which the regulatory basis was created by the decisions mentioned earlier, is intended to offer all competitors – especially those who are new to the market – equal opportunities and thus protection from the abuse of market power; this means that the regulation of competition is becoming a necessity in Austria. Here again, the concept of SMP operators is used as a starting point for regulatory considerations. Fixed-link network operators with significant market power are especially affected by a number of regulations, in particular the obligation to apply cost-related pricing to end-consumer rates. This is intended to protect the end consumer from the abuse of monopoly power by SMP operators on the one hand and to protect competitors from practices which frustrate free competition on the other. It is especially intended to prevent predatory

pricing (price dumping). In addition, SMP operators are required to have their general terms of service approved by the Telekom-Control Commission; they are also subject to a regulation prohibiting cross-subsidies as well as special obligations in cost accounting.

General Terms of Service and Fees

SMP operators of fixed-link voice telephone service networks as well as SMP operators of leased-line services are required to have their general terms of service and fees approved by the Telekom-Control Commission in accordance with § 18 in conjunction with § 111 TKG, while SMP operators of mobile voice communications networks need only have their general terms of service approved by the Commission. The Telekom-Control Commission completed 14 approval procedures in the year 2000; in four cases, the operator's application was (partially) rejected. In Decision G 20/00 of June 19, 2000, the Telekom-Control Commission refused to approve a number of provisions in Mobilkom Austria AG's general terms of service because they violated § 34 Par. 1 TKG (prohibiting discrimination) or represented a gross disadvantage for the consumer as specified under § 879 Par. 3 ABGB. A complaint filed by Mobilkom Austria AG with the Austrian Administrative Court is still under review.

Telekom Austria Fee Application (G 33/00)

In the procedure G 33/00, the Telekom-Control Commission was to decide on Telekom Austria's application for approval of its fees in the following rate plans: Standard rates, Minimum rates and Business rates 1, 2 and 3. Because the fee provisions violated applicable legal regulations with regard to the 0720x, 0730x, 0740x and 05x number ranges as well as cost coverage in Business Rate plan 3, the Telekom-Control Commission rejected the application in an official decision of November 6, 2000.

Telekom Austria rate application: "Telecommunications Grant" ("Subsidized Rates", G 36/00)

In Decision G 36/00 of October 23, 2000, the Telekom-Control Commission refused to approve the general terms of service and fees for the "Telecommunications Grant" service, which was to bar customers who receive federal grants for telephone costs from reaching carrier networks using call-by-call and carrier pre-selection, because the applicant's SMP status on the voice telephone services market requires it to grant its customers access to alternative networks.

Telekom Austria Rate Application (G 44/00)

At the end of 2000, Telekom Austria submitted a rate application (rates charged by the second), on which the Telekom-Control Commission will decide in early 2001.

Additional terms to be approved concerned Telekom Austria's additional services such as CLIP/CLIR and "Bonus Talk Optional", transmission route fees, information service fees, public telephones, Mobilkom Austria AG's carrier network operation and the general terms of service of mobile network operators with significant market power.

Non-SMP operators need only notify their general terms of service and fees to the regulatory authority. Therefore, these operators do not have to wait for approval; they can initiate their services immediately after notifying their terms and fees. However, the Telekom-Control Commission reserves the right to raise an objection to these terms of service within a period of eight weeks in cases where they contravene the Austrian Telecommunications Act, the ordinances passed on the basis of the Telecommunications Act or the relevant regulations passed by the European Communities. This right applies to the terms of service in voice telecommunications services using fixed-link or mobile networks, but not to the terms of service of leased-line service providers.

A total of 29 procedures were initiated by the regulatory authority with regard to terms of service for voice telecommunications, 27 of which were completed in the year 2000. A formal objection was not raised in any of the procedures. In practice, the regulatory authority first informs providers as to any doubts or questionable points in their terms of service and gives them the opportunity to introduce the necessary changes after receiving the regulatory authority's feedback.

Generally, the network operators changed their terms of service to eliminate these doubts and questionable items before a formal objection was raised by the regulatory authority.

The monitoring of adherence to non-discrimination policies is also part of the regulation of competition. SMP operators (as specified in the relevant EU Directives) are required to operate in a non-discriminating manner, i.e., they are to treat all market participants equally. This obligation also applies to services which they render for themselves or for their affiliates. If an SMP operator makes a service available internally at a certain internal transfer price (which should be cost-related), then the operator will be required to offer the service to all competitors on the same terms. In order to enforce these obligations, SMP operators are required to submit regular reports to the regulatory authority, as well as allowing the authority to review their accounts.

The most important instrument of regulation the regulatory authority possesses in pursuing this objective is § 34 TKG, a provision which grants the regulatory authority special supervisory powers regarding the abuse of power. Under § 34 TKG, services offered by an SMP operator on the market or provided for its own services or those of affiliated companies have to be offered to competitors without discrimination (i.e., on the same terms). In cases where an SMP operator violates this principle and abuses its market power, the regulatory authority can impose or prohibit actions on the part of the operator and declare contracts partially or entirely null and void.

Non-Discrimination, Network Access, Abuse of Significant Market Power

A total of ten competition-related regulatory procedures were initiated at Telekom-Control GmbH in 2000 to investigate the possible abuse of significant market power. The procedures especially concerned difficulties in the area of network access as well as doubts with regard to discriminatory pricing.

It is worth noting that the number of procedures in this field of regulation dropped from 15 cases in 1999 to ten in 2000. One possible explanation for this decrease is that the comprehensive Z 30/99 order (and the ensuing orders) conveyed a strong signal as to the continuity of regulatory practice, and that the market participants are increasingly willing to adhere to these orders.

In addition, the regulatory authority made additional efforts to take an active role as a moderator or mediator in cases of differing opinions and disputes among network operators in order to overcome these difficulties without the need for formal procedures.

The most prominent example of a long but finally successful arbitration process was the dispute between Telekom Austria and the ISPA regarding the offering of ADSL services to ISPA members in accordance with ONP regulations. It took several weeks of negotiations until Telekom Austria made an offer that the ISPA considered acceptable. This offer formed the basis for additional ADSL service contracts concluded privately between individual ISPs and Telekom Austria.

Telekom-Control GmbH makes every effort – especially in issues related to competition law – to promote means of finding solutions through private agreements between market participants and to intensify its activities as a mediator, or in arbitration proceedings under § 66 TKG. The regulatory authority regards the opening of legal competition proceedings as the last resort in the escalation of these disputes, only to be initiated when functional, effective competition is endangered or prevented on the telecommunications markets, thus necessitating decisive action on the part of Telekom-Control GmbH.

I.3.6 Relinquishment of Infrastructure

Relinquishment of Infrastructure (Cross-Subsidization)

In the reporting period, a total of five procedures investigating possible cross-subsidies in the use of telecommunications infrastructure were carried out. Reviews were based on regulations regarding structural separation and separate accounting (§ 43 Par. 1 TKG in conjunction with the provisions on sharing infrastructure in § 44 TKG). During the reporting period, these procedures (Q 1/00-Q 5/00) predominantly concerned power supply companies which allow their infrastructure to be used by other (sometimes affiliated) companies and have reported these arrangements to the regulatory authority. Cross-subsidization was not identified in any of the five procedures.

I.3.7 Number Administration

In accordance with § 57 TKG, Telekom-Control GmbH is responsible for the efficient administration of Austrian number ranges on the basis of the Numbering Ordinance (BGBI II 1997/416) handed down by the Federal Ministry of Transport, Innovation and Technology, formerly the Federal Ministry of Science and Transport. According to these regulations, numbers are to be allocated in an objective, non-discriminatory and justifiable manner, with special attention to equal opportunities among operators.

The Numbering Ordinance, which went into effect on January 1, 1998, defined a new numbering plan for Austria. The new plan was specifically designed to bring about a clear separation of the ranges reserved for geographic numbers from the ranges reserved for non-geographic numbers (public-interest numbers, mobile networks, personal services, toll-free services, services with regulated maximum fees and value-added services which are not subject to price regulations).

The conversion has already been carried out for all non-geographic numbers except for a few ranges (such as 0711..., 17..., 071891..., 194..., 120, 123, etc.).

However, geographic number conversion in accordance with the Numbering Ordinance has not yet begun. For this reason, the Federal Minister of Science and Transport set up a steering committee in 1999 consisting of representatives from the Federal Ministry, the Austrian Association of Alternative Telecommunications Network Operators (VAT), Telekom Austria and Telekom-Control GmbH, so that the implementation process could be planned jointly. The steering committee deployed a project group to work out the bases for decisions on the various relevant issues. The group's work on central issues such as a number shortages, the definition of new areas, planning and implementation of public relations, scheduling, financing and project organization was completed during the reporting period. The political decision on any resulting changes to the Numbering Ordinance and with regard to the start of the project still remains open, not least due to a lack of clarity regarding financing.

In contrast to the conversion from the existing 1,022 local networks to the 26 regions provided for in the Numbering Ordinance, the project team recommends a conversion to only 23 regions, each of which will be assigned a two-digit area code instead of the existing local dialing codes. In contrast to the current local network dialing codes, the borders of these regions will be identical to the political borders of the Austrian regions. In the course of the project group's work, a new routing concept for emergency calls was developed; this was necessary due to the removal of the small local network areas.

However, the current local network dialing codes will remain in use until further notice. In administrative practice, this means that TKC will still have to assign geographic numbers using the "old" local network numbering scheme. In contrast, however, service numbers have been allocated according to the new numbering plan since January 1, 1998.

Table 1 shows the overlaps between the ranges currently still in use for geographic numbers and the ranges specified for various services in the Numbering Ordinance.

Number range	Use according to numbering plan	Individual number sections in range also used by geographical numbers
1	Public-interest numbers	No
02		
03	Geographic numbers	–
04		
05	Private networks	Yes
065-069	Mobile networks	Yes
071-074	Personal services	Yes
0800-0804	Toll-free services	No
0810-0830	Services with regulated maximum prices	No
090-093	Value-added services without price regulations	No

Table 2: Number Ranges under the Numbering Ordinance and their Current Use for Geographic Numbers

Number allocation in the toll-free number range began in December 2000 with the allocation of the 080400xx number range to ISPs for dialup Internet access (online numbers). This number range allows Internet service providers a maximum of flexibility in pricing their services, as all of the costs of Internet access (including the costs of access via the voice telephone network) can be charged directly to the customer by the Internet service provider.

In the number range for recorded information services (15...), a plan for the allocation of numbers was created in cooperation with Austria's Highest Telecommunications Authority and Telekom Austria; the plan takes the existing local networks as well as the division into 23 geographic regions into consideration.

Due attention was paid to the requirements of objectivity, transparency and non-discrimination in number allocation by publishing information on the TKC web site (<http://www.tkc.at>). For each number range, detailed information sheets and application forms are available on the web site. The allocation procedure for each number range and the terms and conditions of use are described in detail on the information sheets.

In order to implement the monitoring mechanisms for deployment and use of the allocated numbers as provided for in the Numbering Ordinance more efficiently, a database was set up to monitor and report on the use of these numbers. Numbers that are allocated but not used by the defined deadline are returned to TKC's authority and can then be applied for by any service provider or network operator. At present, this monitoring mechanism is only used for non-geographic numbers. In 2001, use of the database will be extended to include geographic numbers as well.

The decisions made by Telekom-Control GmbH in the business year 2000 concerning number allocation can be found in the information box below.

Number Allocation: Telekom-Control GmbH Decisions

In 2000, over 750 number allocation decisions were handed down (4% rejections). This figure shows a decrease of 550 decisions in comparison to 1999. The reason for this decrease is that there were far fewer re-applications for numbers in 2000 than in 1999. The term "re-application" refers to a repeat application for a number or block of numbers after a previously completed allocation has been reversed due to non-use, thus requiring the applicant to request the numbers again.

The average duration of the allocation process was reduced significantly, from 17 days in 1999 to 10 days in 2000. In the year 2000, 50% of all decisions were issued within 5 days, and 90% were completed within 14 days. In 1999, the first duration (for 50%) was 8 days.

I.3.8 Universal Service

Universal service is a special problem area in regulation. Under European legislation, universal service is characterized by a well-defined catalog of services which are to be made accessible to all consumers in a country's territory at a reasonable price and in conformity with certain quality standards, regardless of their place of residence or business. As a rule, universal service is to be rendered by the former monopoly. The regulatory authorities are required to ensure the provision of universal service but also to compensate the operator in question for any additional financial burdens in exchange for rendering universal service.

The Universal Service Ordinance

In mid-2000, an amendment to the Universal Service Ordinance specified the provisions applicable to the rendering of universal service. The ordinance passed by the Federal Minister in charge of the issue is based on the provisions in §25 TKG and defines the essential quality standards to be met by universal service in conformity with the relevant provisions in European law.

In terms of content, the following focuses were established for regulatory activity during the reporting period:

TKC's internal preparatory work for the calculation of universal service costs continued in 2000 in the "Cost Calculation" project, in which the bases for determining rates, interconnection fees, etc. were to be created in cooperation with Telekom Austria.

The goal of this effort was to ensure the regulatory authority's ability to conduct a review in conformity with the provisions of the Austrian Telecommunications Act as well as the relevant rules of the European Union and international practice if Telekom Austria submits an application for reimbursement of the costs of universal service (as provided for in § 29 Par. 1 TKG). The approach to be used in calculating the costs of universal service are based on the question of which costs the operator could eliminate if it were not required to render such a service (calculation of avoidable costs, analogous to the calculation of the incremental costs of interconnection).

The preliminary work (begun in 1998) on subscriber directories and information services, which are regarded as essential elements of universal service, was continued during the reporting period.

In this context, the focus was on setting up and designing a uniform, multi-operator subscriber directory for the year 2002/2003 as well as establishing a directory assistance service covering all networks.

Telekom Austria's introduction of a paid directory assistance service in July 2000 enabled competitors to enter the market.

I.3.9 Arbitration in End-Consumer Disputes

A total of 894 complaints were filed for arbitration by Telekom-Control in the year 2000. 854 such cases were closed in the reporting period; however, it must be noted that this number also includes a number of complaints filed in 1999. A full report on the regulatory authority's arbitration activities, which will be available from Telekom-Control GmbH or its web site (www.tkc.at) at the end of Q2/01, presents statistical information as well as the questions that arose most frequently in these procedures. For this reason, this report does not include a content summary of these activities.

I.3.10 Proceedings before Public Courts of Law

I.3.10.1 Proceedings before the Austrian Constitutional Court

A total of eight complaints were filed with the Austrian Constitutional Court against decisions made by the Telekom-Control Commission and Telekom-Control GmbH. These complaints concerned interconnection procedures and procedures identifying SMP operators, among other issues. In this context, the regulatory authority's activities consisted in composing written statements in response to the applications filed for suspensory effect and of composing rebuttal statements.

I.3.10.2 Proceedings before the Austrian Administrative Court

More than 30 complaints were filed with the Austrian Administrative Court against decisions made by the Telekom-Control Commission and Telekom-Control GmbH. These complaints essentially concerned interconnection procedures and procedures identifying SMP operators. In this context, the regulatory authority's activities consisted in composing written statements in response to the applications filed for suspensory effect and of composing rebuttal statements.

I.3.11 National Work Groups and International Activities

In a deregulated voice telecommunications market with many network operators, the coordination of (especially technical) procedures among the individual networks is indispensable for the many functions that involve multiple operators, such as value-added services or number portability. In this context, the agreement of terms and conditions for interconnection through formal procedures carried out before the Telekom-Control Commission should be regarded as a last resort. After holding preliminary talks on the subject in 1998, TKC therefore established a discussion forum at the beginning of 1999 for network operators as well as their suppliers and subcontractors, called the Technical Coordination Work Group (AK-TK).

In addition to allowing a general exchange of information, the essential goal of the Technical Coordination Work Group is to develop recommendations for technical and administrative processes among the network operators. In particular consideration of Telekom Austria, these recommendations are accepted by unanimous decision only. However, even unanimously accepted recommendations are not legally enforceable, but they provide important information to be considered in handling disputes before the Telekom-Control Commission, which focuses on negotiating solutions among the network operators and regards the Work Group to be an effective means of reaching this goal.

In the plenary meetings of the Technical Coordination Work Group, work groups are formed and assigned to defined areas, results are discussed and draft recommendations are voted on. As a non-voting member of this forum, the Telekom-Control GmbH assumes the role of a "catalyst" in reconciling opposing standpoints among network operators.

The Work Group has developed steadily since its establishment and has already produced substantial technical results (e.g., a technical concept for number portability in geographic numbers, consensus on the size of collocation areas, etc.) as well as "atmospheric" results. TKC plans to continue promoting the Technical Coordination Work Group as the essential forum for the Austrian telecommunications market in the future and invites all network operators to participate actively in the Work Group.

The following subgroups were convened in the year 2000 (some in joint meetings of several subgroups):

- Work Group for Technical Coordination in Telecommunications (plenary assembly)
- AK-TK Accounting Scenarios subgroup
- AK-TK Carrier Pre-Selection subgroup
- AK-TK Unbundling subgroup
- AK-TK Value-Added Services subgroup
- AK-TK Number Portability subgroup
- AK-TK POI Links Planning subgroup
- AK-TK Quality of Service subgroup

- AK-TK Central Technical Platform subgroup

The work of the individual subgroups was successful in the year 2000. Unfortunately, problems did arise toward the end of the year due to the procedural requirement stating that at least half of all voting members have to be present in order for AK-TK recommendations to be accepted; an appropriate solution is being discussed.

In 2000, TKC also intensified its international regulatory activities. The goal of these activities was a mutual exchange of experiences and participation in international harmonization. In this process, it has become clear that the information gathered through these activities has a positive impact on the quality of Telekom-Control's regulatory work.

In order to meet the increasing need for international coordination and harmonization, which was also triggered by the European Commission's Communications Review of 1999, TKC actively participated in the harmonization of principles for the uniform interpretation of provisions at the European level in the year 2000. International comparisons were used in an effort to develop best practices and define them in the form of implementation principles. For this purpose, the following steps were taken within the framework of the Independent Regulators Group (IRG, the European association of telecommunications authorities) in the year 2000:

- Chair of the "Significant Market Power (SMP)" work group and development of principles of implementation for identifying SMP companies. TKC's work was especially prominent in defining relevant markets, developing indicators for the identification of effective competition and in creating of a list of markets relevant to regulatory activity.
- Participation in the development of principles of implementation (PIB) for unbundling in the "Unbundling" work group
- Participation in the development of principles of implementation for the calculation of interconnection costs (FL-LRAIC) in the "Cost Allocation" work group
- Participation in and composition of a joint statement by the Independent Regulators Group on the European Commission's Communications Review 1999.
- Organization of an IRG Workshop on VDSL standardization, in preparation for ETSI TM6 in Vienna (broadband spectrum as a shared resource in the local loop)

In connection with the Communications Review 1999, TKC assumed the role of advisor to the Federal Ministry of Transport, Innovation and Technology for the negotiations in the European Commission work groups with regard to the new directives.

In addition to these concrete duties, TKC also promoted international exchanges of experience with other authorities by participating in the following work groups and organizations:

- ONP Committee, European Commission Licensing Committee
- European Commission High-Level Regulators Meeting
- Independent Regulators Group, with the Significant Market Power, Unbundling, Cost Allocation, Confidentiality, Mobile Access, Market Analysis and Contact Network work groups
- ETSI: Observation/participation in the areas TM6 (especially with regard to xDSL services), Project Tiphon (regarding Voice over IP) and the Speech Transmission Quality group (STQ, regarding quality of service)
- ECTRA: Participation in the PT Numbering (numbering issues), TRIS (technical aspects of interconnection) and APRII (economic aspects of interconnection and cross-border interconnection) work groups
- International expert bodies in the OECD and ITU
- Workshops with international experts
- Workshops with countries applying for EU membership (e.g., Czech Republic)

In order to intensify contact with the European Commission even further, one TKC employee was sent to Brussels as a national expert in December 2000. In the reporting period, TKC employees took part in a total of 95 international events.

I.4 Effects of Liberalization on Austrian Telecommunications Markets

When telecommunications markets are described in accordance with European legislation, four markets can be distinguished (fixed-link voice communications networks, mobile telephone services, leased lines market and the interconnection services market). The development of these four markets are explained in detail in the Telekom-Control GmbH's Activity Report for the business year 2000. At the time this report was written, no market data for the year 2000 was available yet; therefore, a detailed quantitative presentation of the markets has been omitted. However, a new, appropriately abbreviated description of the Internet market in Austria is included, using secondary statistical documents to give an overview in accordance with the dynamics and significance of this market.

I.4.1 Fixed-Link Voice Telecommunications Networks

I.4.1.1 Market Access

Under the Austrian Telecommunications Act, Telekom-Control GmbH and the Telekom-Control Commission are responsible for opening up the Austrian telecommunications markets (especially the market for fixed-link voice telecommunications) and for creating the necessary conditions for transforming this market into a competitive one. By means of asymmetrical regulation, which imposes more demanding obligations on SMP operators than on non-SMP operators, structural barriers to market entry such as high capital requirements, cost-intensive access to the customer or incompatibilities are to be dismantled, and the conditions are to be created for fair competition.

The number of licensees in Austria provides impressive evidence to the fact that, continuing the developments of recent years, the Austrian regulatory authority has succeeded in lowering the barriers to market entry (or in maintaining them at low levels) and in creating the general conditions necessary for effective competition. Acquiring a fixed-link network license is not in any way prevented by the costs involved, as only one fee is collected to cover the expenses of the license award procedure in conformity with applicable law and in the interest of promoting the market and cost-related pricing.

After the veritable flood of applications for fixed-link licenses in the first two years of deregulation, the number of new license applications was markedly lower in the year 2000. In comparison to the 65 procedures initiated in 1999, only 32 were opened in the reporting period. The market has gradually entered a period of consolidation, as companies are confronted with shrinking margins due to increasing competition. Successful market positioning, which is considered important for medium-term profitability, has become one of the main challenges facing the network operators' management.

The licensees can be classified into three categories according to their market strategies:

1. SMP enterprises

Telekom Austria, the former monopoly in fixed-link voice telecommunications and leased-line services, remained the SMP operator in 2000. Telekom Austria plays a special role because without regulation it could use its market share and infrastructure to exercise market power to an extent that would frustrate competition. All of the network operators in Austria are dependent upon Telekom Austria, not least because of the huge number of subscribers in its network. Due to the resulting imbalance of power in negotiations, utilization fees are not determined freely by the markets, rather they are set by the regulatory authority in cases of dispute. This is intended to prevent any abuse of significant market power at the very outset.

2. Alternative subscriber network operators

Subscriber network operators have nationwide or regional networks with customers connected directly. They generally have multiple points of interconnection with the Telekom Austria network in order to be able to reach subscribers in other networks. In general, this category of network operators is making constant efforts to expand its infrastructure and to offer as wide a variety of services as possible. Subscriber network operators are faced with high investment requirements to re-equip existing networks or to build new ones. Therefore, the owners of these companies are mostly large (foreign) companies which can provide them with the necessary financial strength and know-how. Subscriber networks invest in infrastructure and in access to the customer. Therefore, they are less dependent on the SMP operator's network and thus more autonomous than carrier network operators. Entry into the subscriber network market is characterized by barriers such as high capital

requirements and high economies of scale. The number of subscriber network operators is thus decidedly lower than that of carrier network operators.

3. Carrier network operators

Carrier network operators require the infrastructure of one or more subscriber network operators in order to offer their services, because they do not have their own means of access to the end consumer. These operators route calls from the originating network to the terminating network (which can be the same network). In this process, the costs of using the two networks (interconnection fees) generally serve as the lower limit for their rates. In this case, the barriers to market entry are far lower than those faced by subscriber network operators, as carrier network operators do not have to build their own network (or they only have to build a very limited one) and can start operating with much lower investment. Aside from interconnection fees, the most significant cost factor for these operators is the marketing expense necessary to make prospective customers aware of their services.

Competition in this segment has had an extremely positive impact for the end consumer. In the last three years, carrier network operators have been the driving force behind the rapid and significant reduction of telephone rates. As favorable as the price developments in this segment may have been for the (end) consumer, they have also held disadvantages for some network operators; profit margins have shrunk to such an extent that only the operators with sufficiently high call volumes can hope to achieve positive business results in the future.

Due to the market's great success, almost all subscriber network operators are also active on the carrier network market, ensuring additional dynamic developments in this field. During the reporting period, Telekom Austria customers were able to save 30% or more compared to the rates offered by Telekom Austria itself by choosing their carrier networks wisely. Although the subscriber network operators also act as carrier network operators, customers who are connected to an alternative network can not use the services of other carrier network operators. On the medium term, this restriction could be an obstacle to changing network operators. In any case, Telekom Austria customers have had the privilege of choosing their carrier network operators up to this point due to asymmetric regulation (under the Austrian Telecommunications Act, enabling carrier network operation is only required of SMP operators).

In 2000, innovative services were only implemented to a limited extent on the telecommunications market. The first phase of market deregulation is best characterized by relatively homogeneous product offerings, although a few attempts have been made to bundle the product with Internet access or with mobile telephone service, or to differentiate the product using rates. Because carrier network operators have no influence on the underlying carrier services, the servicing, billing and bundling of services still remain the primary product design parameters in competition. However, customers have paid little attention to these parameters in making their decisions up to now. To date, competition has mainly been driven by pricing; therefore, attempts to differentiate products are currently only made in conjunction with market segmentation.

I.4.1.2 Market Strategies

In the narrower sense of the term, voice telephony is generally a very homogeneous product which can hardly be differentiated without expanding into data communications. The situation in which a product is offered by many providers and a certain degree of market transparency is ensured is referred to as "perfect competition" in the relevant economics literature. The main criterion in the consumer's decision is the price, which tends to move toward the minimum average long-term costs; competition is therefore mainly focused on pricing. In order to avoid this situation of perfect competition, many operators strive to diversify their product range and extend it to include data communications, value-added services and other additions. This allows them to create new markets in which higher profit margins can be attained. Economics literature essentially names three basic strategies used by businesses to survive on competitive markets (depending on their positioning):

1. Cost leadership

Cost leadership is characteristic of those operators who can afford to take part in price competition because they enjoy cost advantages due to economies of scale, affiliation advantages integration and/or especially high levels of efficiency. Telekom Austria is the best example of such a company. Due to its size, the number of subscribers in its network and its superior infrastructure, it has many means of attaining or maintaining its cost leadership. The company does have residual problems from earlier times, but these should be solved in the coming years.

2. Product differentiation

Product differentiation is used to distinguish one company from its competitors, however with due attention to the market's potential (due to the danger of small niche markets). This strategy has only been employed by few operators to date; innovative solutions are still a seldom occurrence. In the coming years, however, this strategy is expected to gain currency in the telecommunications sector.

3. First-mover advantage

The strategy of first-mover advantages should not be underestimated – especially in the telecommunications sector. The first company to offer an innovative product to its customers profits from its lead on the market because its competitors are forced to catch up and the entire attention of the media is focused on the "first mover". For this reason, companies are increasingly relying on innovative services for their customers in order to avoid price competition and to differentiate themselves from their competitors.

Market developments in the last year have shown that Telekom Austria is regarded as the main competitor by all of the network operators in Austria and is often used as a benchmark, but also that the intensity of competition among alternative operators is hardly lower than with Telekom Austria. The alternative network operators have been gaining market share not only at the expense of Telekom Austria but also at the expense of other alternative network operators.

I.4.1.3 Market Data

At the time this report was written, complete market data for the year 2000 was not (yet) available. Because it is Telekom-Control GmbH's policy to publish only complete and verifiable data whenever possible, a detailed presentation of relevant market data has been omitted from this report. Market data will be made available to the interested public at a later point in time.

I.4.1.4 Rates

The rate structures of market participants became increasingly similar in the course of the year 2000. The primary pricing criteria remained the time of day and distance of calls. New pricing criteria, which tend to make rate structures complicated and difficult to understand for the consumer, were only used to a very limited extent in 2000. In contrast, discounts for customers with high call volumes were a popular pricing policy.

In order to improve the clarity of rate structures for (end) consumers, TKC provides current information on the rates of all Austrian operators on its web site (<http://tarife.tkc.at/>).

In the first two years of market deregulation, telephone rates showed a clear downward tendency (cf. Figures 1, 2 and 3). As recently as mid-1997, a domestic call over a distance of 200 km cost ATS 5.33 per minute. In preparation for future competition, Telekom Austria adjusted its rates in November 1997, bringing the aforementioned rate down to ATS 3.74 at the beginning of 1998. In 1999, this rate was reduced again to ATS 2.25 (from 09/1999). Due to increasing competition, the rate was decreased to ATS 0.94 in 2000, and at the end of the same year, the lowest alternative network provider was already offering the same service at a rate of ATS 0.50. In particular, international and long-distance calls now cost only a fraction of what they did before the markets were opened up. Regional calls using carrier networks only led to savings during peak hours; during off-peak hours, Telekom Austria's rate remained the lowest. The figures below do not take the terms (e.g., duration of contract, minimum charges, etc.) on which the rates listed were offered; the reference value is the rate offered by the least expensive provider (see Figure 1: National Calls in Austria)

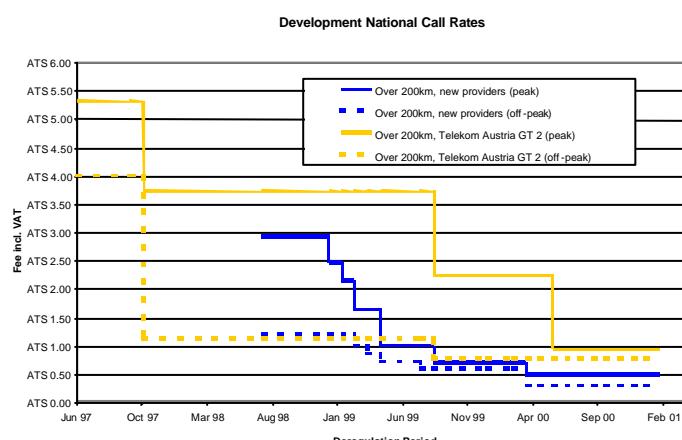


Figure 1: National Calls in Austria

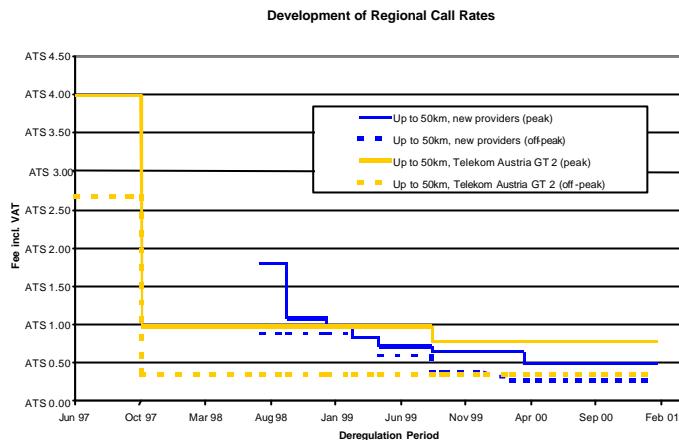


Figure 2: Regional Calls

If the rates for calls during peak hours are taken into consideration, savings on long-distance calls using new providers were very high; the least expensive provider charged only half the rates charged by Telekom Austria toward the end of the reporting period (see Figure 1: National Calls in Austria).

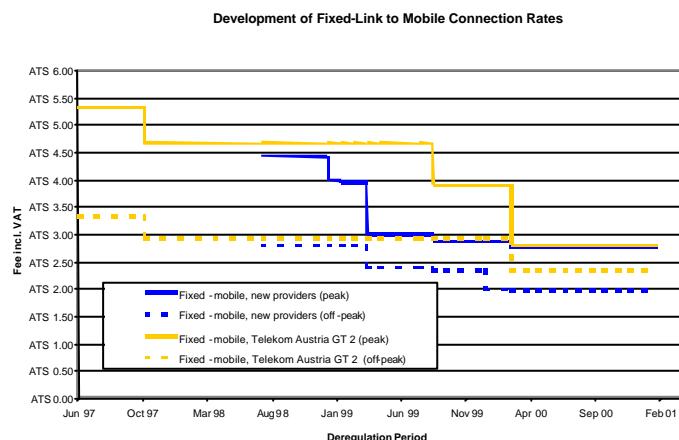


Figure 3: Calls to Mobile Networks

The alternative network operators were scarcely able to offer more attractive rates for calls to mobile networks (which are becoming increasingly important) than the SMP operator. The savings involved in calling mobile networks during peak hours using an alternative network operator were negligible at the end of the reporting period; the new network operators were only able to offer lower rates than Telekom Austria for calls to mobile networks during off-peak hours.

I.4.2 Mobile Communications Market

I.4.2.1 Market Access

Due to the limited availability of frequencies, far fewer operators are active on the mobile communications market (in which deregulation began in 1996) than in fixed-link networks. Since 1997, frequencies for mobile communications have been allocated exclusively in auction procedures.

Austria currently has one licensee for an analog mobile communications system (Mobilkom's D network) and four licensees for 2nd-generation mobile communications systems (GSM, 2G): Mobilkom,

max.mobil., Connect Austria and tele.ring (which started its operations on May 26, 2000), as well as six licensees for 3rd-generation mobile communications systems (UMTS/IMT 2000, 3G): Mobilkom, max.mobil., Connect Austria, tele.ring, 3G Mobile (Telefonica) and Hutchison 3G.

I.4.2.2 Market Strategies: 2G Operators

The market entry of Connect, Austria's third mobile network operator, in October 1998 gave rise to a situation of oligopoly which was characterized by careful observation of competitors and rapid imitation of their competitive strategies. An additional increase in the intensity of competition arose during the reporting period, when tele.ring entered the market as the fourth mobile network operator in Austria. The network operators' objective was to grow faster than the market in terms of subscribers and/or to build up their customer bases as quickly as possible. Customer acquisition was promoted even more fiercely by means of extremely inexpensive combination offers of services and handsets, and attempts to enhance "network loyalty" were made by maintaining rate structures and introducing customer loyalty and bonus programs. The profitable business-customer segment represented an additional focal point in the marketing and sales strategies of established network operators. As the fourth mobile network operator, tele.ring's primary objective was to gain sufficient exposure for their brand and services; advertising especially concentrated on prepaid service offerings. In the area of technical innovation, new technologies enabling new services were launched on the market as well. WAP service offerings continued to grow throughout the reporting period. The year 2000 also saw initial announcements with regard to the introduction of GPRS.

Securing frequencies, the most prominent limited resource in the mobile market, was at the heart of all four operators' strategic considerations. In addition to the four mobile network operators already operating on the Austrian market, two new providers also acquired frequency packages for 3rd-generation mobile services. The results of the UMTS frequency auction have heightened the probability that competition among mobile network operators will continue to intensify. Improvements in the speed of innovation, especially in the areas of services and pricing, would be a welcome development on the Austrian mobile communications market.

I.4.2.3 Market Data

At the time this report was written, complete market and volume data for the year 2000 was not (yet) available. Because it is Telekom-Control GmbH's policy to publish only complete and verifiable data whenever possible, a detailed presentation of relevant market data has been omitted from this report. Market data will be made available to the interested public at a later point in time.

The mobile communications market has developed far more dynamically than the fixed-link voice communications market in Austria, making it a considerable and well-respected success story. The penetration rate (defined as the number of activated subscriber numbers in comparison to the resident population) has truly skyrocketed since 1997 (late 2000: 74.5%). According to *Mobile Communications* magazine, this puts Austria in third place in Europe, behind Finland (78%) and Sweden (75.4%). The number of mobile network subscribers in Austria grew rapidly in the year 2000, as illustrated in Figure 4: Number of Mobile Network Subscribers, 1997 - 2000

At the end of 2000, the number of subscribers in each of the four mobile networks was as follows:

- Mobilkom: 2,750,000
- Max.mobil: 2,100,000
- Connect: 1,150,000
- Tele.ring: 120,000

When these figures are compared to the same values at the end of 1999,

- Mobilkom: 2,163,000
- Max.mobil: 1,500,000
- Connect: 480,000

the overall increase in the number of subscribers amounts to 47.7% in comparison to the previous year. All of these values are cited from the journal *Mobile Communications* and can be regarded as an accurate picture of the market's development. Figure 4: Number of Mobile Network Subscribers, 1997 - 2000

shows the number of subscribers per active operator during the reporting period by calendar month; the chart goes back to January 1998 in order to give a clear representation of the market's

development. As the fourth GSM operator on the mobile communications market, tele.ring's numbers are only included in Mobile Communications' data starting in October 2000; therefore, tele.ring is only shown in the chart for the last three months of 2000.

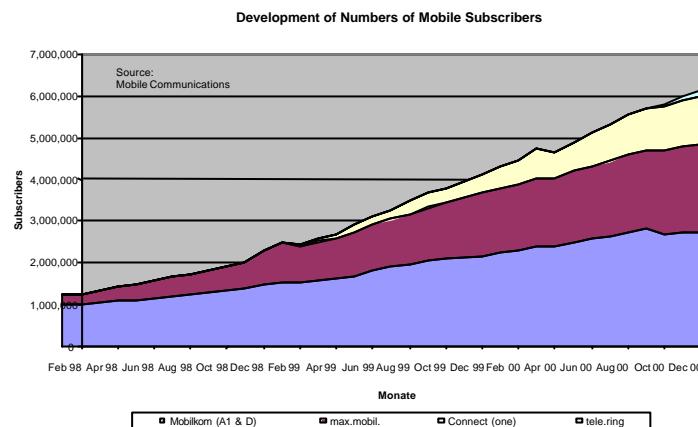


Figure 4: Number of Mobile Network Subscribers, 1997 - 2000

I.4.2.4 Rates

In observing the development of mobile network rates, the following dimensions can be distinguished: basic (monthly) and connection fees, call duration, time of calls and destination of calls, as well as prepaid and subscription-based rate schemes in general. In order to present the development of rates in mobile communications with as high a degree of comparability as possible, the rate options offered by active operators with the same or the closest monthly fees were used. Figures 5 and 6 illustrate the development of rates for calls to other mobile networks and to fixed-link networks.

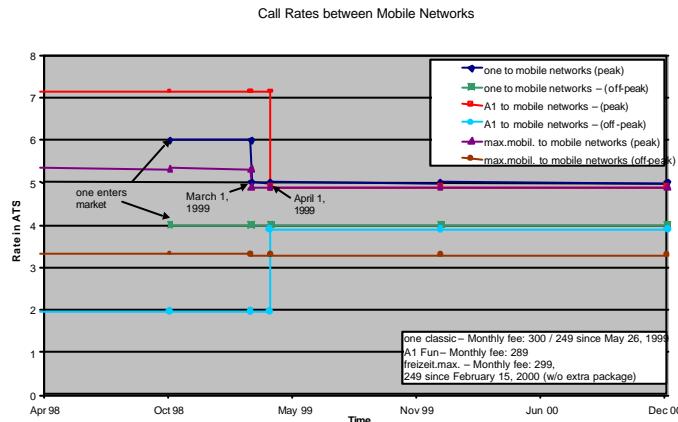


Figure 5: Rates for Calls to other Mobile Networks

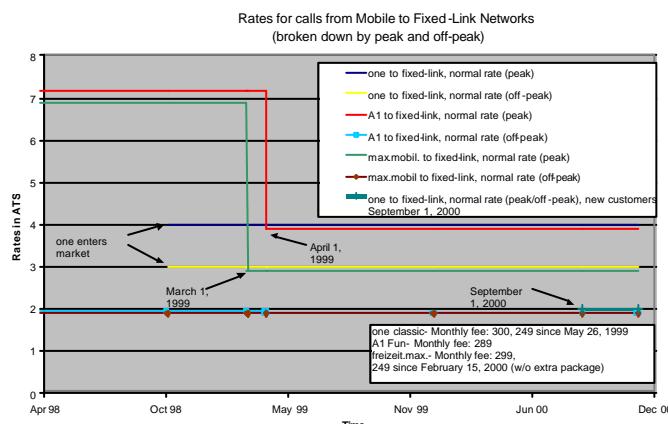


Figure 6: Rates for Calls to Fixed-Link Networks

I.4.3 Leased Lines

I.4.3.1 Market Access

As is the case in public voice communications, operators require a license to render leased-line services under the Austrian Telecommunications Act. In principle, neither the fee nor the documentation required for this license is intended to be an obstacle to market entry. In the case of leased lines, the existing infrastructure or the infrastructure to be created lie at the core of investment considerations. Existing networks often have to be upgraded, or new lines have to be laid. Therefore, it does not come as a surprise that there are currently relatively few providers of leased-line services with nationwide infrastructure in Austria.

I.4.3.2 Market Strategies and Developments

The operators with an existing network for these services sought to enter the market quickly and predominantly operated locally or in the main areas of traffic. Providers without their own infrastructure primarily laid lines in densely populated areas, especially in the greater Vienna area, where population density and access to target groups made it most attractive to build a network. In general, these providers are backed by large foreign companies which are able to provide investment capital. The leased-line market is especially significant because it forms the basis of many telecommunications services. Many services make use of this infrastructure; in particular, the commercial segment requires a large number of leased lines. Therefore, well-developed networks and favorable terms enhance the attraction of Austria in general as a business location (see Figure 7: Customer prices for short 2 Mbit/s leased lines

In recent years, the market for leased lines has seen highly dynamic growth. In the reporting period, the presence of more than ten service providers made for intense competition on this market, some of them restricting themselves to regional services (depending on the available infrastructure). In the course of market liberalization, leased lines play an increasingly important role because network interconnection requires corresponding levels of leased line capacity. In this respect, the fact that a significant basis has been established in recent years represents a favorable development. In some cases, huge investments have been made in building and upgrading network infrastructure, thus enabling competition and new services. At the same time, prices have decreased. The growth seen in recent years can be regarded as a clear sign that the leased-line market has been successfully opened up and that the telecommunications market is developing strongly.

I.4.3.3 Market Data

At the time this report was written, complete market data for the year 2000 was not (yet) available. Because it is Telekom-Control GmbH's policy to publish only complete and verifiable data whenever possible, a detailed presentation of relevant market data has been omitted from this report. Market data will be made available to the interested public at a later point in time.

I.4.3.4 Rates

Due to this market's smaller target segment, the smaller number of competitors and the high investment costs for building infrastructure, prices have not decreased in a way comparable to the rate reductions in the voice telecommunications market.

The rates charged for leased lines are generally based on bandwidth availability and the distance between the ends of the lines, for which a one-time connection fee and a basic monthly fee are usually charged.

In comparison to international rates, the rates for short 2 Mbit/s leased lines have shown very encouraging developments in Austria. In ten of the other 14 countries in the EU, leased-line service providers charged their customers higher rates than in Austria (see Figure 7).

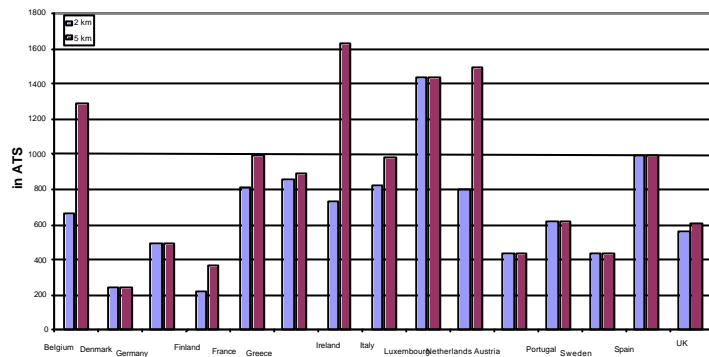


Figure 7: Customer prices for short 2 Mbit/s leased lines

This development is regarded as especially positive because short 2-Mbit/s leased lines are most often the last part of the connection from the wide-area network to the customer, thus making them especially important.

I.4.4 Interconnection

In contrast to the three markets described above, the interconnection market is an operators' market which would yield a neutral result for market participants if traffic among the interconnection partners were symmetric. The interconnection market essentially consists of fixed-link and mobile network operators, along with only a few leased-line operators. Telekom Austria is still the most important interconnection partner on the market, as direct connections between alternative or mobile networks are still a fairly rare exception. Telekom Austria continued to serve as a transit network operator in the year 2000, and a "cascading" method of charging was used. In terms of interconnection revenues, Telekom Austria and Mobilkom were the SMP operators in 2000. The Telekom-Control Commission's decisions regarding mobile termination fees brought about a reduction in the termination and origination fees for calls to and from the mobile operators' networks; however, tele.ring was not affected by these regulatory measures. Having just entered the market in mid-2000, tele.ring was designated as a newcomer on the interconnection market and is yet to attain a position on the market that would warrant regulation.

The Telekom-Control Commission continues to regard access to mobile subscribers as an essential facility, as no other termination options are available for individual calls. Approaches to bringing about functioning competition in this segment can not be implemented at present. One of these approaches would be to collect air-time fees from the call recipient and not from the caller (as is currently the case in Austria). In parts of the United States, this strategy was used to heighten the mobile phone user's awareness of termination fees, and the consumer's. However, it is worth noting that such a "reverse" charging arrangement has obviously had negative effects on the propagation of mobile telephone services in the USA. In any case, the competition policy-related conditions in Austria have not been sufficient to bring about efficient competition in this field. For this reason, termination fees that were not regulated remained high and did not tend to decrease.

I.4.4.1 Market Data

On the basis of the data available for the year 2000, it can be concluded that despite decreasing fees the interconnection market was characterized by dynamic growth during the reporting period. This can be attributed to two facts: First, the volume of interconnection traffic rose due to increasing demand on the mobile market, and second, new competitors on the fixed-link market generated additional demand for interconnection services. The growth of the interconnection market will most probably show higher rates than (for example) the voice telephony market, as multiple interconnection services are often pre-required for a minute of end-consumer connection time. If, for example, a mobile network subscriber calls a customer of another mobile network, two minutes of interconnection service are generated for each single minute of end-consumer service (one minute in the transit network in cases where the operators are not connected directly and one minute of termination service in the mobile network). Against this background, the high level of growth on the interconnection market can be understood more easily. The greater the number of operators (which results in a larger number of inter-network products), the faster the interconnection market will grow. The growth rate on this market

was thus approximately 40% in 1998 and approximately 85% in 1999. In particular, the introduction of competition in carrier network operation caused Telekom Austria's interconnection revenues to skyrocket because the new network operators lack infrastructure and are dependent on using Telekom Austria's lines, for which they have to pay a fee based on interconnection time and resources used. Interconnection volumes for 1998 and 1999 (broken down by month) can be found in Figure 8: Total revenues of fixed-link, mobile and leased-line network operators on the national interconnection market.

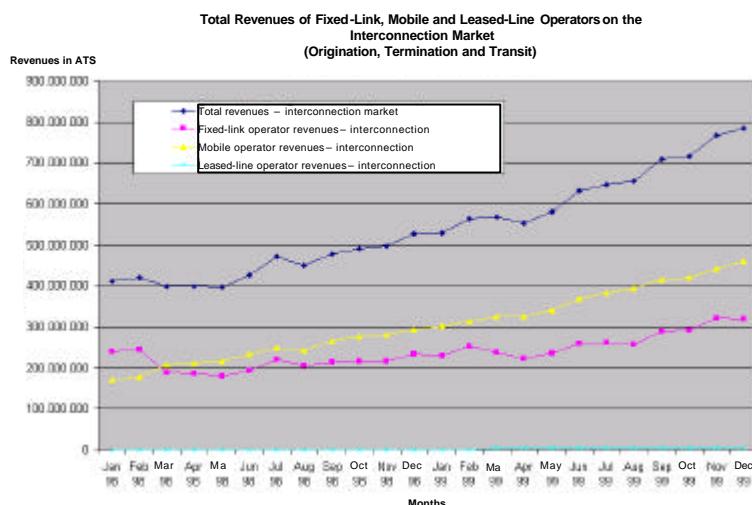


Figure 8: Total revenues of fixed-link, mobile and leased-line network operators on the national interconnection market

I.4.4.2 Rates

Figure 8: Total revenues of fixed-link, mobile and leased-line network operators on the national interconnection market illustrates that interconnection fees will play an increasingly significant role in the future. The Telekom-Control Commission's decision of March 27, 2000 in the course of Procedure Z 30/99, brought about a marked reduction in the fees for all services as well as a distinction between peak and off-peak rates, thus taking the use of network capacity at different times of day into consideration. Procedures Z 8/99 and Z 24/99ff. also served to reduce mobile network interconnection fees significantly in the reporting period. For further information on the amount and structure of the fees ordered for interconnection services, please refer to page 26, which gives an overview of all interconnection fees set by the regulatory authority and in effect at the end of the reporting period. The link between interconnection fees and end-consumer rates can be demonstrated clearly in the development of rates offered to end consumers. When the interconnection fees required for a service are reduced, a competitive environment will bring about (sometimes markedly) reduced (end-)consumer rates in accordance with the new cost structures. This trend was also seen during the reporting period.

I.4.5 Internet

In contrast to voice telephone services, data services require an almost unlimited level of bandwidth, as large quantities of information are transmitted at varying levels of quality. At first, these data services were rendered to exclusive user groups; however, the networks have opened up in recent years, and people have recognized the advantages arising from linked networks. New communication channels have been created and are far superior to conventional postal services due to ability to deliver information at high speeds; discussion forums have been set up to enable the real-time exchange of ideas and opinions among people who are geographically remote from each other; and computers can be maintained remotely from other locations. Conferences and meetings can even be held without requiring the participants to leave their offices.

The most prominent example of such a data network is doubtlessly the Internet, a worldwide "network of networks" which has taken the world by storm. The success of the Internet, which was originally conceived as a military network and later as a scientific network, lies in the agreement to use a common protocol known as TCP/IP in order to enable computers to communicate worldwide. As a

scientific network, the Internet still hosted a manageable number of users and interest groups; uses of the Internet were limited almost exclusively to texts, and the first great capacity challenge encountered was the transmission of large (binary) files. By the mid-1990s, the Internet had developed into the commercial network we know today. Companies "discovered" the World Wide Web and e-mail correspondence for their own purposes and made a considerable contribution to the propagation of this new medium. Today, the Internet has been embraced by people of all classes and backgrounds and is becoming an increasingly important part of everyday life.

Because Internet services are only subject to a notification requirement under the Austrian Telecommunications Act, the regulatory authority does not have access to comprehensive data to support reliable conclusions about the propagation of the Internet in Austria. For this reason, additional statistical information was purchased in order to create this part of the Activity Report. In particular, the Austrian Internet Monitor (AIM), an opinion research report published on a quarterly basis by the opinion research institutes Fessel-GfK and Integral, was used as a data source. The use of this information in Telekom-Control GmbH's Annual Report for the business year 2000 was approved by AIM's publishers.

I.4.5.1 Internet Access

Austria is characterized by extremely favorable conditions for the propagation of the Internet. According to AIM, more than half of the households surveyed reported having a computer at home in September 2000; three years ago, one-third of the households reported having a computer. Computers are among the largest initial investments necessary to gain access to the Internet. Connecting a computer to the Internet requires software, a modem and a telephone line (or television cable) as well as a contract with an Internet service provider.

Private Internet access is developing well: According to AIM, it can be assumed that at least one in five households already has its own access to the Internet. While Spectra estimated the percentage of households with Internet access at 19% in September/October on the basis of newspaper reports, AIM assumes that 30% of all households in Austria have access to the Internet. These figures warrant the conclusion that households with computers have decided increasingly to connect to the Internet, because the number of households with computers has not increased as quickly as the number of households with Internet access.

Austria has also followed the worldwide trend toward using the Internet more frequently at home than at work or at school, thus showing the increasing importance of the Internet's role in leisure activities. According to AIM's September survey, for the first time more respondents reported having Internet access at home (30%) than at work (21%) or at school (6%). The number of connections at home almost doubled in a single year. This development was also taken into consideration by companies that offer their products and services on the Web. In addition to purpose-oriented information searches from companies, private individuals are becoming increasingly important members of the preferred target group, especially those who wish to find information for leisure purposes such as holidays, events, hobbies, etc. as well as everyday tasks such as contact with government authorities, errands, reading news, etc. At present, the private market is highly segmented and oriented toward certain target groups (e.g., portfolio management for investors). General services without individual tailoring are only successful if they are associated with or linked to a known brand from the real world. Examples of these services include broadcasting companies or daily newspapers. A third means of achieving success on the Web is seen in pages which are highly (constantly) useful to their target group (e.g., SMS providers, search engines).

The media industry is an impressive example of how heavily the success of an Internet presence depends on the branded product.

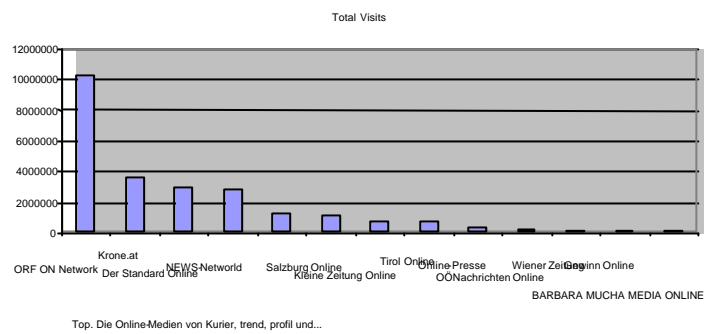


Figure 9: Number of visits, ÖWA December 2000

Figure 9 shows the number of visits to the web sites of various media companies in December 2000. These figures were reported to an Austrian Web analysis company and checked by random sample. The ORF (Austrian Broadcasting Company) web site is clearly ahead of the newspaper sites krone.at and derstandard.at, as well as the news.at magazine site. Interestingly enough, krone.at was able to catch up considerably after relaunching the site, as the newspaper's Internet presence was not considered very attractive (as measured by the number of visits). "Der Standard" has a special status because it was the first Austrian newspaper to make its reports available on the Internet and has repeatedly proven to be a forerunner with innovative new Web services (for example, "Der Standard" is still the only Austrian daily newspaper whose reports have been tailored for viewing with Palm Pilots).

Furthermore, a trend has developed in which users have not just one but multiple connections to the Internet. These options – from home or from the office – have been expanded to include access from mobile telephones, although initial indicators point to rather infrequent use of the latter access option. It can now be assumed that this trend toward multiple connections to the Internet will continue to develop and that affordable, 24-hour Internet access will thus become reality for an increasingly large group of people. This trend is also supported by a variety of new access points, such as cybercafés, bank branches or public buildings (e.g., universities). For example, the percentage of users who gain (initial) access to the Internet in such cafés is growing. It remains to be seen whether mobile data communications will provide an additional push for the propagation of the Internet. New technologies such as GPRS and UTMS/IMT 2000 will also introduce long-term changes on the market. The affordability of service, the services offered, handling and user friendliness will play an essential role in the continuing propagation and development of the Internet.

I.4.5.2 User Groups and Usage of the Internet

On the demand side, the increasing level of data traffic in Austria can be attributed not only to the growing number of Internet users but also to a general intensification of Internet use. According to AIM, the number of users who go online several times a week doubles every year, while the number who use the Internet less frequently is stagnating. This can be attributed to reduced prices on the one hand and to the explosive increase in service offerings in recent years. No large company today can afford to be absent from the Internet or unable to receive e-mail. Those companies which already offer services on the Internet consider it necessary in light of the dynamic market to relaunch their pages in order to offer even better services and to improve their image in the eyes of the consumer. A company's web site often serves as its business card, which must remain compatible with the company's image, because the members of a company's target group usually also visit its web site.

Predictably enough, the Internet is and will remain the domain of predominantly young people who are open to new technologies. In all services, the intensity of use decreases along with the age of the user. Due to an increasing presence in the media, enhanced ease of use and generally convenient means of using certain services, the percentage of the older population using the Internet will also rise. In contrast, youths are growing up with this new technology and regard it as an integral part of their lives, even taking it for granted. Communication by electronic media is just as common as the gathering of information on the Internet. As can be expected, chat rooms/discussion forums and Web

surfing are especially popular among young users. According to AIM, 20 to 40-year-olds predominantly concentrate on gathering information.

Although AIM found that the percentage of women has increased in the last four years (from 31% to 42%), the Internet is still used far more often by men. However, it can be expected that the percentage of male users will drop as the Internet becomes an everyday tool, and as fear of the new technology declines. The content delivered on the Internet is no longer of interest to computer enthusiasts alone; the Internet now addresses the interests of people from all levels of society and in all types of careers. Although the investment required for Internet access is not excessively high, the medium is used more frequently by households with an above-average income. According to AIM, 68% of households with a net income of more than ATS 50,000 indicated that they use the Internet, while only 20% of households with a net income of up to ATS 20,000 reported using this new medium.

As can be expected, e-mail is an extremely popular feature which is used regularly. According to AIM, targeted information searches are also among the most frequently used features, for which search engines offer a valuable service. More or less aimless surfing in the Web has also become a popular leisure activity supported by Internet portal sites, which facilitate entry and provide points of departure for surfing. One incentive for web site operators is AIM's finding that 42% of Internet users indicate that they regularly visit specific web sites. The first signs of e-commerce are also encouraging: Banking transactions are enjoying increased acceptance by Internet users. While only 5% of users regularly effected their banking transactions online in 1997, AIM found that 20% of Internet users had decided to do their banking online by September 2000. Although e-commerce is considered an extremely promising industry and a huge number of start-ups were established for this purpose in 2000, statistics on shopping on the Internet are less encouraging: Only 26% of Internet users surveyed by AIM indicated that they have ever bought anything on the Internet, and only 18% reported having bought at least one item on the Internet in the six months prior to the survey. The good news for service providers is that those who made purchases over the Internet were predominantly well-educated and well-paid individuals. According to a study carried out by c-quential (published in December 2000), the most popular products in e-commerce are books, banking services, CDs and travel, generally ordered from domestic sites. The Austrian Institute for Motivation Research (*Institut für Motivforschung*) also conducted a survey and found theater, cinema and concert tickets as well as technical devices to be preferred e-commerce products. It is worth noting that software and licenses, which are actually extremely well suited for e-commerce, are not included in the list. According to this study, the online shop's guarantee of punctual delivery and payment are important to Internet shoppers, while express delivery was regarded as less decisive. Both the Gartner Group and c-quential have estimated the volume of trade on the Austrian e-commerce market at approximately EUR 400 million in 2000, (cf. Forrester Research's estimate of business-to-private e-commerce revenues in Germany at EUR 9 billion for 2000). The Gartner Group also predicts an annual growth rate of 250%. A survey conducted by Andersen Consulting yielded more pessimistic results: Only 20% of the Austrian companies surveyed indicated that they regarded e-commerce as an important business area.

I.4.5.3 Internet Access Rates

The trend in rates identified in 1999 continued in the year 2000. The costs of dialup access basically tracked Telekom Austria's online rate, and significantly less expensive providers could not be found.

As mentioned in the previous Activity Report, the ISP costs for low-bit-rate access are dropping significantly, while higher-speed access still commands a premium. In data communications, prices were increasingly linked to bandwidth, which plays a decisive role in data transmission quality and thus in customer satisfaction.

In addition to conventional access using dialup modems, higher-speed access also enjoyed increasing popularity. For example, Telekom Austria promoted the ADSL technology it was able to implement in its network using the copper wire lines leading directly into Austrian households. In addition to its much faster access speed, this service's flat-rate pricing made it especially attractive. In line with non-discrimination requirements, Telekom Austria participated in negotiations mediated by Telekom-Control GmbH which led to an agreement to make its infrastructure available to ISPs on non-discriminatory terms.

Cable television companies have been offering Internet access at a flat rate for years. One example is Telekabel's Internet access package (chello), which offered private users unlimited Internet access for a monthly fee of ATS 590,- (incl. VAT) throughout the reporting period.

An increase in the number of flat-rate offers is not expected until 2001 or later. Internet service providers will continue to create packages that include both dialup fees as well as Internet access. In

addition, customer demands are expected to rise, meaning that high-speed Internet connections at affordable prices will replace the low-speed connections.

The year 2000 was characterized by innovative offers which removed the obstacles to connecting to the Internet for many households. Earlier, the first financial barrier to Internet access was the initial investment in a computer and monitor. In order to dismantle this barrier and to facilitate access for all social classes, packages were offered in which computers and monitors could be acquired at a fraction of their costs (or even for free) if the buyer entered into a contract with the Internet service provider for a certain period of time and agreed to pay the provider a basic monthly fee.

On the other hand, computers often include Internet access and are configured in such a way that the only remaining step after purchasing the computer is to connect it to the telephone network. This facilitates connecting to the Internet considerably for the consumer.

I.5 Supervisory Authority for Electronic Signatures

On January 1, 2000, the Electronic Signatures Act (BGBI I 1999/190) went into effect, assigning to the Telekom-Control Commission the responsibilities of the supervisory authority for electronic signatures in addition to its existing responsibilities as a regulatory authority for telecommunications. Similar to the provisions of the Austrian Telecommunications Act, the Signatures Act also named Telekom-Control GmbH as agent to the supervisory authority. Telekom-Control GmbH's main duty in this context is to maintain secure electronic directories of the certification service providers. The duties of Telekom-Control under the Signatures Act are separated both organizationally and financially (especially with regard to cost accounting) from its duties under the Telecommunications Act.

In the year 2000, nine procedures were carried out in accordance with the Signatures Act by the Telekom-Control Commission. At the beginning of the year, four existing certification service providers reported their business activities to the regulatory authority. The providers were Generali Office-Service und Consulting AG, Datakom Austria GmbH, Innovation Systems Informationstechnologie GmbH and the association Arge Daten – Österreichische Gesellschaft für Datenschutz. Ulrich Latzenhofer (CryptoConsult) also reported his activities as a certification service provider to the supervisory authority in May 2000 but then discontinued his activities in September 2000. None of the providers offer qualified certificates or secure electronic signatures. The Telekom-Control Commission acknowledged each of these reports and decided that there was no need for supervisory measures. The service report of Innovation Systems Informationstechnologie GmbH was rejected because the company does not issue its own certificates but sells certificates issued by Globalsign, a Belgian service provider. The company in question is thus not subject to Austrian supervision.

Accreditation of Providers of Secure Electronic Signatures

Only one provider applied for accreditation under § 17 SigG for its planned provision of secure electronic signature services. However, Telekom-Control GmbH was forced to reject the provider's application for accreditation because the provider in question was unable to present any form of certification from a confirmation center.

Provision of secure electronic signatures in Austria thus did not live up to general expectations in 2000. Although at least three companies are working on related projects or were even founded for this very purpose, no enterprise has succeeded in meeting the necessary prerequisites. The required evaluations, especially in connection with the demands made of signature applications, have proven to be hindrances for potential providers.

Under § 9 of the Signatures Ordinance (SigV), secure electronic signature units (e.g., chip cards) have to be evaluated and certified by a confirmation center. Many chip-card manufacturers are waiting for new European standards for this long and highly cost-intensive process of evaluation. A-SIT, the only confirmation center in Austria to date, had not certified any chip cards as of the end of 2000.

Another obstacle for providers can be found in the fact that the Austrian Signatures Ordinance defines requirements not only of chip cards as signature creation units but also regarding the document formats used and the signature function triggers (§ 7 par. 2 and 3 SigV). In conjunction with § 9 SigV, these two requirements signify that not only the chip cards but also the programs used to create secure signatures (called "secure viewers") have to be evaluated and certified by a confirmation center. Austria is said to be the only country in the EU to be implementing EU Directive 1999/93/EC (regarding Electronic Signatures) in this way, which is often criticized by potential providers as a barrier to market entry. As of the end of 2000, the A-SIT confirmation center had not certified any secure viewers.

Due to a lack of financing for startup costs for the supervisory authority, Telekom-Control GmbH was unable to fulfill its legal obligations to maintain secure electronic directories of certification service

providers during the reporting period. Negotiations aimed at securing financing started in summer 1999, when the resolution was taken regarding the Signatures Act. However, the necessary funds were only secured on December 29, 2000 by the amendment to the Signatures Act, which was announced in the relevant Federal Gazette (BGBI I 2000/137) and went into effect retroactively to October 1, 2000. This increased Telekom-Control GmbH's capital stock by ATS 24 million for ongoing operations in the first three years and by ATS 5 million for investments; the funds were transferred to Telekom-Control GmbH in December 2000. Telekom-Control GmbH therefore could not start the required pan-European invitation to tender for the supervisory authority's public key infrastructure until early December. The issuing of certificates to certification service providers and the deployment of secure directories of certification service providers will not be possible until mid-2001.

Because the legal field created by the Signatures Act is new, the supervisory authority is frequently confronted with inquiries from potential users or providers of secure electronic services. In order to gain an overview of the current state of the technology, the supervisory authority carried out a consultation procedure in early 2000. In its capacity as the supervisory authority for electronic signatures, Telekom-Control has made comprehensive information available on its web site (<http://www.signatur.tkc.at/>).

II The Company

II.1 Structural Organization of TKC and the Commission

Telekom-Control GmbH maintains as flat a hierarchical structure as possible in order to meet the high content-related demands of interdisciplinary regulatory work in its daily operations (see Figure 10: Telekom-Control GmbH Organizational Chart)

In addition to the divisions of Finance, Human Resources and IT, Telekom-Control GmbH has four expert groups: Engineering, Law, Business Administration and Economics. "Info Management" was set up recently as a staff unit for the management. The objective of this organizational measure was to bundle the tasks of public relations and internal information management with the tasks of accountability management and the company's web presence.

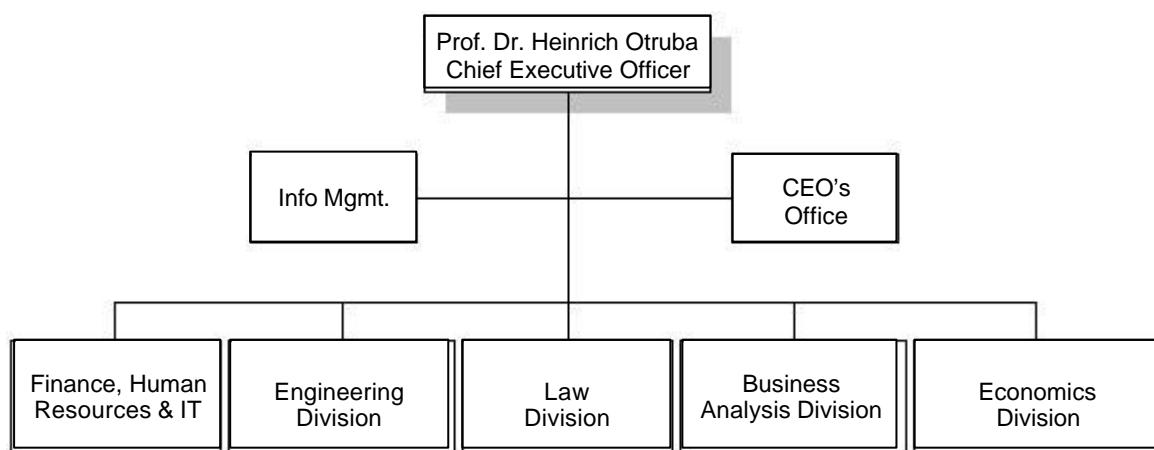


Figure 10: Telekom-Control GmbH Organizational Chart

The organizational structure of Telekom-Control GmbH is designed according to the principles of lean management. Two hierarchical levels are embedded in its flat structure. The top level (management) is supplemented by that of the division heads. The division heads lead groups of specialists in the fields listed above and perform the functions of specialized knowledge managers.

The Telekom-Control Commission, which has been set up alongside Telekom-Control GmbH, consists of three members and three substitute members. Under § 111 TKG, Telekom-Control GmbH serves as an agent to the Commission in regulatory procedures and makes its resources available to the Commission. In this capacity, Telekom-Control GmbH supports the Commission in procedural and content-related matters. For certain issues, the Commission will call in (official) experts to prepare evaluation reports as the bases for the Commission's decision. In proceedings before the Commission, the Chairman of the Telekom-Control Commission hands down assignments to Telekom-Control GmbH's chief executive officer. The chief executive officer of the company acts as spokesperson for the Telekom-Control Commission in public relations when instructed to do so by the Chairman of the Commission.

II.2 Telekom-Control Commission Members

Under § 112 Par. 1 TKG, the three members of the Telekom-Control Commission are appointed by the Austrian federal government for a term of five years. The head of the Austrian Supreme Court (OGH) has the right to nominate three candidates to be chosen by the federal government for the presiding member, who has the powers of a judge. The other two members of the Commission, who contribute economic, legal and technical expertise, are also appointed by the federal government for a term of five years after being nominated by the Federal Minister of Transport, Innovation and Technology. The Federal Minister of Transport, Innovation and Technology also designates substitutes for all members of the Telekom-Control Commission; each substitute is assigned to a specific member of the Commission in accordance with his/her speciality. In the business year 2000, the Telekom-Control Commission consisted of the following members:

- Dr. Eckhard Hermann (presiding member)
Dr. Wolfgang Schramm (Substitute)
- Dr. Oskar Grünwald
Dkfm. Alfred Reiter (Substitute)
- Univ.Prof. DI Dr. Gottfried Magerl
DI Peter Knezu (Substitute, appointed January 20, 2000)

The Commission held 29 meetings in the year 2000, the same number as in 1999. However, the Commission members, who serve on the Commission in parallel to their regular professions, attended approximately 26% more hours of meetings in 2000 than in 1999. The Appendix to this report includes a table listing all of the meetings of the Telekom-Control Commission in chronological order along with the most important decisions made in each meeting.

II.3 Company Information

II.3.1 TKC Developments in 2000

After expanding its office space to include another floor due to Telekom-Control GmbH's increasing workload and the resulting increase in staff in 1999, the focus of organizational developments in the year 2000 was placed on establishing a central archive and an enterprise-wide library. Both of these facilities should be put into operation in the first quarter of 2001. In addition, construction preparations were begun for the deployment of the Supervisory Authority for Electronic Signatures. This infrastructure is also planned for completion in 2001.

In the IT field, two particularly important actions were taken. Coordination in providing IT infrastructure for the mobile communications frequency auctions carried out in 2000 proved to be a resource-intensive challenge. Another important project in 2000 was the re-invitation to tender for Telekom-Control GmbH's company-wide IT infrastructure. This effort also demanded considerable resources in order to ensure that the infrastructure could be put into operation in the first quarter of 2001.

In the year 2000, the newly established Info Management staff unit made it possible for the first time to publish the Austrian Telecommunications Report 1998-1999 to summarize the first two years of regulatory activity by the Telekom-Control Commission and Telekom-Control GmbH. Integrating this new staff unit into business operations also proved to be a considerable organizational challenge for Telekom-Control GmbH.

Another important step in Telekom-Control GmbH's continuing development as an organization was the creation of a TKC Vision Statement and a TKC Culture Statement. After three years in operation, Telekom-Control GmbH also met the need to edit and expand its basic in-house documents.

In a process which lasted several months and involved all Telekom-Control GmbH employees, either in individual interviews, a series of brainstorming sessions or a one-day conference, a work group of TKC employees was able to create a Vision Statement and a Culture Statement for the organization to supplement the corporate mission of the regulatory authority specified under § 1 TKG. These two documents were recently completed and are both included in this report.

II.3.2 Personnel Structure

As a young organization, Telekom-Control GmbH has embraced the goal of establishing contemporary principles for operational processes. This is manifested in Telekom-Control's high degree of flexibility in process organization in which our employees' actions are guided by processes and projects, not by "department-based" thinking. However, teamwork-oriented processes require an organization's staff to have a firm command of the fundamental principles involved in working within flexible structures. Recruiting the appropriate personnel also proved to be a great challenge for TKC in the year 2000.

In light of its newest area of responsibility, i.e. setting up an agency to the Supervisory Authority for Electronic Signatures (with the Telekom-Control Commission as the decision-making body) within Telekom-Control GmbH, the company's Supervisory Board granted the Chief Executive Officer the power to increase the company's staff to a maximum of 62.5 full-time positions from October 2000 onward (Supervisory Board Meeting, September 29, 2000). For this purpose, a project team was set up and took the first organizational steps toward establishing the supervisory authority. Two employees were recruited especially in order to ensure successful operations, in particular to fulfill the authority's duties under §13 SigG.

As of December 31, 2000, Telekom-Control GmbH had a total of 62 employees including management; three of the 62 were employed on a part-time basis. Of the 62 employees, 40 were employed in the field of regulation and 22 in administration and in the office of the Chief Executive Officer.

Figure 11: Staff Development 1997 - 2000 shows the development of Telekom-Control GmbH's staff (expressed in full-time positions) from the start of its activities in November 1997 until the end of 2000.

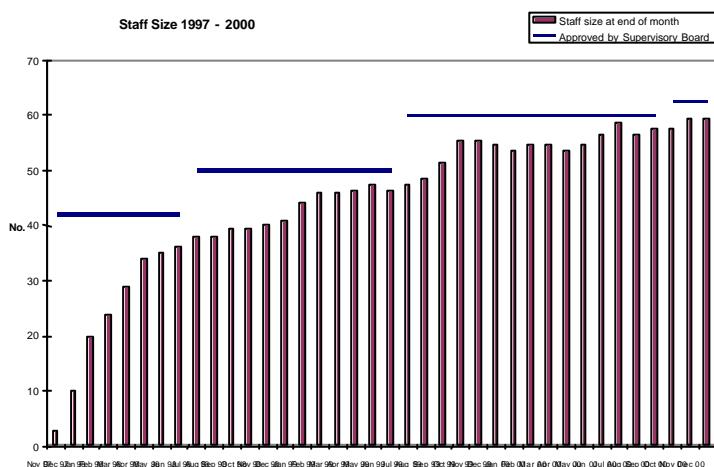


Figure 11: Staff Development 1997 - 2000

II.4 Telekom-Control GmbH's Supervisory Board

Under § 6 of Telekom-Control GmbH's Articles of Incorporation, a supervisory board was appointed by the owner when the organization was founded. The members of the Supervisory Board were appointed for a term ending with the General Assembly in which the discharging of the management is resolved for the fourth year (not including the year in which the vote took place).

The Supervisory Board consisted of the following members in the year 2000:

- Dkfm. Ferdinand Lacina (Chairman of TKC Supervisory Board / Erste Bank AG)
- SC Dr. Hermann Weber (Deputy Chairman of TKC Supervisory Board / Federal Ministry of Science and Transport, now the Federal Ministry of Transport, Innovation and Technology)
- SL Dr. Gerhard Steger (Supervisory Board member / Austrian Federal Ministry of Finance)
- MMag. Erika Ummenberger (Federal Ministry of Economic Affairs, now the Federal Ministry of Economics and Labor)

Workers' Council representatives in the Supervisory Board:

- Dr. Bernhard Mayr (Telekom-Control GmbH Workers' Council)
- Mag. Martin Pahs (Telekom-Control GmbH Workers' Council)

In the year 2000, four meetings (one per quarter) of the Supervisory Board were held, in accordance with the Board's Rules of Procedure. The core tasks of the Supervisory Board include approving Telekom-Control GmbH's business plan as well as the budget and the company's targeted staff size. The Supervisory Board appoints an external auditor to review Telekom-Control GmbH's financial statements once per year. In addition, the Supervisory Board decides on any legal actions on the part of the company which require the Board's approval, as well as giving formal approval of the company's books, thus discharging the chief executive officer on an annual basis.

In the meeting of the Supervisory Board for the first quarter of the business year 2000 (February 28, 2000) the unrestricted confirmation of the 1999 annual accounts by the external auditor appointed by the Supervisory Board was acknowledged and the discharging of the chief executive offer was passed unanimously by the members of the Board.

II.5 Telekom-Control GmbH's Annual Accounts for 2000

Telekom-Control GmbH's annual accounts for the business year 2000 (which is the same as the calendar year 2000) have been given an unrestricted confirmation seal by the external auditor. Telekom-Control GmbH's Profit & Loss Statement and Balance Sheet from the 2000 annual accounts are presented below.

	2000		1999	
	ATS x 1.000	ATS x 1.000	ATS x 1.000	ATS x 1.000
1. Net sales		74,402		73,121
2. Other operational revenues				
a) Income from the reversal of accruals	2,110		920	
b) Miscellaneous	2,953	5,063	1,646	2,566
3. Personnel expenses				
a) Salaries	-41,740		-36,170	
b) Severance payment expenses	-124		-897	
c) Expenses for social security and payroll-related taxes and contributions	-9,096		-7,876	
d) Voluntary benefit expenses	-262	-51,222	-284	-45,227
4. Depreciation of intangible fixed assets and property, plant and equipment		-5,758		-4,670
5. Miscellaneous operating expenses				
a) Taxes not included in Line 11	-290		-81	
b) Miscellaneous	-29,874	-30,164	-27,655	-27,736
6. Subtotal of Lines 1 to 5				
Operating result		-7,679		-1,946
7. Income from other financial investment securities		729		
8. Miscellaneous interest and similar income		1,701		1,698
9. Subtotal of Lines 7 and 8				
Financial result		2,430		1,698
10. Result from ordinary business activities		-5,249		-248
11. Taxes on income		-24		-25
12. Annual surplus / deficit		-5,273		-273
13. Reversal of untaxed reserves		0		39
14. Appropriation to untaxed reserves				
Investment tax allowance under § 10 EST	-69			-398
Education & training tax allowance under § 4 Par 4 No 8 FST	-134	-203		
15. Loss carried forward		-1,378		-746
16. Accumulated loss		-6,854		-1,378

Telekom-Control GmbH's 2000 revenues totaled ATS 74.4 million, predominantly consisting of the financing contributions stipulated in § 17 Par. 2 TKG. The accumulated loss in the amount of ATS 6.8 million essentially resulted from expenses incurred in order to fulfill the supervisory authority's duties under the Austrian Signatures Act as well as the loss carried forward from the previous year. The operating result arising from the regulatory duties under the Telecommunications Act is balanced, while the result arising from the supervisory duties under the Signatures Act has been covered by the capital increase in the amount of ATS 29 million undertaken during the reporting period.

Assets

	December 31. 2000	December 31, 1999		December 31. 2000	December 31, 1999
A. Fixed assets	ATS x 1.000	ATS x 1.000		ATS x 1.000	ATS x 1.000
I. Intangible assets					
1. Industrial property rights, licenses and similar rights	4,306	2,646			
	4,306	2,646			
II. Property, plant and equipment					
1. Fixtures in rented buildings	3,577	4,316			
2. Other fixed assets, furniture, fixtures and fittings	3,564	4,069			
	7,141	8,385			
III. Financial assets					
1. Investment securities					
2. Other loans	0	15,197			
	39,289	40,183			
B. Current assets	50,736	51,214			
I. Receivables and miscellaneous assets					
1. Trade accounts receivable	2,836	20,317			
2. Miscellaneous receivables and assets	141	270			
	2,977	20,587			
II. Cash on hand and at bank	76,712	33,526			
	79,689	54,113			
C. Prepaid expenses and deferred charges	36	134			
	130,461	105,461			
				130,461	105,461

II.6 Public Information

Like the events on the Austrian telecommunications market, the regulatory activities of Telekom-Control GmbH and the Telekom-Control Commission also attracted public attention in the third year of market deregulation. The focal points of public relations lay in the areas of media, publications, presentations and our Web site.

As was the case in the previous year, the telecommunications sector was also important in the media's coverage of business news. The information connected with this sector was received with interest and propagated widely, especially by the media. The regulatory authority's media relations work concentrated on objective information regarding complicated regulatory topics such as interconnection or frequency auctions (UMTS). In the year 2000, a total of three press conferences as well as six press information sessions were held, and 26 press releases were issued. In addition, a number of personal interviews were given to media representatives.

Another focal point of public relations work was Telekom-Control GmbH's publications. The "Austrian Telecommunications Report 1998-1999", published in German and in English by Telekom-Control in the year 2000, gives a broad overview of the deregulation process that has been taking place on the Austrian telecommunications markets since 1997. The annual "Arbitration Activity Report" documents Telekom-Control GmbH's activities as an arbitrator and presents statistical information as well as the most common issues and questions raised in the arbitration proceedings. Both reports are available as downloads on the TKC web site (<http://www.tkc.at>).

In the year 2000, presentation activities on the part of the management and selected employees were also promoted in order to convey the intentions and results of Telekom-Control GmbH's regulatory work in the appropriate forums. Telekom-Control also cooperated with the University of Salzburg and the European Commission to organize a symposium on the future of the information society and the new regulatory environment for electronic communications ("Die Zukunft der Informationsgesellschaft – neue regulatorische Rahmenbedingungen für elektronische Kommunikation").

The key tool in Telekom-Control's public relations work is its web site (<http://www.tkc.at>). The constantly updated content of the TKC web site allows the interested public to follow the activities of our regulatory activities continuously. All regulation-related decisions, as well as the documents intended for publication, are made available on the Internet. The Telekom-Control GmbH web site currently comprises 6,250 documents, 3,150 of which are numbering data records. The re-development of the content and structure of the TKC web site, a process which had begun in 1999, was implemented in August 2000. The structure of the Telekom-Control web site adheres to the principle of content-based classes. At present, the site is composed of the following modules: "Telecoms Regulation in Austria", "Current Regulatory Topics", "The Austrian Telecommunications Market", "Numbering", "Electronic Signatures", "Consumer Services and Rates" as well as "Publications". The Internet is Telekom-Control's most effective media instrument for disseminating information to the public and provides the best means of meeting the demands of today's information society.

If the number of visits to the web site is used as an indicator of public acceptance of regulatory information distributed through the Internet, the development of this medium's use over time is highly encouraging: In the reference month of December 1998, 4,272 user visits to the web site were recorded; in 1999, this figure stood at 8,015, and by December 2000 it had reached 14,275. The average number of page impressions (number of pages viewed) was approximately 8,800 during the reporting period. The reference value from 1999 is 6,100 page impressions per day.

In retrospect, it is safe to say that the strategy of using the TKC web site as its main instrument for disseminating information to the public has proven to be effective. Continual updating and (evolutionary) development of the Telekom-Control web site is also planned for the future.

III Appendix

III.1 Calendar of Telekom-Control Commission Decisions in the Business Year 2000

January 10, 2000	Appointing of official experts in Procedures Z 30, 31 and 33/99 (IC 2000) as well as Z 29/99 Initial discussion of reports regarding the provision of qualified certificates in accordance with § 13 of the Signatures Act
January 24, 2000	License awarded to Datatrak Austria Telematik GmbH for the provision of mobile communications services for real-time positioning and data exchange Presentation of technical and economic reports in the interconnection procedures regarding number portability (Z 22, 25 and 26/99)
February 7, 2000	License awarded to Tetra-Call Bündelfunk Errichtungs- und Betriebsgesellschaft mbH for the TETRA trunked radio system, on the basis of the auction carried out by Telekom-Control GmbH for the Telekom-Control Commission on February 3, 2000 Presentation of technical and economic reports on carrier pre-selection (Z 21, 23 and 28/99) Approval of max.mobil. Telekommunikation Service GmbH's general terms of service
February 21, 2000	Hearings in the Procedures Z 22, 25 and 26/99 (number portability) Presentation of technical and economic reports in the IC 2000 Procedure
February 28, 2000	Hearing of parties to the proceedings in the IC 2000 Procedure
March 7, 2000	Decision on Procedures Z 21 and 28/99 (carrier pre-selection)
March 20, 2000	Hearing of mobile network operators regarding UMTS/IMT 2000 Presentation of technical evaluation reports in Procedures Z 27/99 (online services) and Z 29/99 (ISP unbundling)
March 27, 2000	Decision on Procedure Z 30/99 (IC 2000) Decision on Procedure Z 22/99 (number portability)
March 3, 2000	Resolution in the preliminary decision procedure before the European Court of Justice regarding frequency allocation to Mobilkom Austria AG Decision on Procedures Z 31, 32/99 and Z 1/00 (IC 2000) Decision on Procedures Z 25 and 26/99 (number portability) Presentation of economic evaluation reports in Procedure Z 27/99

April 17, 2000	<p>Initial discussion of Mobilkom Austria AG's application for approval of general terms of service for A1 Total (fixed-link service)</p> <p>Presentation of evaluation reports in procedures for the allocation of additional frequencies in the DCS-1800 range to Mobilkom Austria AG</p> <p>Initial discussion of max.mobil. Telekommunikation Service GmbH's application for removal of geographic restrictions on frequencies allocated in the DCS-1800 range</p> <p>Presentation of results in the procedure for identifying SMP operators on the interconnection market</p> <p>Interim report on the UMTS/IMT 2000 procedure</p>
May 9, 2000	<p>Decision on Procedure G 12/00 (Mobilkom Austria AG: A1 Total Fixed-Link Services)</p> <p>Decision to allocate additional DCS -1800 frequencies to Mobilkom Austria AG</p> <p>Decision on Procedures Z 22, 25 and 26/99 (Part II: service number portability)</p> <p>Decision on Procedure Z 2/00 (low-level network access)</p> <p>Decision on Procedure Z 29/99 (ISP unbundling)</p> <p>Decision on Procedure Z 20/99 (Telekom Austria's reference interconnection offer)</p> <p>Discussion on general regulatory circumstances in the UMTS/IMT 2000 procedure</p>
May 22, 2000	<p>Decision on Procedure Z 27/99 (online services)</p> <p>Decision on the approval of fees in Telekom Austria's Bonus Talk service</p> <p>Resolution passed regarding the regulatory framework in the UMTS/IMT 2000 procedure</p> <p>Initial discussion of Telekom Austria's application regarding information services and appointment of official experts.</p>
June 5, 2000	<p>Resolution regarding divisions in the UMTS/IMT 2000 procedure</p> <p>Presentation of results of new data gathered in the procedure for identifying SMP operators on the interconnection market</p> <p>Presentation of evaluation report in Procedure G 22/00 (Telekom Austria information services)</p>
June 19, 2000	<p>Decision on Procedure G 20/00 (Mobilkom Austria AG's terms of mobile service)</p> <p>Decision on Procedure G 22/00 (Telekom Austria information services)</p> <p>Discussion of scheduling for UMTS auction as well as tender documentation</p> <p>Appointment of experts in mobile interconnection procedures (Z 24/99, Z 4, 7 and 8/00)</p> <p>Resolution to conduct oral negotiations in Procedure M 2/99 (significant market power on the interconnection market)</p>
July 3, 2000	<p>Oral negotiations in Procedure M 2/99</p> <p>Resolution regarding tender documents in the UMTS/IMT 2000 procedure</p>

July 14, 2000	<p>Discussion of Telekom Austria's application for approval of rate structures (changes in EB and LB long-distance connections and ISDN and extension of Decision G 11/99's validity)</p> <p>Decision on Procedure Z 3/00 (leased-line unbundling)</p> <p>Discussion of Datakom Austria GmbH's application for accreditation (Signatures)</p>
July 31, 2000	<p>Resolution regarding auction rules in the UMTS/IMT 2000 procedure</p> <p>Appointment of evaluators in Procedures G 26 and 33/99 (Telekom Austria's rate structure application)</p> <p>Discussion of Mobilkom Austria AG's application for nationwide use of 2x5 MHz in the DCS-1800 range</p> <p>Decision on Procedure M 2/99 (significant market power on the interconnection market)</p> <p>Decision on mobile interconnection procedures (Z24/99, Z 4, 6, 7 and 8/00)</p>
August 7, 2000	Resolution regarding responses to questions posed by interested parties in UMTS/IMT 2000 procedure
September 4, 2000	<p>Discussion of evaluation report on Telekom Austria's rate structure application</p> <p>Appointment of experts in Procedure Z 10/00 (online service interconnection)</p>
September 13, 2000	<p>Telekom Austria rate structure application hearing</p> <p>Initial discussion of Telekom Austria's application regarding "special coverage requirements"</p> <p>Decision on Procedure Z 9/00</p> <p>Opening of applications and resolution regarding Rules of Procedure for UMTS/IMT 2000</p>
September 25, 2000	<p>Decision on applications filed by max.mobil. Telekommunikation Service GmbH and Mobilkom Austria AG for nationwide use of DCS-1800 frequencies</p> <p>Deliberation in UMTS/IMT 2000 procedure regarding affiliated companies, resolution to admit applicants to the auction and invitation to bidders' training seminar</p> <p>Initial discussion and appointment of evaluators in Procedure Z 12/00 (unbundling)</p>
October 9, 2000	<p>Discussion of organizational issues in UMTS auction</p> <p>Presentation of evaluation reports in Procedure G 37/00 (Telekom Austria, public telephones)</p> <p>Presentation of evaluation reports in Procedure Z 10/00 (online services)</p> <p>Appointment of evaluators in Procedures Z 14 and 15/00 (unbundling)</p> <p>Decision on Datakom Austria GmbH's application for accreditation</p>

October 23, 2000	Telekom Austria rate structure application hearing Decision on Procedure G 37/00 (Telekom Austria, public telephones) Decision on Procedure G 36/00 (Telekom Austria, special coverage requirements) Decision on Procedure Z 11/00 (lower network levels)
October 25, 2000	Extraordinary meeting of the Telekom-Control Commission regarding UMTS auction
November 2 and 3, 2000	UMTS auction
November 6, 2000	Decision on Procedures G 26 and 33/00 (Telekom Austria, rate application) Decision on Procedure Z 13/00 (fixed-link and mobile network interconnection) Presentation of evaluations in Procedures Z 12, 14 and 15/00 (unbundling)
November 16, 2000	Oral negotiations in UMTS/IMT 2000 procedure regarding allocation of concrete frequency packages
November 20, 2000	Decision on Procedure G 39/00 (Mobilkom Austria AG's "A1 Total" terms service) Initial discussion of Telekom Austria's application regarding second-oriented rate charges rates charged by the second Issuing of official UMTS licensing and frequency allocation decisions Decision on applications submitted by Dr. Scheffknecht and TriCoTel Telekom GmbH in the UMTS/IMT 2000 procedure Resolution regarding statements on "KommAustria" Act
December 4, 2000	Appointment of official experts in Procedure Z 10/00 (online services) for the creation of a supplementary evaluation report Presentation of evaluations in Procedures Z 12, 14 and 15/00 (unbundling)
December 20, 2000	Oral negotiations regarding Procedure Z 12/00 (unbundling) Presentation of evaluation reports in Procedure G 44/00 (Telekom Austria's application regarding second-oriented rate charges) Appointment of evaluators in Procedure G 45/00 (Telekom Austria, Jet2Web calling card) Resolution regarding public tender of GSM-1800 frequencies Decision on Procedure Z 10/00 (online services, part 1) Resolution regarding initiation of procedure to identify significant market power operators

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III.3 Abbreviations

Par.	Paragraph
ADSL	Asymmetric Digital Subscriber Line
AIM	Austrian Internet Monitor
APRII	Accounting Principles and Regulatory Interconnection Issues
Art.	Article
ATS	Austrian schillings
BGBI	Federal Gazette (<i>Bundesgesetzblatt</i>)
B-VG	Federal Constitutional Law (<i>Bundesverfassungsgesetz</i>)
EC	European Communities
ECTRA	European Committee for Telecommunications Regulatory Affairs
ETO	European Telecommunications Office
EU	European Union
FL-LRAIC	Forward-Looking, Long-Run Average Incremental Cost
G /_	Procedures for the approval of general terms of service
GPRS	General Packet Radio System
GSM (2G)	Global System for Mobile Communications, 2 nd generation
HDSL	High-Data-Rate Digital Subscriber Line
IP	Internet Protocol
ISPA	Internet Service Provider Association
ISP	Internet Service Provider
ITU	International Telecommunications Union
M /_	Procedures for the identification of significant market power
OECD	Organization for Economic Cooperation and Development
ONP	Open Network Provision
ÖWA	Austrian Web Analysis (<i>Österreichische Web-Analyse</i>)
Q	Quarter
PT	Project Team
PTT	Post, Telegraph and Telephone Administration
SDSL	Symmetric Digital Subscriber Line
SigG	Signatures Act (<i>Signaturgesetz</i>)
SigV	Signatures Ordinance (<i>Signaturverordnung</i>)
SMP	Significant market power
SMS	Short Message Service
STQ	Speech Transmission Quality
TKC	Telekom-Control GmbH
TKG	Austrian Telecommunications Act (<i>Telekommunikationsgesetz</i>)
TRIS	Technical Regulation and Interconnection Standard Requirements
VDSL	Very High Speed Digital Subscriber Line
VfGH	Austrian Constitutional Court
VwGH	Austrian Administrative Court
UMTS/IMT (3G)	Universal Mobile Communications Standard, 3 rd -generation mobile communications system
Z /_	Procedures regarding interconnection issues

III.4 Abbreviated Company Names

Connect (Austria)	Connect Austria Gesellschaft für Telekommunikation GmbH
CyberTron	CyberTron Telekom AG
max.mobil	max.mobil. Telekommunikation Service GmbH
Mobilkom	Mobilkom Austria AG
Telekom Austria	Telekom Austria AG
tele.ring	tele.ring Telekom Service GmbH
TetraCall	TetraCall Bündelfunk Errichtungs- und Betriebsgesellschaft
UTA	UTA Telekom AG