

3.14 SWEDEN

1. REGULATORY FRAMEWORK

1.1. National Regulatory Authority

The independence and autonomy of the Swedish national regulatory authority (Post- och telestyrelsen — PTS) is underpinned by the Swedish Constitution, and the NRA has the requisite powers under EC law, including the adoption of secondary legislation, granting of licences, decision-making on SMP status, issuing of injunctions and mediation in disputes between operators, and own-initiative powers in the field of interconnection. In disputes concerning interconnection terms in particular, PTS has a mandate to settle the dispute by a binding decision. It also has the possibility to issue fines (inter alia for non-compliance with legislation or licence conditions).

PTS is a government agency reporting to the Ministry of Industry, Employment and Communications. The Ministry is responsible for the State holding in the incumbent — which, following its flotation in June 2000, has been reduced to around 71% of the voting rights – but it is not directly involved in the incumbent's management¹. The Ministry is also responsible for regulatory affairs, although different Ministers perform the two tasks. The Government appoints the Director General, for renewable six-year terms. PTS is sufficiently resourced and has a staff of 204, with a further sixteen full-time positions projected for 2003. It is financed mainly by frequency and licence fees, which is a way of reinforcing its independence. The fees are set to cover the agency's expenses for the activities that are specified in the various legal Acts. The Swedish Constitution safeguards the autonomy and independence of all State authorities — including PTS — and prohibits any interference by Ministries in the day-to-day activities of the authorities. The Constitution stipulates that all government agencies must act impartially and objectively.

Secondary legislation lays down that PTS must co-operate with the Consumer and Competition Authorities on consumer affairs and competition matters, and initiate a reciprocal and regular exchange of information.

Any decision made by PTS can be appealed to the General Administrative Courts, and many have been appealed in recent years (including important economic decisions on fees for carrier pre-selection and on interconnection charges, as well as decisions to award third-generation mobile licences). The appealed decisions can be confirmed or revoked, and the content of the decisions can also be changed partially or completely, i.e. the court also examines the substance of the case. Almost every decision that PTS has made requiring the operator with SMP on the interconnection market to lower its mobile termination charges (in 1999, 2000, 2001) has been appealed.

¹ On 26 March 2002, Telia and Sonera announced their plan to merge. The merging process is still pending. If the merger is accepted as planned, Telia's shareholders will own approximately 64% of the merged company. This would mean that the Swedish State would hold approximately 45% of the company and the Finnish State approximately 19%.

1.2. Management of numbers

PTS is responsible for the allocation and management of numbers, and all operators are granted number capacity on equal terms and conditions. Since 1994 PTS has established numbering plans and issued regulations regarding these plans and their use, and all numbering plans have been published. These plans are e.g. E.164, X.121, E.118, Q.708, E.212.

1.3. Frequency management

PTS is also responsible for the management and allocation of frequencies, and has published frequency plans.

2. INTERCONNECTION AND ACCESS REGIMES

2.1. Interconnection

2.1.1. Reference Interconnection Offer

The incumbent publishes a reference interconnection offer (RIO) which includes relevant information, including interconnection charges. The incumbent is obliged to send the NRA a copy of its interconnection agreements to enable it to compare the agreements concluded and the RIO with the relevant cost accounting information, inter alia to verify that interconnection charges are cost-oriented and to verify non-discrimination.

The incumbent has been designated as having significant market power (SMP) on the national market for interconnection (as on other markets), and its interconnection charges (including mobile interconnection charges) should therefore be cost-oriented. In February 2002 PTS determined that Vodafone² and Tele 2 also had SMP on the national market for interconnection, which means that all GSM 900 operators currently providing services³ now have to fulfil the cost-orientation requirement for mobile interconnection charges. The decisions have, however, been appealed by the incumbent, Tele 2 and Vodafone, and in the two latter cases the Court has suspended the decisions pending its judgment.

PTS adopted the above-mentioned decisions using the flexibility allowed by the current framework (Article 4 of the Interconnection Directive), which provides that operators with less than 25% can in certain cases be considered to have SMP. Tele 2 had a market share of 16.6% and Vodafone 13.4%, whereas the incumbent held 31.4% of the national

² Vodafone's operations in Sweden are carried out by Europolitan Holdings AB and its subsidiaries, Vodafone Sverige AB and Vodafone Stores AB. In April 2002 Europolitan Vodafone changed its name to Vodafone (see [press release at http://www.waymaker.se/bitonline/2001/12/19/20011219BIT01400/12190140.htm](http://www.waymaker.se/bitonline/2001/12/19/20011219BIT01400/12190140.htm))

³ A fourth GSM 900 licence was granted to new entrant SweFour AB in May 2002, but it has not yet started to provide services.

market for interconnection. Article 4 of the Interconnection Directive provides that NRAs may determine that an organisation with a market share of less than 25% of the national market for interconnection has SMP, taking into account the organisation's ability to influence market conditions, its turnover relative to the size of the market, its control of the means of access to end-users, its access to financial resources and its experience in providing products and services in the market. Moreover, the preamble of the Directive states that the SMP determination should take into account the situation in the relevant market and that the market power of an organisation depends on a number of factors including international links. PTS considered that both Vodafone and Tele 2 were able to influence market conditions, that they both had a high turnover relative to the size of the interconnection market, and that they had very strong or strong international links and substantial experience in the provision of products and services in the interconnection market.

2.1.2. Interconnection charges

PTS has on several occasions intervened in the setting of the SMP operators' mobile interconnection charges. Following an investigation of the incumbent's costs in May 1999, PTS required it to reduce its average mobile interconnection charges by approximately 20% from 15 June 1999 (from €0.30/minute for day time and €0.17/minute at other times, to an average price of €0.20/minute). After further examination of the most recent cost-accounting information, in May 2000 PTS required the incumbent to reduce the mobile interconnection charges further from 1 July 2000 (down to €0.12/minute on average, which PTS considered to be a cost-oriented interconnection charge). The incumbent appealed against this decision, and asked for it to be suspended pending the Court's judgment. At the same time the incumbent voluntarily reduced its interconnection charges to €0.16/minute. In February 2001 the Court ruled that the incumbent should reduce its mobile interconnection charges to €0.13/minute. The incumbent appealed the decision to the Administrative Court of Appeals. In May 2001 PTS required the incumbent to reduce the mobile interconnection charges to €0.11/minute. The incumbent also appealed against this last decision, and asked for it to be suspended, which was granted, although the Court later dismissed the appeal. In January 2002 PTS asked the incumbent to reduce its mobile interconnection charges to €0.10/minute. The incumbent yet again appealed against this decision, once again asking for the decision to be suspended pending the Court's judgment, although neither the Administrative Court nor the Administrative Court of Appeals granted such a suspension.

Pending these Court judgements, the interconnection charges of the other mobile operators are not currently subject to control by PTS and market prices apply instead. PTS does not set the market price, but assesses whether the level of compensation demanded by the new entrant is reasonable. In August 2000 PTS decided, in an interconnection dispute between the incumbent and a large new entrant, that the transit operator, i.e. in this case the operator handing over interconnection traffic to the terminating operator, is responsible for paying the terminating operator regardless of where the call originated from and which way it has been routed, unless there is a direct agreement between the originating and the terminating operator. PTS further decided that the compensation demanded by the new entrant was unreasonable, and considered that a reasonable compensation would be 10% higher than the cost-oriented price, which PTS had determined to be €0.12 per minute (as described above), i.e. €0.13 per minute. This PTS decision was confirmed in March 2002, and the Court ruled that the operator that hands over interconnection traffic to the terminating operator is responsible for paying the

terminating operator. However, the Court overturned PTS's decision regarding the compensation demanded by the new entrant, finding that it was reasonable. The Court judgment has been appealed, and the case has not yet been concluded. In another case in spring 2002 the incumbent ceased to transfer mobile interconnection traffic from a number of new entrants for termination on an alternative operator's network (the incumbent being a transit operator in this case) since some of the new entrants did not pay for the interconnection traffic. PTS ordered the incumbent to continue to interconnect. In late spring 2002 the Court confirmed the PTS decision, ruling that operators are not allowed to cease to interconnect even if there is disagreement regarding the conditions (inter alia payment) in the agreement between the interconnecting operators. The Court judgement has been appealed and the case has not yet been concluded.

2.1.3. Friaco

The Telecommunications Act does not require PTS to introduce flat-rate internet access call origination (FRIACO). PTS has currently not received any formal request to introduce compulsory FRIACO, and is currently not considering introducing it. Although FRIACO is often considered as a stepping stone to broadband, Sweden has managed to achieve a relatively high broadband uptake without the intermediate step of FRIACO (11% of Swedish households currently have a broadband connection, compared to the EU average of 4%).

2.2. Interconnection leased lines / partial circuits

One new entrant has formally referred a dispute to PTS regarding interconnection leased lines. The main issues were changed terms and conditions, including an alleged sudden price increase and termination of current offerings without previous consultation with the operator concerned. PTS mediated in spring and summer 2002, and the new entrant signed a new agreement (with the higher prices) by the autumn of 2002, since it had already invested and constructed its network structure in a way that relied upon these circuits, although the new pricing would make it difficult to obtain a reasonable profit margin.

2.3. Unbundling

2.3.1. RUO

PTS has publicly stated that local loop unbundling (LLU) is one of its priorities. However, the uptake has not been big for shared access and full unbundling, and very few subloops have been delivered. ECTA figures show that only 1% of all digital subscriber lines are routed through unbundled local loops. The uptake of LLU has grown in the last months, although figures are still low (approximately 5 400 lines in July 2002). Most new entrants consider that the pricing of LLU does not leave any reasonable profit margin, and this is considered to be one of the main reasons for the low uptake. PTS has, however, examined the prices for LLU, and after modifications requested by PTS were carried out, the prices for full unbundling and shared access were found to be cost-oriented in December 2001. For fully unbundled loops the incumbent charges €11.3 in monthly rental, and €165.2 in connection fee (€84.8 for subsequent connections). For shared access the incumbent charges €5.4 in monthly rental, and €118.0 in connection fee (€84.8 for subsequent connections).

The incumbent offers fully unbundled lines and shared access in specific product packages. Fully unbundled lines, shared access and subloops are included in the reference unbundling offer (RUO). Fully unbundled lines have been offered by the incumbent's wholesale arm since March 2000, but no significant volume of agreements has been reached. Shared access has been included in the incumbent's RUO since March 2001, but, again, no significant volumes of agreements have been reached. Subloops are now also part of the RUO, but with no significant uptake.

2.4. Bitstream access

In May 2002 PTS proposed — in a report requested by the Government concerning the application of the EC Regulation on LLU — an amendment to the Telecommunications Act which would oblige an operator with SMP for provision of publicly available voice telephony to provide bitstream access on non-discriminatory and cost-oriented terms in response to any reasonable request.

PTS stated that some of the proposed amendments were already covered elsewhere in the current legislation and in the incumbent's licence conditions, but felt that it was important to make the obligations clearer by adopting specific legal texts on bitstream access. PTS also stressed that it was important that these amendments should be included in the new Electronic Communications Act which will be adopted to take into account the new EC regulatory package. The consultation with industry has just ended. This should be weighed against the facts that constitutional procedures require further examination of the proposals, that the legal framework should be stable (the issues are dealt with in another way in the new EC regulatory package) and that the Competition Authority is currently examining a related case regarding pricing of ADSL.

A number of operators appear to be more interested in buying wholesale ADSL from the incumbent and then reselling it, than in using the LLU alternative, due to the disadvantages connected with LLU. The price of wholesale ADSL is important in this respect, since it determines whether this solution would allow a reasonable profit margin. A number of operators have made formal complaints to the Competition Authority regarding the pricing of ADSL, claiming that the incumbent is abusing its dominant position on the ADSL retail market (the incumbent holds 80% of the retail ADSL market). The incumbent is alleged to have set the margin between the wholesale price that its wholesale arm charges other operators and its retail price so low that other operators cannot obtain a reasonable profit margin, and some operators even claim that there is a negative margin (the incumbent is alleged to have set low retail prices and very high wholesale prices). Operators also claimed that the incumbent discriminates against other operators regarding delivery times and type of services offered. The competition investigation is continuing.

From a consumer point of view, there appear to be problems with various contractual terms and significant price increases during the contractual period. Consumers are often tied to one operator (most often the incumbent), inter alia through long waiting times for an ADSL connection with another operator, and through high, non-recoverable one-off fees. Some operators seem to set low fees initially and shortly after a person has subscribed there are significant price increases. The Swedish Consumer Authority is currently looking into the contract terms of various market players, in co-operation with PTS.

2.5. Situation of the (broadband) regulatory situation

There are currently approximately 100 ISPs operating in the Swedish market. Internet penetration is high (59% of households have internet access). The incumbent offers ISP services directly and via its subsidiary “ComHem”, and by December 2001 the incumbent as an ISP had a market share of approximately 35%, in terms of total connections. Sweden has a relatively high uptake of broadband. In March 2002 between 510 000 and 540 000 households had access to broadband, which is four times as high as in December 2000. This corresponds to 11% of all households having a broadband connection, compared to the EU average of 4%.

In 2000 the Government set a goal to provide broadband to households and companies in all parts of Sweden. The Government Bill on IT policy of summer 2000 commissioned the Swedish National Grid to build a backbone network to all municipal centres in Sweden on strictly commercial terms, in the form of fibre optical cable on the Swedish National Grid’s existing trunk network. The entire fibre network has to be open to any operator who wishes to purchase network capacity based on so-called dark fibre. Government funding was provided for the establishment of regional line connections, with priority given for regional and policy reasons where the market cannot be expected to meet the need for such links within the next five years. The Government allocated €282 million for the construction of the regional networks. The Government also reserved €343 million for the construction of local networks (partly for municipalities supporting the construction of local networks where there is no market provision, and partly for tax relief for subscribers who install broadband access, in order to encourage access to high-capacity networks). The roll-out of the broadband network capable of reaching every Swedish household is ongoing, although there has been less interest than in the beginning, partly related to financial difficulties. Also, certain municipalities have not been able to build out networks, due to financing problems, and the Government therefore decided in 2001 to reduce the co-financing required from municipalities to 5%.

The number of households with a broadband connection is currently increasing from an already high level, in particular in the cities. Broadband is much less widespread in scarcely populated areas, and in certain municipalities there is no broadband on offer. The Government, bearing in mind the objective of providing broadband also in rural areas, recently took steps to increase the roll-out of broadband in scarcely populated areas. In summer 2002 the Government decided to provide further stimulation of broadband uptake, by dropping the original requirement of very high transmission capacity for installation of new infrastructure in order to be eligible for funding, and by providing that, in exceptional cases, funding can be provided for upgrading existing infrastructure (for example to provide ADSL). These measures were designed to be technology neutral, which would only apply under exceptional circumstances. The decisions were taken in particular to provide broadband in areas where no market players would be interested in providing broadband access (in particular areas with low population density).

In Sweden no cable TV operator is offering voice telephony over the cable TV network. Investments in upgrading the networks are necessary but cable TV is currently being developed to become an alternative way to provide voice telephony to end users. More than 2 million households have cable TV in Sweden.

Wireless local loop licences were due to be awarded by 1 October 2001, but due to delays the licences were only awarded in December 2001. There were five applicants, and four

licences with national coverage in the 24.5-29 GHz-band were awarded (one of which was granted to the incumbent). None of the licensees have started to provide services yet. One of the licences was returned this spring. Due to this PTS has launched a new beauty contest for this licence. The deadline for submitting applications was 23 September 2002. PTS intends to issue a decision in November 2002. PTS has also launched a beauty contest for 42 regional licences (21 in the 3.5 GHz-band and 21 in the 10.5 GHz-band). The deadline for applications is 11 November 2002. Many operators consider this type of access to be an alternative to access to the fixed network, and operators have been carrying out trials for the last few years.

2.6. Leased Lines

The incumbent is the most important market player in terms of leased lines. The percentage (in terms of retail revenues) of leased lines service offered by the incumbent is 62%. In 2001, the percentage of leased lines offered by the incumbent was 100% for lines up to 64 Kbit/s, 87% for lines between 64 Kbit/s and 2 Mbit/s, and 64% for lines with a speed higher than 2 Mbit/s.

2.7. Numbering

The introduction of number portability for fixed telephony services (including ISDN), concerning premium-rate calls, free-phone services, shared cost services and personal numbering services began on 1 July 1999 and was completed in December 1999, using onward-routing technology. By September 2001, 6 446 fixed numbers had been ported. The operator from which the number is ported previously had the right to compensation for current costs related to the hand-over of the number, and to compensation for increased traffic costs. However, operators had difficulties in reaching agreement about the economic conditions, and a formal request was made to PTS to take a decision regarding the level of compensation for the administrative costs of handling orders for number portability. In May 2000 PTS set the fees that would apply for the administration of number portability, and the incumbent thereby had to lower its fees. In 2000, PTS proposed an amendment to the Act regarding the principles of compensation for number portability. Previously, the donor operator (often the incumbent) could recover additional traffic-related costs but PTS considered that this scheme did not provide any incentives for cost-efficient routing solutions. In June 2000, PTS therefore proposed that the Act be amended so that the donor operator and the call originating operator should divide the additional traffic costs equally. The incumbent does not charge the customer anything for porting the number in case of a change of operator (the same applies to non-geographic numbers). Mobile number portability was introduced in September 2001.

Carrier selection has been available since 1992. Carrier pre-selection (CPS) was introduced in September 1999. Despite a certain confusion and insufficient intervention by PTS in the initial stages of the reform, due to the lack of legal basis for intervention before legislation on CPS entered into force, the uptake has been relatively good. During 2001 the number of CPS subscribers increased by 35%. By the end of December 2001, more than one and a half million (1 552 000) of the incumbent's fixed-line customers used carrier pre-selection to route calls to alternative operators. At the same time, 947 000 of the incumbent's fixed telephony subscribers used carrier selection to route calls through an alternative operator. In 2002, 32 operators offered voice telephony via carrier pre-selection and the same number of operators offered voice telephony using carrier selection. There are, however, still some outstanding practical problems, inter alia regarding the procedures for subscribing to another operator. PTS has received

complaints from consumers being listed as having changed operators without their knowledge. In PTS's view, the problem occurs when an operator, or a telemarketing company acting on behalf of the operator, does not follow the regulations. PTS has recently formally intervened in this matter and improvements in the procedures have been made, but there is room for further improvement.

Legislation requiring the customer's calls to be routed to the pre-selected operator even if no area code is dialled entered into force in February 2002. Previously a customer had to dial the area code in order to access the pre-selected operators (otherwise the call was routed via the incumbent). Since February 2002 CPS has been available for long-distance national calls, international calls, local calls and calls to mobile.

The Act requires operators to base the fees they charge each other on costs related to the day-to-day operation of CPS and not on the costs of the investments necessary to make CPS technically possible. In practice this applies only to the incumbent, who has the right to compensation for operational costs only (the costs of processing orders).

2.8. Cost accounting/accounting separation

The incumbent's cost-accounting system has historic costs as cost base, with fully distributed costs as cost standard. PTS is currently working on implementing a cost accounting system based on current costs, and a LRIC based accounting system is to be fully implemented in January 2004. Verification of compliance with the cost accounting system is carried out by PTS and the last accounts verified were for the accounting year 2000. The last statement of compliance was published in 2001.

PTS requires the incumbent to provide relevant economic information regularly, which PTS uses for its surveillance duties. Based on the findings of its regular monitoring of the incumbent's accounting information, PTS publishes an annual report on deficiencies in the incumbent's accounting system and the proposed remedies. It also draws up a more comprehensive report, which is not published since it contains commercially sensitive information. PTS also verifies the incumbent's internal transfer prices in order to verify that the non-discrimination principle is followed, and that no cross-subsidisation occurs.

3. AUTHORISATIONS

The Swedish licensing regime may be described as "light", with many general authorisations and relatively few individual licences (the latter are only required in specific cases). The licence conditions are reasonable and not too onerous. The Telecommunications Act enumerates possible conditions to be imposed. The licence conditions imposed are relatively few, and are listed in each individual licence (itself a public document). Licence fees cover only administrative costs and are determined in relation to the annual turnover of the licensee (1.57 % of turnover, with an extra 0.5 % of voice telephony turnover for the SMP operator).

4. UNIVERSAL SERVICE / CONSUMERS

PTS has determined that the incumbent has significant market power (SMP) in the market for fixed voice telephony and its voice telephony tariffs must therefore be cost-oriented, according to EU legislation. The incumbent's line rental charges should be cost-oriented,

according to the Telecommunications Act; PTS is obliged to verify that this is the case, and regularly publishes reports on the evolution of tariffs. PTS published its latest report on the evolution of line rental charges on 13 November 2001 (“*PTS granskning av Telia AB’s priser for telefonabonnemang*”). The price cap which previously prevented the incumbent from increasing fixed fees such as installation and line rental charges more than the change in the retail price index was repealed with effect from 1 January 2001. Line rental charges can therefore now be set freely by the incumbent (provided they follow the principles of cost-orientation). There is no set period for tariff changes, but in practice a period of one month applies for tariff increases.

The incumbent does not receive any financial contributions from other operators for the cost of providing universal service, due to the low net cost of universal service provision, which has not been deemed to constitute an excessive burden. At present Sweden has no plans to introduce a financing scheme (and the current Swedish regulatory framework does not allow the setting-up of such a scheme). The incumbent has not requested funding.

4.1. Universal Directory

In Sweden a directory including all subscribers is available to users, although the printed directory provided by a sub-contractor to the incumbent includes mobile numbers only when the subscriber so requests and for an extra fee. A directory enquiry service including all subscribers is also available to users, and PTS has procured a service for free directory enquiries for people with special functional disabilities.

All notified operators are obliged to provide available relevant subscribers’ data to any party who requests it for the purpose of providing enquiry services. A number of complaints have been lodged with the relevant authorities regarding the conditions for access to relevant information, which is important in order to provide directory services and directory enquiry services. Complaints have been lodged with PTS regarding the conditions of access to the incumbent’s subscriber information, which were considered unreasonable. In May 2002, PTS issued an injunction which prohibited the incumbent from applying certain conditions of access to subscriber information on the ground that these conditions were unreasonable. Since 1 June 2002, when new legislation entered into force, the Telecommunications Act has prescribed cost-oriented pricing for the provision of subscribers’ data.

4.2. Itemised billing

The incumbent provides a basic level of itemised billing at no extra charge, showing the partial/full number called (with the exception of local calls); duration of each call; the date of the call; and the price of each call. Tele 2 and Telia Mobile only provide itemised billing at extra charge.

4.3. Quality of Service

PTS does not set quality-of-service performance targets for SMP operators or other fixed operators. The incumbent carries out measurements of quality of service according to the ETSI EG 201 standards. Measurements of quality of service have not been published by the operator, but are published by the NRA.

4.4. Rights of Way

Facility sharing is not compulsory, but rights of way/access to property may be granted through individual agreements or under the Rights of Way Act (applicable to both public and private entities).

Many operators which have been granted third-generation mobile licences have had difficulties obtaining planning permission. The process is very slow and often the granting of planning permission by local authorities depends upon whether the operator can commit to facility sharing. Difficulties in obtaining planning permission were one of the reasons for one licensee requesting less strict licence conditions regarding the timetable for roll-out and coverage requirement.

5. DATA PROTECTION

5.1. Traffic data retention

PTS is responsible for the enforcement of data protection in the telecommunications sector, and follows developments in the security of electronic information handling. According to Swedish legislation anyone who provides, within a publicly available network, telecommunications services or network capacity, must ensure that their activities fulfil reasonable requirements on reliability and technical security. In case of a particular risk of a breach of the security of the network, subscribers must be informed concerning such risk and any possible remedies, including the costs involved.

As regards data retention, Swedish legislation states that anyone who has access to data regarding a particular telecommunications message must erase or make anonymous such data at the end of the call or when the message has reached its destination. Data which are necessary for subscriber billing or payment of interconnection charges may be processed until the outstanding payment is made or until the end of the period during which the bill may be lawfully challenged or payment may be pursued (three years). The maximum period also applies for payment of interconnection charges. There is no maximum period for storage of data for security reasons.

As regards unsolicited phone calls, and unsolicited e-mails, Sweden has implemented an opt-in approach. According to section 49 of the Telecommunications Act, if traffic data are used as the basis for an operator's own marketing, consent is required (otherwise it is forbidden). The opt-in approach only applies to natural persons. Explicit consent in advance is necessary (either in written form or explicitly stated).

5.2. Unsolicited calls and e-mails

As regards information about subscribers, the new section 67 of the Telecommunications Act lays down that the subscriber's consent must be obtained before the processing of information about him starts. Withdrawal of consent means that the processing of information must stop. According to section 68 of the Act, a subscriber's refusal to allow his data to be processed for the purpose of direct marketing may be published in the telephone directory, if the subscriber so requests. The subscriber can also decide that certain personal information should be omitted from publication in the directory.

6. MOBILE ISSUES

Sweden awarded four licences for third-generation mobile telephony through a “beauty contest” in December 2000. Licences were awarded to Orange, Europolitan (which later became Europolitan Vodafone and is now called Vodafone), Tele 2 and HI3G Access (now operating under the name “3”). The criteria for selecting operators related to their financial strength, technical plans, business, market and investment plans, mobile telecommunications know-how, and plans for coverage of the 3G network. The licensees were each awarded $2 \times 15 \text{ MHz} + 5 \text{ MHz}$. The incumbent did not receive a licence and appealed to the Administrative Court, but the appeal was rejected.

According to the conditions of the third-generation mobile licences, operators must offer network capacity in a limited geographical area by 1 January 2002 and by 31 December 2003 the networks must be fully developed (meaning a minimum coverage of at least 8 860 000 people in Sweden, which corresponds to 99.98% of the Swedish population according to population statistics on 31 December 1999). In January 2002 PTS monitored the roll-out and all licensees fulfilled the requirement of offering network capacity by 1 January 2002. PTS continues to monitor the roll-out and have regular dialogues with the licensees. Licensees have a possibility to make agreements about, inter alia, site sharing and national roaming in other networks in the relevant frequency bands, in order to achieve the required coverage. The licensees must, however, ensure that at least 30% of the required population coverage is covered by their own infrastructure (and consequently the operators may share radio-infrastructure up to 70%).

There are two network sharing consortia in Sweden: *3G Infrastructure Services* (3G IS) which consists of Vodafone, HI3G Access “3” (which in turn consists of Hutchison Whampoa and Investor), and Orange; and “Svenska UMTS-nät” (“*Swedish UMTS-Net*”), which is owned by Tele2 and Telia. A company named “Svenska UMTS-licens” (“*Swedish UMTS licence*”) now owns the licence obtained by Tele2. Consequently, Telia has a 50% control of one of the four licences. Both consortia have been found compatible with competition rules by the Swedish Competition Authority.

There have been a number of obstacles for the roll-out of 3G, in particular problems related to mast-sharing, difficulties in obtaining national roaming, difficulties in obtaining planning permission, lack of terminals and services. All the operators which have been granted 3G licences are experiencing difficulties related to planning permission and mast-sharing. The new entrants on the market have difficulties in getting agreements on mast-sharing with two of the established GSM-network owners. However, in September 2002 three mast-sharing agreements were reached.

The procedure for obtaining building permits from municipalities has been slow and complicated and the granting of planning permission often depends on whether the operators are able to commit to mast-sharing with other operators. Local authorities are formally independent from national authorities and can decide independently over the use of land and property. This circumstance limits PTS’s scope to intervene. PTS has informed the Government about the situation, to see if anything can be done. PTS is also currently conducting a survey, together with the Swedish association of local authorities, to investigate the handling of applications for building permits. The difficulties in obtaining planning permission are also related to concerns about the effects of radio transmitters on public health. It is generally agreed that these problems have slowed down the 3G rollout and at least one operator that later requested a delay in the roll-out of 3G specifically

mentioned difficulties in getting planning permission and difficulties in obtaining collocation/mast-sharing on existing masts, as some of the reasons for requesting a slower roll-out.

One of the four 3G licensees stated in the summer of 2002 that it would have difficulties in meeting the requirements concerning roll-out and population coverage and therefore formally applied to PTS for less burdensome requirements. The licensee should have built the network by 31 December 2003, like the other licensees, but requested permission to delay completion of the network until December 2006. The company also requested a less rigorous coverage requirement (8 300 000 people instead of 8 860 000). The operator that applied for less strict requirements was Orange, which co-operates with two other licensees (Hi3G Access "3" and Vodafone) for the construction of the network. The reasons given for applying for less strict requirements were: initial delays in roll-out due to the incumbent appealing against the decision not to grant the company a 3G licence; the incumbent's co-operation with one of the 3G licensees in building a 3G network which effectively means that there are five market players on the 3G market and not four; difficulties obtaining planning permits (where a market player de facto often obtains a planning permit only if it agrees to mast-sharing with other licensees, which slows down the process further); the non-functioning of national roaming; difficulties in obtaining collocation/mast-sharing on existing masts; lack of 3G handsets; lack of demand for 3G services; and difficulties obtaining financing. In September 2002, PTS concluded that there was no justification for granting less strict licence conditions. At approximately the same time that the request was denied another operator, Vodafone (which cooperates in the same network sharing consortia as Orange), also made a formal request for less strict licence requirements (seeking a prolongation of the roll-out period). PTS is currently investigating the matter. Hi3G Access "3" has subsequently also announced to PTS its intention of requesting a change in its license conditions.

According to the Telecommunications Act, certain mobile operators would be obliged to give access to their networks to a new mobile operator with a network licence, where this operator did not have coverage. Access should be on market terms, but the right to roaming is limited to seven years after establishment. The obligation to provide roaming is applicable only towards operators that have been granted a licence for mobile services or mobile network capacity after the entry into force of the roaming provision (on 1 July 2000). Accordingly, this obligation can be imposed on Vodafone and Tele 2. Whether the obligation would also apply to Telia, as a consequence of the "Svenska UMTS-nät" having acquired "Svenska UMTS-licens", has not been ruled upon.

7. PREPARATION FOR TRANSPOSITION OF THE NEW REGULATORY FRAMEWORK

The Ministry has conducted a study of the transposition process and the need to analyse the markets before the final implementation date. The final conclusions regarding the procedures to be used will be published by the end of this year. PTS is involved in a project, together with the NCA and the Radio and TV Authority, to develop a method for market analysis following the Commission's Guidelines and forthcoming Recommendation and to conduct such analysis in order to have it ready at the time of implementation of the new EC Regulatory Package. The development of methods is at an advanced stage and initial market analyses have already begun. PTS is fully committed to conducting the market analyses and believes itself capable of doing so, although it has stated that the legal basis to request information for broadcasting might be a problem, whereas it would have the necessary legal basis in current legislation for requesting all other information which is

necessary for the market analyses. Draft primary legislation (the Electronic Communications Act Bill) setting out the legal framework for transposing the new EC regulatory framework is under way, and it is likely that the necessary primary legislation (the Electronic Communications Act) will be adopted and enter into force in time for the July 2003 deadline.

