EFFECTIVE REGULATION CASE STUDY:

BRAZIL 2001

International Telecommunication Union

Agência Nacional de Telecomunicações do Brasil (Anatel)

Effective regulation

Case study: Brazil

International Telecommunication Union

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The report is based on field research undertaken in Rio de Janeiro, Brasilia, and São Paulo from 16-20 April 2001, as well as reports and articles identified as footnotes. A list of persons and organizations met during the field research is contained in Annex 3.

The invaluable assistance of the staff of the Agência Nacional de Telecomunicações do Brasil (Anatel), particularly José Leite Pereira Filho, Counselor, and Pedro Paulo M. P. da Cunha, Advisor, in arranging interviews and provision of information is deeply appreciated as is the cooperation of the many organizations who agreed to give us input for the study. Without their support, a report such as this could not have been prepared. The cooperation of the ITU's Americas Regional Office is also acknowledged.

The views expressed are those of the authors and may not necessarily reflect the opinions of the ITU, its members, or the Government of the Federative Republic of Brazil.

This case study is one in a series of five case studies on Effective Regulation. Additional information can be found on the website of the BDT's Sector Reform Unit http://www.itu.int/ITU-D/treg/

International Telecommunication Union

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1 Introduction: Purpose of the Case Study

The reform of the information and communication technology (ICT) sector has fuelled major changes at the regulatory and institutional levels. One of the most striking changes has been the rise of the ICT regulatory agencies. By mid 2001, there were 106 such agencies operating separately from telecommunications service providers.[1] The number of telecommunication regulatory authorities is expected to increase with an additional 14 regulators expected by the end of the year. Many of these agencies have been created only in the last five years. They mark a true departure from the way countries around the world approach economic regulation, in general, and the regulation of communications industries, specifically.

It is one thing for countries to make a policy decision to create an independent regulatory agency, and quite another to empower the agency to act independently and effectively. Regulatory agencies are not created in vacuums. Inevitably, they are the products of political, social, legal, and economic conditions that exist at fixed points in time, in each country. Nor are these conditions static; regulatory approaches and policies change, and agencies change with them. There is no textbook for government policy-makers to quote, chapter and verse, in establishing an independent regulatory agency that will achieve their national goals. Moreover, once regulators are named and take office, there is no blueprint – and often no national precedent – for how they should operate and regulate. Nevertheless, the means by which each country creates, structures, and implements its regulatory body is one of the most important factors in the success of its reform process. Increasingly, then, newly appointed and responsible regulators are searching for models and best practices as guideposts for their own actions.

As a result of the growing number of requests for best practice guidelines and recommendations related to the independence and effectiveness of regulatory bodies, the Sector Reform Unit (SRU) of the ITU Telecommunication Development Bureau (BDT) is carrying out a series of case studies on the topic of regulatory independence and effectiveness.

Brazil was selected as one of five SRU regulatory case studies to be conducted in 2001 for a number of compelling reasons.[2] Brazil was able to pass a comprehensive law, establish a regulator, privatize its operators, and introduce duopoly competition in a little over two years. Its regulator is praised by industry and other regulators around the globe as one of the most transparent and independent in the world.

The Brazilian telecommunications model of today is built around three pillars: competition, universalization and quality. The achievement of this model started with the passage of the 1996 Minimum Law that liberalized mobile services. This was followed by the adoption of the General Telecommunications Law of 1997 (hereinafter "Telecommunications Law"), which called for the creation of the Agência Nacional de Telecomunicações (Anatel), and established guidelines for the privatization of the monopoly telecommunications provider, Telebrás. This law effectively ended the state's role in the provision of telecommunications services, changing its role from supplier to regulator of services. Telebrás was broken up into twelve separate holding companies.

In 1998, the government sold off 100% of its interests in Telebrás. Immediately following privatization, Anatel worked diligently to establish a foundation for competition in several market areas. Anatel divided the country into a series of operating regions. In the first 18 months after privatization, the regulator successfully introduced duopoly competition into every fixed-line and cellular operating region in Brazil. Presently, all fixed operators have one competitor in the region in which they operate, in addition to two competing cellular companies. The market will be open to full competition by 2002. On the mobile side, the government started auctions this year (C, D, and E Band) for the introduction of Personal Mobile Service.

[1] World Telecommunication Regulatory Database, 2001.

[2] The other case studies are of Botswana, Morocco, Peru, and Singapore. The case studies will be made available publicly on ITU's website, at the "treg" home page (www.itu.int/ITU-D-TREG). The case studies will also serve to inform the next issue of the annual report, *Trends in Telecommunication Reform*, which will focus on independent and effective regulatory agencies.

Prior to the creation of Anatel, Brazil's Ministry of Communications (MINICOM) was the government body responsible for the regulation of all telecommunications services in Brazil. Upon its creation in the fourth quarter of 1997, Anatel quickly assumed MINICOM's regulatory role (with the exception of broadcasting). Anatel was created as an administratively independent agency that has financial autonomy. This autonomy has increased both regulatory responsiveness to the sector and investor confidence in the transparency and fairness of the regulatory process in Brazil.

Since the privatization and introduction of duopoly competition, the growth of the market has been spectacular. The teledensity has risen from 13 in 1998 to almost 28 lines per 100 by the end of 2000.[3] The cost of activation fees declined from USD 3,546 in 1990 to USD 28 in 2000. Mobile cellular service grew 340% from 1994-2000. It is predicted that by 2005, there will be 58 million fixed lines, and 58 million cellular subscribers among Brazil's nearly 170 million people.

This case study examines how Brazil established its regulatory authority and how that authority's relations with other institutions and market players help determine its overall effectiveness.

It views Anatel within the context of the goals for regulation and development set by the government of Brazil, while applying the metrics of intra-governmental reporting and independence, transparency, staffing, and financing that have been identified as common issues for all new regulators. It will also evaluate Anatel's success based on how effective it has been in implementing the three pillars of the Brazilian model: competition, universal service/access (known as "universalization" in Brazil), and quality.

The goal of the report is to provide best practice guidelines that may be used by regulators and policy makers in other countries to achieve their own objectives.

The report is structured in twenty sections. Beginning with an overview of the country's demography and economy, followed by the reform process, the role and status of Anatel in the institutional structure of the overall government, the legal and statutory foundations for creation of Anatel, as well as what laws or regulations govern its operations; the internal structure and organization of Anatel, including staff matters, and a discussion of its functions, and its relations with the industry. The report concludes with an identification of challenges to be tackled in the future, as well as some examples of best practices employed by Anatel.

The case study is based on field research carried out in Rio de Janeiro, Brasília, and São Paulo from 16-20 April 2001. The list of organizations interviewed is contained in Annex C.

2 Country Background

2.1 Overview

Brazil is the fifth largest country in the world in terms of area, after Russia, China, Canada, and the United States. With a population close to 170 million, Brazil is ranked as the sixth most populous nation in the world. Brazil, the only Portuguese-speaking nation in the Western Hemisphere, has by far the largest economy in Latin America with a 2000 GDP of $1'089 billion.

In the latter half of the 20th century Brazil took its place on the world stage as a considerable economic force globally, a regional leader politically, and a coveted destination for foreign direct investment. Brazil is clearly one of the most dominant emerging markets in the world today.

2.2 Demography

Brazil is a diverse nation whose inhabitants trace their roots to the indigenous peoples of the Americas, Europe, Africa and Asia. Indeed, four major groups make up the Brazilian population: the Portuguese, who colonized Brazil in the 16th century; Africans; various other European, Middle Eastern, and Asian immigrant groups who have settled in Brazil since the mid-19th century; and indigenous people of Tupi and Guarani language stock. Intermarriage between the Portuguese and indigenous people was common. Although the major European ethnic

[3] These statistics reflect the number of installed accesses. The numbers contained in Table 1 reflect the number of installed accesses "in use".

stock of Brazil was once Portuguese, subsequent waves of immigration have contributed to a diverse ethnic and cultural heritage.

Figure 1 – Map of Brazil

Source: http://www.odci.gov/cia/publications/factbook/geos/br.html

Urbanization has been a major driving force affecting the Brazilian landscape since the mid-20th century. By 1991, in fact, 75% of the total population was living in urban areas. This urbanization has helped to concentrate the majority of the population in the industrialized Atlantic coastal areas of the southeastern and northeastern states best characterized by the megalopolises of São Paulo and Rio de Janeiro as well as the northeastern cities of Salvador (Bahia) and Recife.

Brazil is known for its regional disparities, with the southeastern states such as São Paulo, Rio de Janeiro, and Espírito Santo more industrialized and wealthier than the poorer northeastern and interior states such as Bahia, Rio Grande do Norte, and Amazonas. Consequently, migration from the poorer northeastern and interior regions to the southeastern states has been heavy since 1970. The Brazilian government, however, recently reported that the population flow has turned towards the less inhabited central-western and northern regions.

2.3 Economy

Brazil represents about half of South America's population, territory, and economy. Brazil is endowed with vast agricultural resources, among which are forest products, cocoa, sugarcane, coffee, soybeans, orange juice, tobacco, forest products, and other tropical fruits and nuts.

Brazilian agriculture is well diversified, and the country is largely self-sufficient in food. Agriculture accounts for 8% of the country's GDP, and employs about one-quarter of the labor force in more than 6 million agricultural enterprises. Livestock production is important in many sections of the country, with rapid growth in the poultry, pork, and milk industries reflecting changes in consumers' tastes. Brazil is a net exporter of agricultural and food products, which account for about 35% of the country's exports.

The year 1999 was an important transition for Brazil. Despite acceleration in legislative action, Brazil adopted a three-year fiscal stabilization plan, and signed an agreement for IMF support in the last quarter of 1998. In January 1999, Brazil abruptly switched to a floating rate foreign exchange regime due to continuing capital flight from the country. As a result, the domestic currency fell almost 60% against the dollar in 1999. However, despite dire predictions of negative growth and double-digit price increases, inflation remained in the high single digits and growth was steadily positive.

Due to the devaluation of the currency and the continuing economic slowdown, imports dropped drastically in 1999. Yet, imports rose over 11% in the first five months of 2000 in response to a rise in domestic demand and a 17% increase in exports. Though low, this is an improvement over essentially flat growth in 1998 and considerably better than initial predictions of a contraction in the year 2000. On a cumulative basis, GDP grew 3.1% in the first quarter of 2000 led by an almost 6% expansion in the industry sector, after having contracted by 1.7% in 1999.[4] On a sectoral basis, agriculture led with a 9.5% expansion, although it contracted by 0.8% in the first quarter of the year 2000. The service sector output grew

[4] See http://www.usatrade.gov

Table 1 – Indicators

Area: 8'511'965 km^2	National currency **real**				Year Ending 31.12		
	Unit	**1995**	**1996**	**1997**	**1998**	**1999**	**2000**
DEMOGRAPHY, ECONOMY							
Population	10×3	**156'764**	**158'672**	**160'709**	**162'865**	**165'025**	**167'201**
Households	10×3	40'100	40'600	41'100	42'600	43'200	**45'021**
Gross domestic product	10×6	646'192	778'887	870'743	913'735	960'858	**1'089.688**
Gross Fixed Capital Formation	10×6	132'753	150'050	172'939	179'484	181'813	...
Average annual exchange rate per USD		0.92	1.01	1.08	1.16	1.81	1.83
Consumer price index		100	116	124	128	134	143
Telecom equipment exports	**USD MILHÕES**	...	**65**	**195**	224	**381**	**1'158**
Telecom equipment imports	**USD MILHÕES**	795	**1'500**	**2'170**	**1'770**	**1'300**	**1'524**
TELEPHONE NETWORK							
Main telephone lines*	10×3	13'263	**14'861**	17'039	19'987	24'985	30'926
Main telephone lines per 100 inhabitants*		**8.46**	**9.37**	**10.60**	**12.27**	**15.14**	**18.50**
Residential main lines per 100 households		22.40	25.30	28.60	32.80	41.30	...
% digital main lines	%	**45.80**	**56.10**	67.80	73.20	84.60	92.50
Public payphones	10×3	**367**	**428**	521	589	740	910
MOBILE SERVICES							
Cellular mobile telephone subscribers	10×3	**1'417**	**2'745**	4'550	7'368	15'033	23'188
– Digital cellular subscribers	10×3	—	—	16	1'269	11'375	**20'220**
Cellular subscribers per 100 inhabitants		**0.90**	**1.73**	**2.83**	**4.52**	**9.11**	**13.90**
TRAFFIC							
– National trunk telephone (minutes)	10×6	20'354	22'975	25'400	39'547	41'288	...
– Int'l outgoing telephone (minutes)	10×6	286	359	477	533	591	650
– Int'l incoming telephone (minutes)	10×6	495	639	777	807	839	...
– Int'l bothway telephone (minutes)	10×6	782	998	1'254	1'340	1'430	...
– Local telephone (pulses)	10×6	58'705	59'634	59'100	66'575	66'041	...
STAFF							
Full-time telecommunication staff		92'509	89'536	87'282	**88'038**	**98'508**	**103'856**
QUALITY OF SERVICE							
Faults per 100 main lines per year	%	3.20	3.60	03.80	...	2.80	...
TARIFFS							
Residential teleph. connection		1'118,00	1'118,00	80.00	80.00	50.00	50.00
Business teleph. connection		1'118,00	1'118,00	80.00	80.00	50.00	50.00
Residential teleph. monthly fee		2.70	2.70	7.78	10.00	10.89	14.11
Business teleph. monthly fee		9.42	9.42	13.50	15.00	16.33	21.97
3-minute local call (peak rate)		0.04	0.08	0.10	0.10	0.06	0.07
Cellular connection		331.00	331.00	330.00	330.00	227.00	**30.00**
Cellular monthly fee		27.00	27.00	27.00	28.00	27.00	**20.00**
Cellular – 3-min. local call (peak rate)		0.81	0.81	0.81	0.90	0.87	**0.45**
Cellular – 3-min. local call (off-peak)		0.57	0.57	0.57	0.63	0.61	**0.32**
REVENUE AND EXPENSE							
Total telecom services revenue	10×6	8'618	12'773	16'196	23'405	32'900	46'526
– Telephone service	10×6	6'615	9'614	11'744	17'400	23'800	...
– Mobile communication	10×6	1'070	1'956	3'280	5'600	9'100	**13'500**
CAPITAL EXPENDITURE							
Annual telecom. Investment	**R$Bilhões**	**4'723**	**8'080**	**7'600**	12'300	**12'200**	**16'200**
BROADCASTING							
Television sets	10×3	38'921	45'643	50'573	53'768	56'000	**57'000**
Television equipped households	10×3	32'600	34'000	36'000	37'000	38'000	**39'000**
Cable TV **and MMDS** subscribers	10×3	**1'000**	**1'843**	**2'062**	**1'964**	**1'930**	**2'232**
Home satellite antennas **(DTH)**	10×3	...	...	393	**612**	**869**	**1'195**
INFORMATION TECHNOLOGY							
Personal computers	10×3	2'700	3'400	4'200	5'000	6'100	7'500
Internet hosts	10×3	20	77	117	215	446	877
Estimated Internet users	10×3	170	740	1'310	2'500	3'500	5'000

Source: ITU World Telecommunication Indicators Database, Anatel, ex-Telebrás.

* Note: The number of main telephone lines and the number of main telephone lines per 100 in this table reflect installed accesses "in use".

1.3% in 1999.[5] That number became even greater during the first quarter of 2000, when service sector output rose to 2.4%. Within the service sector, the communications subsector turned in the best performance by far with an 8.6% expansion. Manufacturing activity fell 1.3% and construction by 3.7%. On the other hand, commerce rose 0.6% and transportation rose by 0.9%.[6]

2.4 Human Development, Education, Health

There exists a wide disparity in Brazil between the richer and poorer regions. The nine states of the northeast tend to be much poorer than the southern states with 33% poverty in the former and 11% in the latter. São Paulo, the richest state in Brazil, has a per capita income seven times larger than that of the poorest state, Piauí. Such dramatic differences are due in large part to the varying degrees of regional development, education, health, land ownership, capital assets, and public spending.[7]

Another indicator of the vast disparities in Brazil is the percentage of population with access to drinking water. Whereas in the urban regions 80% have such access, in rural regions only 28% do.[8]

Mortality levels in Brazil have declined over the last several decades. This is mainly due to the decline in mortality of children under the age of five.[9]

Brazilian education has improved with the literacy rate at 85%. School enrolment has increased as well as the number of years of schooling of the overall population. According to a UNESCO report, 2,383,000 students graduated from elementary school in 1999, increasing 50.1% from 1994. During the same period, the number of high school graduates increased by 67.8% (to 1,535,000).[10] Additionally, 8% of the population holds a university degree.[11] Such an increase in demand for education is a direct result of the changes in the labor market and in Brazilian social conditions.[12]

2.5 Political Environment

Brazil is a federative republic made up of 26 states, each state having its own government and governor. The Brazilian Constitutions have maintained the presidential system and three independent powers, the executive, legislative, and judiciary.

The Brazilian national legislature is the National Congress composed of two houses, the Chamber of Deputies and the Federal Senate. The number of members from each State and Federal District in the Chamber of Deputies from each State and the Federal District is proportional to its population. Deputies are elected for four-year terms by direct secret ballot under the system (adopted for all elections for public office) of universal franchise. The Senate is composed of three Senators from each State and the Federal District, who are elected for a term of eight years. Senatorial elections are staggered (one-third and then two-thirds) every four years, in elections held concomitantly with those for the Chamber of Deputies. A Deputy and a Senator can stand for re-election without restriction. In 2001, there are 81 Senators and 513 members of the Chamber of Deputies.

There are approximately 15 political parties in Brazil. Party loyalty is not a high priority in Brazilian government, which results in politicians often switching parties and regularly changing the amount of seats held by members of each party. Moreover, it can be difficult for a Brazilian President to win the support of parties ideologically in favour of his agenda, as it is not uncommon for members of such parties to vote independently and against their President's priorities.[13]

The Brazilian President, who is allowed only one re-election, heads the Executive Branch, which, in turn, consists of 18 Executive Branch

[5] See http://www.state.gov

[6] See http://www.usatrade.gov

[7] See http://www.worldbank.org

[8] See http://www.paho.org

[9] See http://www.paho.org

[10] See http://www.brazlny.org

[11] See http://www.brazil.com

[12] See http://www.brazlny.org

[13] See http://www.state.gov

agencies. The President's powers are clearly defined in the Constitution. The current President, Fernando Enrique Cardoso, was re-elected in the fall of 1998 for an additional four-year term, but is constitutionally prevented from being re-elected.

Judicial powers are vested in the Federal Supreme Court, in the Superior Court of Justice, and regional courts. Specific courts handle electoral, labour, military issues as well as other matters. The justices and judges of all the courts, at both the federal and the state levels, are appointed for life.

The Federal Supreme Court is at the apex of the judicial system. It has its seat in the national capital, Brasília, but maintains jurisdiction throughout the country. It is composed of eleven Justices of proven legal and constitutional training and experience, appointed by the President of the Republic, with the prior approval of the Senate.

3 Sector Reform

3.1 Telecommunications Sector Legislation and Regulation

Brazil's telecommunications sector legislation and regulation is widely regarded as pro-competitive and progressive. The telecommunications sector is considered to be among the most progressive in Brazil due to the large-scale privatization, which was concluded at the end of 1999, and the introduction of open market competition.

Brazil has been through various distinct phases during the past century. In the 1950s the private sector began to invest in Brazilian telecommunications companies and regulation was divided between federal, state, and municipal authorities. Spread throughout Brazil were more than 1,000 telephone companies, many of which were tied to municipalities so the service largely depended on the quality and often the size of the company providing service. Due to the wide range of quality, the Government of Brazil enacted the Brazilian Telecommunications Code (Código Brasileiro de Telecomunicações), which concentrated the regulation and oversight in the Federal Government. The Código also allowed for the creation of Embratel in 1965, the first parastatal telecommunications entity to provide long-distance service. As Embratel grew stronger and started to link the entire country by microwave and other means, the state and municipal systems became weaker and did not have the money to invest in updating and improving their systems. In 1972, Telebrás was created to consolidate the various companies into one telephone company per state that would provide local and state-wide services, with long distance being provided by Embratel which also became part of the Telebrás system. For 26 years, Telebrás held monopoly control over the provision of local, long-distance, and international telecommunications.[14]

In 1995, the new Administration conducted an analysis of telecommunications in Brazil. The analysis showed that in 1994, there were 13 million fixed telephones and 800,000 mobile telephones in Brazil – up from 2 million fixed telephones in 1972. In addition, 98% of the residential phones were in 20% of the wealthiest families' homes, with the other 80% of the population in urban and rural areas without telephones. After reviewing these figures and acknowledging the huge pent-up demand for telecommunications services, the government set a goal of 33 million telephones in Brazil by the end of 2001, an increase of nearly 3 million telephones per year. Given that Telebrás had installed 1.5 million phones per year during the past 22 years, the government realized that substantial changes were in order. Outside investment was necessary and support for privatization began.

The Brazilian Congress, also responding to the changing global economic climate that prescribed open markets and competition through privatization of state-run companies, as well as reduction of burdensome internal and external debts, decided to end the government's monopoly over telecommunications services in 1995 with the adoption of Constitutional Amendment No. 8, which authorized the entry of private, domestic, and foreign investment into the telecommunications sector.

The Ministry of Communications built on this by preparing the PASTE restructuring programme (Programme for the Recuperation and Expansion of the Telecommunications and

[14] Meeting with Renato Guerreiro, President of Anatel, April 17, 2001.

Postal Systems) for the years 1995-2003. This initiative set forth the rules and goals for telecommunications and postal services, including investment proposals and future projections, and served as a useful guide to investors providing them with a reliable sense of the growth of the telecommunications sector in Brazil.[15] Although there was initial scepticism regarding the nation's ability to meet the PASTE goals, in the end, Brazil surpassed the program's targets.

Shortly after the Constitutional Amendment, the Minimum (or "Specific") Law was passed in 1996.[16] This law gets its name because it required only specific market segments to be open to competition, namely mobile cellular, satellite telecommunications signal transportation, and value-added services (VAS). The Constitutional Amendment allowed for the privatization of the telecommunications market only when a law was passed detailing the role of the state and new rules and guidelines for the telecommunications sector. Furthermore, the Constitutional Amendment also provided that an interim law would not suffice for long-term privatization. The Communications Minister, at that time, Sérgio Motta, realizing that a comprehensive new Telecommunications Law would prove too time-consuming and controversial, proposed the Minimum Law to Congress to open immediately at least certain portions of the market to the private sector. [17]

Both the Constitutional Amendment and the Minimum Law of July 1996 paved the way for a new law, the Telecommunications Law of 1997 and comprehensive sector reform. The General Telecommunications Law outlined the role and duty of a new regulatory agency for the sector, Agência Nacional de Telecomunicações (Anatel) and changed the role of the state from telecommunications services provider to sector regulator and policy maker. This law is discussed in greater detail in Section 5.

Prior to the privatization, Brazil's Ministry of Communications (MINICOM) was the government body responsible for the regulation of all telecommunications services in Brazil. Anatel quickly assumed MINICOM's regulatory role upon its creation in the fourth quarter of 1997. Unlike MINICOM, which was led by a politically-appointed Minister and dependent entirely upon government mandated budgets, Anatel is an independent agency that is financed through license and spectrum fees as well as government appropriations. Anatel's greater autonomy has increased both regulatory responsiveness to the sector and investor confidence in the transparency and fairness of the regulatory process in Brazil.

3.2 WTO Commitments

Brazil was one of the founding members of the World Trade Organization (WTO). Multilateral agreements are an integral part of Brazil's legislation and have the same weight as ordinary laws. As a developing country, Brazil benefitted from a transition period to implement a number of commitments under various WTO Agreements. Since 1996, Brazil has been involved in 16 cases under the WTO dispute settlement mechanism, seven as a complainant and nine as a defendant.

Brazil was an active player in the Negotiations on Basic Telecommunications, and joined in the Fourth Protocol of the GATS with commitments that reflected the fairly closed regime in place at the time. However, Brazil also committed to submit revised commitments once the Telecomuiations regime was liberalized. Brazil submitted a new schedule to the WTO Council for Trade in Services for consideration by Members.

The revised schedule provides that:

1. Suppliers must be constituted according to the Brazilian legislation, which requires head office and management located in Brazil, and ownership of the majority of the voting shares by natural persons residing in Brazil or companies duly constituted under Brazilian law.

[15] Anatel Magazine, "Updated Edition of PASTE Published."

[16] Minimum Law, Law No. 9295/96, 19 July 1996.

[17] The Minimum Law was complemented by Decree 2,056 in November 1996 that dealt with regulation of the mobile cellular service, and by Regulation 1,533 in November 1996, the "General Telecommunications Rule" which divided the country into ten distinct areas for the provision of Mobile Cellular Services (SMC). Article provided by See http://www.brasilemb.org, "the Privatization of the Brazilian Telecommunications Sector," by Ana Novaes.

Figure 2 – The Five Major Steps Towards Liberalization of the Brazilian Telecommunications Sector

STEP ONE	STEP TWO	STEP THREE	STEP FOUR	STEP FIVE
Constitutional Amendment No. 8	Minimum Law	General Telecommunications Law	Privatization	Open Market
August 15, 1995	July 19, 1996	July 16, 1997	July, 1998	January 1, 2002
Ended state monopoly but slowed Telebrás privatization process by requiring that a new telecommunications law be passed.	*Opened cellular, VAS and satellite to the private sector*	*Detailed state's role in the telecommunications sector creating Anatel in November 1997 and also outlined general guidelines regarding all telecommunications services.*	*"Managed Competition" phase wherein the number of local and long-distance providers is limited until 2002.*	*Complete liberalization of the telecommunications market.*

2. Value-added services were not regulated and could be supplied with no restrictions.
3. Up to two suppliers of local, long-distance inter-regional and international voice telephone services will be allowed and up to four suppliers of long-distance intra-regional voice telephone services will be allowed. Other licenses may be granted from 31 December 2001.
4. The full Reference Paper be adopted, subject to three footnotes refining certain Reference Paper obligations, including a preference to free negotiation in matters such as interconnection costs and unbundling of charges, applying the interconnection related concepts of cost-oriented rates and economic feasibility only to voice telephone services, and Brazil's intention to implement universal service obligations through an asymmetrical treatment of operators.[18]

[18] See http://www.wto.org. Under the certification procedures, the schedule would be considered certified if, within 45 days, no member has filed an objection. Normally it would become legally binding at the end of this period if there are no objections. Brazil, however, has specified in its request that it would instead enter into force upon ratification in Brazil.

Any objections by members must have been filed within 45 days of issuance of the request for certification, or 11 June 2001 in this case. On 11 June 2001, four WTO members (the U.S., EU, Japan, and Hong Kong SAR) filed objections in which they requested further consultations with Brazil and highlighted concern about a provision in Brazilian legislation granting executive discretion with respect to foreign equity ownership levels.

Through consultations with these members, Brazil will have three options: 1) to persuade the members to accept the commitments as drafted and lift their objection 2) to agree to modify the schedule in a manner acceptable to the members, or 3) to withdraw the request for certification leaving their commitments to the WTO as indicated in the Uruguay Round schedule, in which there were no telecommunications commitments. If Brazil were to choose the third option, negotiation and submission of its telecommunications commitments would likely be conducted in the context of the round of multilateral negotiations on services which is already in its initial stages, and thus enter into force whenever that trade round concludes.

3.3 Ownership of Operators

Prior to the 1998 privatization, the two main players in the Brazilian telecommunications sector were Embratel and Telebrás. Embratel was created in 1965 with the goal of connecting the entire country and providing automatic long distance and international communications. At that time, on the local service side, there were more than 1,000 small and medium-sized state and municipal telephone companies operating in Brazil. Telebrás was created in 1972 to coordinate these diverse services. Telebrás immediately acquired and absorbed these companies and consolidated them into companies operating at the state level. Embratel became part of the Telebrás system, although it continued to operate long distance and international services on a monopoly basis. While Telebrás succeeded in improving telecommunications services in Brazil, its monopoly control over telecommunications services served to hinder further development and investment by the 1990s.

The opening of the telecommunications sector in Brazil, with the new Telecommunications Law of 1997 and the auction of Telebrás in 1998, brought a significant influx of new investment from foreign and domestic telecommunications players into the sector. The 1998 privatization was carried out by dividing the country into three regions for fixed-line local services, one area for national long-distance services and eight regions for mobile services, known as "A band". Duopoly competition in the mobile sector began with the introduction of private operators in the mobile regions. These competitors were known as the "B band" operators.

Nineteen billion dollars were generated as a result of the Telebrás auctions. This was regarded as a huge success for the country. Various consortia of firms from Brazil, Canada, Italy, Portugal, Spain, the United States and other countries won bids. The ownership structure in the fixed-line and mobile markets is outlined in Figures 3, 5 and 6. In addition, hundreds of other entities have been authorized to provide a wide variety of telecommunications services in Brazil.

3.4 Future Liberalization Plans

The Brazilian telecommunications market is entering the final phases of liberalization towards free competition, which will be effective as of 1 January 2002. The current system allows companies to operate in an environment of "controlled competition" in which their rates, markets, and investment requirements are fixed by concession contracts with Anatel. In the fixed services market, companies will be able to compete freely if they have met the universalization and quality of service obligations set for 2003 by the end of 2001. In addition, there will be no restrictions on the number of operators in the market. Most companies are attempting to satisfy these goals in advance of their deadlines.

On the mobile front, in 2002, incumbent mobile operators are expected to be allowed to merge within each of the three new concession areas (see Section 4.2). Fixed-line operators are also expected to be able to bid for mobile licenses, which will allow for the eventual merger between fixed and wireless operations. As part of the newly competitive market, interconnection fees between wireless and wireline operators will be set by the market, and not by the government. A complete liberalization of rates and merger restrictions is expected to follow.

By the end of August 2001, the regulations for the opening of the market had not yet been issued. Like all Anatel decisions, the framework for full competition will be issued as a public consultation and the decision will be made after public input. The private sector, particularly companies that would like to compete with the local service providers, is anxious for Anatel to issue the regulations so that they can apply for the appropriate regulatory authorizations to operate as early as possible in the fully competitive market.[19]

The local companies, who are currently restricted to in-region long distance, are anxious to compete in national and international long distance. Other companies are looking at their options in the local market. These new entrants expressed concerns that delays in publishing the regulations will be more advantageous to the incumbents (old Telebrás companies). The incumbents, on the other hand, are all trying to meet or beat their universalization and build-out

[19] Meetings with Embratel, Intelig, Vesper, Brasil Telecom and Telesp, April 16-20, 2001.

obligations before the deadlines given in their concession contracts in order to receive authorization from Anatel to compete in other sectors of the market. This tactic has worked well for the consumer since almost all the local companies are putting large amounts of resources to reach more customers.

3.5 Convergence

Anatel, with the assistance of ITU, is studying the impact of technological developments in the telecommunications sector, including broadcast and information technology, on the Anatel organization. The agency is also reviewing its current organizational structure to determine whether it should be reconfigured to more easily deal with convergence and open competition after January 2002.

Anatel is currently conducting a public consultation on multi-media services, including fixed, mobile and media services. The consultation looks at the following:

- A multi-media fixed service, described in the public consultation, would be broad enough to support several applications, for example, broadband access to Internet, data communications, audio and video, and telemedicine and tele-education. The current view is that the fixed multi-media service would not be allowed to provide public fixed telephone service, free over the air radio and TV, or pay TV. The service rules are independent of the technical means required for the provision of the multi-media service, including radiofrequency spectrum.
- The consultation includes no specific restrictions on whether the mobile service is second, 2.5 or third generation. Therefore, multi-media applications are not restricted. The only limitation is spectrum where the present bandwidth is 35 MHz per operator and the IMT-2000 (International Mobile Telecommunications-2000) spectrum has not yet been assigned.
- A special regulation is under review to treat electronic mass communications services the same as the three pay TV systems: cable TV, MMDS (Multichannel Multipoint Distribution System), and DTH (Direct-to-Home). The purpose of the regulation is to set rules that are independent of the technology and to take into account convergence of pay TV and telecommunications services, including multi-media applications. (See Section 4.4)

In addition, there is a draft law on Mass Media Communications that is under discussion in the Congress that would give Anatel the entire broadcasting portfolio rather than just the frequency assignments and oversight/enforcement of the broadcasting sector.

4 Market Structure and Growth of the Communications Sector

4.1 Fixed-line services

As mentioned previously, Brazil is divided into three areas for local service and one for national and international long-distance service.[20] The fixed-line network has been steadily expanded throughout the 1990s from a total of 13.3 million lines in 1994 to more than 38.3 million lines by the end of 2000.[21] This number exceeded PASTE's projections of 35 million for the end of 2000. The teledensity (number of lines per 100 inhabitants) in the same period increased from 8.6 to 23.1.

Competition in local telephone service has grown as a result of the privatization. This is due to the entrance in the telecommunications market of the so-called "mirror companies". The "mirror companies" are parallel operators that compete in the same regions as the established (privatized) fixed-line and long-distance concessionaires. These companies were auctioned in 1999 and began operating in January 2000. Mirror SA (now called Vesper-NE) became the mirror for Tele Norte Leste (now called Telemar); GVT became the mirror for Tele Centre-Sul (now called Brasil

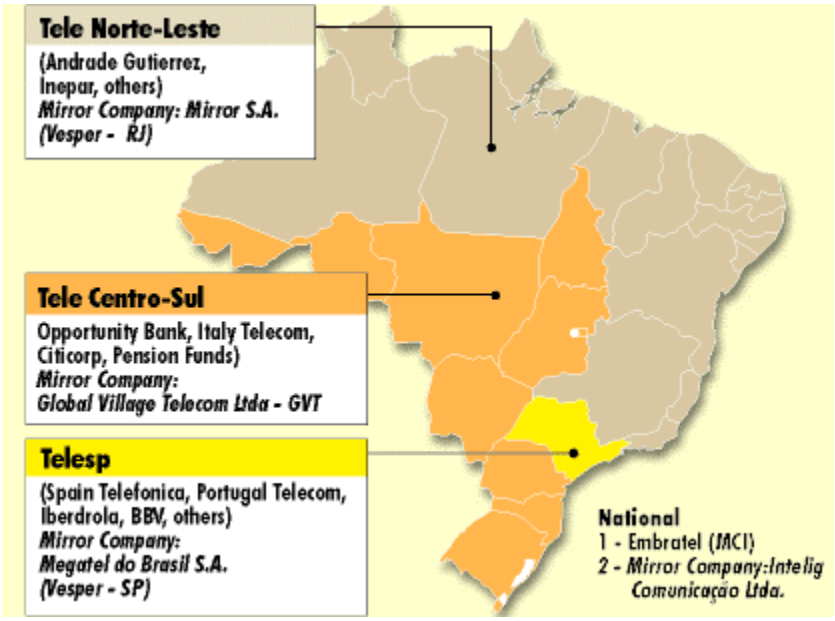
[20] The three local service operators are Tele Norte Leste (now called Telemar), Tele Centre-Sul (now Brazil Telecom), and Telesp. Embratel operates national and international long-distance service.

[21] These statistics reflect the number of installed access lines. The numbers contained in Table 1 reflect the number of installed access lines in use.

Telecom); Megatel (now Vesper-SP) became the mirror for Telesp; and Intelig became the mirror for Embratel (see Figure 3). Six months after starting operation, the mirror companies accounted for 3.3 million of Brazil's installed phone lines. These companies did not have the same universalization obligations that the ex-Telebrás companies had but still had quality of service and build-out obligations imposed by Anatel.[22]

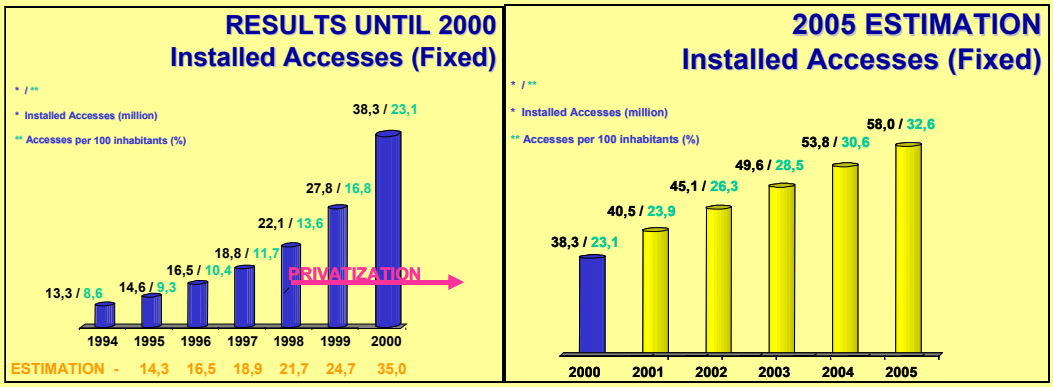
[22] For more details on the licensing regime, see Section 8.

Figure 3 – Fixed-Line Operators



Source: Tele Norte Leste is now called Telemar; Tele Centre-Sul is now called Brasil Telecom.

Figure 4 – Growth of Installed Access Lines (fixed) 1994- 2000, Estimates 2001-2005



Source: Anatel.

In early 2001, in an effort to improve phone service in many smaller cities Anatel authorized "small mirror" companies to offer services to areas in which regional mirror companies choose not to operate. Allowing the small mirror companies to provide services helps to fulfill Anatel's goal of providing telecommunications services in every municipality in Brazil. In fact, in 2000, 39% of Brazilians had the ability to choose a second local operator, and this percentage is projected to grow to 67% by the end of 2001.

The number of public pay phones has also skyrocketed. Brazil counted 740,000 public pay phones in 1999, up from 227,000 in 1990. The corresponding density of public pay phones per 1,000 inhabitants increased from 2.2 in 1994 to 4.5 by 1999. Moreover, if the new operators meet their commitments, there will be more than 1.6 million public pay phones by 2005. With a fixed-line teledensity of around 32 per 100 inhabitants expected in 2005, coupled with an additional 58 million mobile phones, the need for public pay phones will be reduced in the future. Telephone companies, in many countries with high teledensities, are taking out their pay phones because they are no longer utilized. This will be an issue that Anatel will face as teledensity increases and the demand for pay phones decreases.

Quality of service and modernization has increased with the expansion of fixed lines. For example, the level of network digitalization increased from 35.5% in 1994 to 84.6% in 1999. Faults per 100 main lines per year fell from 4.7 in 1990 to 2.8 in 1999.

At the same time, Brazil's notorious regional inequalities remain evident in fixed-line services. For example, the industrialized southeast represented by São Paulo state had a teledensity of 23.1 lines per 100 inhabitants in 1999, while the agricultural poorer region of the northeast had a teledensity of 9.1 in the same year. Such disparities cover all telecommunications statistics in Brazil. While prescient of these sharp disparities, Anatel does note that telecommunications access and service is increasing in all sectors and that the gap between the richer states of the southeast region and the poorer states of the northeast and interior regions is in fact closing.

4.2 Mobile

4.2.1 A and B Band – Mobile Cellular Service (Serviço Móvel Celular – SMC)

Brazil is divided into ten operating areas for Mobile Cellular Services (Serviço Móvel Celular – SMC), and three operating areas for Personal Mobile Services (Serviço Móvel Pessoal – SMP). Privatization and the introduction of competition did much to increase the number of cellular subscribers from 7.4 million in 1998 to more than 15 million a year later. Anatel believes that the number of cellular subscribers will total 58 million by 2005 equal to the projected number of fixed-line subscribers that year.

In Brazil, four different cellular technologies are operating today – one analogue: AMPS (Advanced Mobile Phone Service) and three digital: TDMA (Time Division Multiple Access), CDMA (Code Division Multiple Access) and GSM (Global Systems for Mobile Communications). The digital technologies have gradually replaced the analogue system due to their advantages in spectrum efficiency and network management, as well as the additional services that they present, such as access to the Internet and other forms of data communication. By 1999, 66% of handsets were digital.

The mobile cellular service was established in Brazil in 1990; and until 1997, only the Telebrás system companies and four independent companies offered it. A model establishing competition for the sector was developed, with the promulgation of the Minimum Law, which enabled the entry of new providers for this service. The objective of the model was to introduce full competition, and for purposes of accomplishing this goal, defined a transition from the monopoly phase to a duopoly phase, and, finally, to full competition.

The duopoly phase was established in 1997 through the competitive bidding process for SMC provision in the 800 MHz band in the 10 operating areas into which the country was divided. The winning companies are referred to as the "B Band" companies. (See figure 6.)

The Telebrás system companies and the four independent companies were reorganized. They were grouped according to the areas of SMC

provision defined in the Minimum Law, and were privatized in July 1998. These companies became know as the "A Band" companies. (See figure 5.)

The B Band companies began operating in 1997. By the end of 1997, they provided service to only 15,700 of the 4.6 million subscribers in the country. In July of 1998, at the time of the privatization, the B Band companies had 447,800 of the nation's 5.6 million subscribers.[23] By December 2000, B Band participation in the market rose to 32.5%. Competition is expected to increase even further with the entry of operators in the three new concession areas. Recent regulatory changes by Anatel, moreover, will allow consolidation among A and B Band operators. The most significant result has been the merger of mobile assets of Telefónica and Portugal Telecom, as well as Bell Canada International, Telmex and SBC Communications into Telecom Americas.

[23] PASTE Report.

Figure 5 – Band A mobile operators

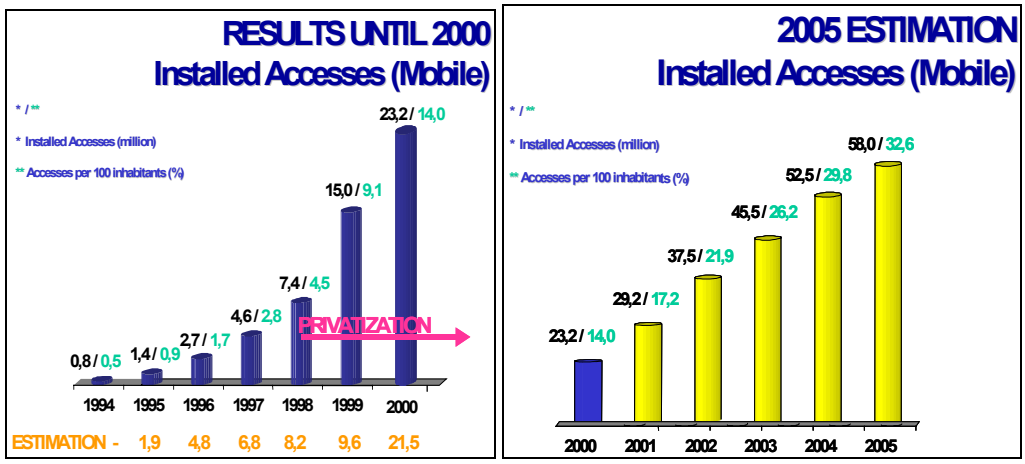
BAND A	Area	Holding	Sale (USD millions)	New Owner
	1	Telesp Celular	3,082	Portugal Telecom
	2			
	3	Tele Sudeste Celular	1,168	SpainTelefonica
	4	Telemig Celular	649	TIW (Canada), Opportunity and pension funds
	5	Tele Celular Sul	601	Telecom Italia
	6			
	7	Tele Centro-Oeste Celular	378	Splice do Brasil
	8	Tele Norte Celular	161	TIW (Canada), Opportunity and pension funds
	9	Tele Leste Celular	368	Iberdrola and Spain Telefonica
	10	Tele Nordeste Celular	567	Telecom Italia

Figure 6 – Band B Mobile Operators

BAND B	Area		Sale (USD millions)	New Owner
	1	São Paulo Metropolitan Region	2,453	BCP (Bell South, Safra, Oesp and Splice)
	2	São Paulo State (excluding capital)	1,223	TESS (Telia, Eriline and Primav)
	3	ES and RJ	1,327	ATL Algar, Telecom Leste
	4	Minas Gerais	457	Maxitel (Telecom Italia, Vicunha and UGB)
	5	PR and SC	729	Global Telecom (Suzano, Inepar, Motorola, Global Telecom, DDI)
	6	RS	315	Bell Canada, TIW, Opportunity and pension funds
	7	AC, DF, GO, MS, MT, RO and TO	14	Bell Canada, TIW, Opportunity and pension funds
	8	AM, AP, MA PA and RR	51	Splice do Brasil
	9	BA and SE	232	Maxitel (Telecom Italia, Vicunha and UGB)
	10	AL, CE, PB, PE, PI and RN	512	Safra, Bell South, Oesp and Splice

Source: http://www.infraestruturabrasil.gov.br/english/perfis/tele.asp

Figure 7 – Growth of Installed Access Lines (mobile) 1994-2000, Estimates 2001-2005



Source: Anatel

4.2.2 C-E Bands – Personal Mobile Service (Serviço Móvel Pessoal – SMP)[24]

In June 2000, Anatel held one of its most difficult proceedings thus far in determining whether to use the 1.8 GHz or 1.9 GHz band for 2nd generation mobile services (SMP – Serviço Móvel Pessoal) bands in Brazil. The proceeding was particularly contentious in that the 1.8 GHz band was generally favoured by European manufacturers and operators for implementation of the European standard GSM (Global System for Mobile communications), while North American operators and manufacturers, as well as CITEL (Inter-American Telecommunications Commission), the telecommunications arm of the Organization of American States (OAS), generally favoured the 1.9 GHz band for the possible implementation of services based on GSM, CDMA and TDMA standards. In addition, most analysts, operators and manufacturers thought that Anatel would choose the 1.9 GHz band due to the fact that current Brazilian operators were using CDMA and TDMA technologies in the cellular bands.

Confounding the analysts, the Anatel Counselors decided on June 21, 2000, by a vote of 4-1, to use the 1.8 GHz band for SMP services. The only 1.9 GHz proponent was Anatel president Renato Navarro Guerreiro. The majority felt that the selection of the 1.8 GHz band would bring cheaper handsets, high-speed wireless data transmission and Internet access. Others pointed to the fact that the decision would leave the 1.9 GHz band open for third generation mobile deployment. Moreover, the expectations of European regulators for revenues from third generation auctions were very high at the time of the Anatel decision. Proponents of the 1.9 GHz band, however, charged that the Brazilian market would suffer from a lack of competition, as the choice of the 1.8 GHz band effectively mandated the deployment of GSM technology, while 1.9 GHz supported all three standards (GSM, CDMA and TDMA).

Thus, Anatel chose to issue nine licenses in the 1.8 GHz band for SMP services – three regional operators in each of the three new concession areas (known as C, D and E Bands). The three regions were São Paulo state, south-central Brazil and sixteen states from the Amazon to the east.

On 25 April 2001, Resolution 260 was passed by Anatel approving a directive regarding the use of expansion frequencies in the 900 MHz band for C, D, and E block SMP licensees.

[24] In February 2001, 1 US Dollar (USD) = 1.97000 Brazilian Real (R$); in March 2001, 1 US Dollar (USD) = 2.04547 Brazilian Real (R$); and in April 1 US Dollar (USD) = 2.15200 Brazilian Real (R$).

C Band

Anatel's first attempt to auction the three regional licenses in the C Band failed on February 2, 2001, after only one company, Serranby Participações, a venture part-owned by fixed-lined operator Brasil Telecom (part owned by Telecom Italia), handed in a blank bid. Sources said that the company thought it had to hand in an envelope for the C Band auction in order to participate in the next two auctions. Faced with this lack of interest, Anatel decided to halt the C Band auction that was scheduled for February 6, 2001. The auction was troubled by a federal court injunction that was only lifted on January 30, 2001 as well as the fact that third generation mobile license sales in other parts of the world, especially in Europe, had burdened many potential bidders with large debts.

On April 26, 2001, Anatel published proposed new rules for the auction of the C Band (which changed the terms to be one national license and not three regional ones) and began its proceeding regarding the re-auction of the C Band. The Brazilian fixed wireline companies were no longer restricted from bidding on the C Band, but any such company winning the concession would have had to create a subsidiary to operate the service and meet performance targets. The minimum price for the C Band license was also dropped from R$ 2.35 billion in the first auction to R$2.19 billion. In spite of these measures, on August 16, 2001, Anatel decided not to auction the band due to lack of interest from potential bidders. Anatel is currently evaluating its options in this band.

D and E Bands

Anatel completed its auction of the D Band on February 14, 2001, when Telecom Italia won two of the three regional licenses for R$ 1.5 billion. Telecom Italia paid 23% above the asking price for the license to operate in São Paulo state, as well as the license for the much larger region that stretches from the Amazon's southern tip to the Argentine border. Telecom Italia said that it would invest R$ 3 billion to build out its two new networks over five years.

Local operator Telemar won the other D Band license for R$ 1.1 billion for an area that covers the 16 states where the carrier already operates fixed-line services. Brasil Telecom, part owned by Telecom Italia, pulled out of the auction the day before, saying that Telecom Italia had imposed restrictions on its participation.

Anatel held auctions for the E Band on March 13, 2001, selling only one of the three licenses to Telecom Italia Mobile. Telecom Italia Mobile was the only bidder for the license that covers 16 states from the northern Amazon region to the east. Its winning bid of R$ 990 million (5.32% above the minimum price of R$ 940 million), combined with its two D Band licenses, makes the company the only operator to have a national footprint in Brazil. Because it now has a national footprint, Telecom Italia returned the spectrum for the four areas where it already held A or B Band licenses. Telecom Italia faces tough competition from Telefonica and Portugal Telecom, who are already leaders in Brazil's mobile market and plan to merge their mobile assets.

No companies bid for the E Band licenses in the two other regions of São Paulo state and the region that spans Brazil's center-west to south. Anatel tried to resume the E Band auction process on May 30, 2001, when interested companies were to deposit 10% of the minimum amount for the auction in the Liquidation and Custody Brazilian Company (CBLC). The new auction, however, was cancelled on May 31, 2001, after no interested companies submitted deposits with the stock exchange of Rio de Janeiro.

4.2.3 Pre-Paid Services

Pre-paid mobile cellular services were launched in December 1998. Previously, mobile cellular services were used predominantly by high-income groups. The advent of competition and pre-paid programs spread these services to lower-income groups. Competition reduced the price for the service. Pre-paid services strove to guarantee simpler and cheaper access by eliminating monthly subscription charges and activation fees and making registration requirements more flexible.

In December 1999, one year after its implementation, pre-paid services accounted for 38% of mobile cellular subscribers and were responsible for 86% of the growth in new mobile subscribers in that month. By

December 2000, pre-paid services accounted for 59% of mobile cellular access, even though pre-paid services are significantly more expensive on a per minute basis than contract services.

4.3 Internet

Internet services are considered to be value-added services in Brazil and therefore are not regulated by Anatel. Likewise, Anatel has stated that IP telephony should not be considered a new service requiring regulations distinct from "traditional telephony."[25] Brazil has, however, created an Internet Management Committee, including representatives from Anatel, the Ministry of Science and Technology, the Ministry of Education, the Ministry of Communications and Industry, and others, that addresses issues such as domain names.

With Internet traffic growing fourfold since 1998, Internet services are one of the fastest growing sectors within the telecommunications market. According to Anatel figures from June 2001, there are 10.4 million Internet users in Brazil. Sixty per cent of these users are younger than 30 years old. Seventy-one per cent of Internet connections are through cable modems. In 2000, there were 60,000 XDSL subscribers, a figure that is expected to grow to one million by 2003. Home users average 33 connections per month with a 40-minute duration for each connection.

Embratel expects Internet traffic, now concentrated in the São Paulo-Rio areas, to increase by 70% in the next three years. Embratel estimates that 60% of Brazilian traffic is generated in São Paulo, 30% in Rio and the remaining 10% in the rest of the country, particularly Brasília, Belo Horizonte, Porto Alegre, Curitiba, Florianópolis, Salvador and Recife.

The building of the Brazilian Internet infrastructure started in 1988, when some regional academic communication networks started to be deployed across the country. The most important of those initiatives integrated both universities and research centers through the ANSP network, owned by Fapesp, a foundation that supports academic research in the state of São Paulo, and integrated both universities and research centers.

Seeking to coordinate all Internet-related efforts and secure integration of regional networks into one national network, the Ministry of Science and Technology created RNP (Rede Nacional de Pesquisa) in 1989. RNP's mission was to operate a backbone network dedicated to teaching and research institutions and government agencies. The effective implementation of such a backbone took place in 1992, using Fapesp's international connection. By 1995, when the commercial ISP market was opened to private companies, RNP had national coverage. At present the RNP network serves more than 800 institutions in 26 Brazilian states.

After the opening of the ISP market in 1995, some companies such as Global One started to provide connection services using their own Internet backbones. Since long-distance communications were still a monopoly operated by Embratel as part of the Telebrás system, such backbones had to be built over Telebrás' data transmission networks. By June 2001, there were more than 300 Internet providers, the 10 largest of which had 80% of the market share. Monthly subscriptions average more than USD 10.

After the privatization of Telebrás and deregulation in 1998, the new carriers invested in fiber optic networks, submarine cables and other telecommunications infrastructure. The privatized companies simultaneously initiated an ambitious program to expand and improve their networks. For instance, Telefónica built an IP network covering the whole state of São Paulo and interconnecting all the states included in its concession area to its own Internet backbone.

Embratel, now controlled by WorldCom, was the first operator of the commercial backbone network. Embratel today owns the largest Internet backbone network in Latin America by transmission capacity and coverage. It has connection points in over 110 cities and in all Brazilian states.

[25] Presentation by Renato Navarro Guerreiro, President of Anatel, ITU Policy Forum on IP Telephony, Geneva, March 2001.

Figure 8 – Brazilian Internet Backbone Network

4.4 Cable TV

Eighty-five% of Brazil's 47 million households have a television. Nevertheless, the introduction of paid television services has had a slow start. According to results issued by the ABTA, (a Brazilian telecommunications industry association), Brazil's cable TV and broadband market grew 3 % to 3.5 million subscribers during the first quarter of 2001.

Anatel classifies subscription television services, including cable TV services, as "pay-TV services." The technologies included in this classification are transmission by restricted physical means – Cable TV, transmission by terrestrial microwaves – MMDS (Multichannel Multipoint Distribution System) and satellite transmission – DTH (Direct to Home). The majority of "pay-TV" subscribers are cable subscribers.

Pay-TV service is a relatively recent arrival in Brazil and has been subject to significant structural modifications as a result of global trends. Its presence in the Brazilian market is still relatively small. Nevertheless, it is projected to grow at an accelerated pace.

Pay-TV has demonstrated a capacity for growth throughout the world, particularly in the more developed countries. In the United States, for example, pay-TV services already reach 82% of households. In Latin America, including Argentina and Uruguay where penetration of the service is above the average for the region, pay services exhibit densities that are considered low, less than 20%.

In Brazil, pay-TV density, or the number of subscriptions per 100 households, reached 6.5 at the end of 1999 compared to 1.1 in 1994. Anatel expects a density of 32.7 subscriptions per

100 households by 2005. Competition in the pay-TV segment has grown perceptibly. In 1994, pay-TV services were provided by essentially five groups, which controlled 67% of all operations; by the end of 2000, there were more than 100 operators providing the service throughout Brazil.

Competition has brought down the average cost of the basic pay-TV service package, from R$ 68.00 in 1998 to R$ 40.00 by the end of 2000, a 41.2% reduction. This reduction is even more dramatic considering the devaluation of the Real in the same period of approximately 50%. Nevertheless, this price still prevents a large portion of the Brazilian population from gaining access to the service.

Anatel faces another difficult decision regarding the choice of a standard for digital technology in Brazil and is conducting a public consultation on this issue that is expected to last through the August 2001. There are three competing standards for Anatel to choose from – Japanese, American and European. Recent field tests by members of the Brazilian Association of Radio and Television Broadcasters, commissioned by Anatel, concluded that the Japanese system had both the best fixed reception for normal living room television sets and the most technologically advanced mobile capabilities of the three standards. Anatel, however, has to consider many aspects in its proceeding, such as: expectations of Brazilian users; Internet access and multimedia applications; market, service provision and infrastructure; economies of scale and standardization; investments, financing and business models; and transition plans. Anatel also considers the product quality and international agreement prior to the decision as determinant factors.

5 Institutional Structure

5.1 Legislation Creating the Regulatory Body

Anatel was created by the General Telecommunications Law of 1997, which also provided the guidelines for the privatization of Telebrás. Title I, "Creation of the Regulatory Organ," reads "The National Telecommunications Agency is hereby established, an entity integrating the indirect Federal Public Administration, subject to special government agency rules and connected to the Ministry of Communications, acting as the telecommunications regulatory organ, with headquarters in the Federal District (Brasília), and with powers to set up regional units."

After having been considered by the Congress for seven months, the Telecommunications Law was approved by President Fernando Henrique Cardoso on July 16, 1997. Anatel was inaugurated just four months later, on November 5, 1997.

5.2 Mandate/Mission

Anatel's mission includes social, technical and business goals. The Brazilian telecommunications model is based on three pillars or principles: universalization, competition and quality. Implementation of these three principles has resulted in the establishment of a framework for competition and obligations for operators to provide services to areas that initially may seem economically unprofitable. The intended outcome of such a framework is to effectuate the link between telecommunications service provision and benefits generated to society. Brazil's vast array of technologically advanced telecommunications services – moving it to the forefront of the international community – is evidence that the nation has also succeeded in implementing the third pillar, quality.[26]

In the words of Renato Guerreiro, President of Anatel:

> *The transition from state monopoly to open and full competition among private companies was made possible through the development of a regulatory model that established clear and reliable rules, a model that provided, on the one hand, domestic and international investors alike with a high degree of confidence, and set*

[26] Anatel Magazine, "Telecommunications Market has National Dimensions," November 2000.

forth, on the other, well-defined goals with respect to universal service, service continuity, and quality that have combined to guarantee fulfilment of the present-day telecommunications needs of all Brazilian citizens.[27]

5.3 Structural Independence

Anatel operates separately from the Ministry. Structurally, Anatel enjoys administrative independence and financial autonomy, fixed mandates and job stability for the Board of Directors, and no hierarchical subordination.[28] Immediately following privatization, Anatel worked diligently to establish a foundation for competition in several market areas. Anatel authored and enacted regulations required to build a competitive cellular market and has overseen the auctions for cellular licenses throughout the country. In the first 18 months after privatization, the regulator successfully introduced duopoly competition into every fixed-line and cellular operating region in Brazil. To add to this success, Anatel finalized frequency usage regulation for wireless local loop (WLL) deployment, drafted and approved new regulations governing interconnection, implemented a new long-distance operator selection convention, and guided the cellular market through two years of explosive growth.

Its early success, buffeted by the independence established by the 1997 Telecommunications Law, has resulted in a dramatic transformation of the Brazilian telecommunications competitive landscape by establishing competition in strategic market segments. Furthermore, Anatel remains committed to interacting with the public at large through a sophisticated website, weekly press meetings, conferences, Citizen Rooms (facilities operating in some state capitals where any interested party can initiate a legal proceeding or make any inquiry to the agency) and call centers that handle complaints at a toll free-number that is available 24 hours per day.

5.3.1 Accountability and Reporting Requirements

Anatel is "connected" (Article 8) to the Ministry of Communications, though it is independent. Anatel "enjoys the legal status of a special agency under the authority of the Head of State (who appoints the Members of its Board of Directors and dictates the basic/long-term national telecommunications policies) and bound to the Ministry of Communications."

As set forth in Article 19 of the Telecommunications Law, Anatel must submit its budget plan, annual report and FISTEL's (Fundo de Fiscalização das Telecomunicações) budget plan (Article 49) to the Ministry of Communications for review. Furthermore, proposed rules dealing with internal Anatel matters ultimately directed to the President of the Republic must first go through the Ministry. With the exception of these three actions, Anatel has operated independently of the Ministry.

In addition, the legislative branch retains some oversight over the agency. The Congress can pass laws that Anatel must implement. As a result, the agency works closely with the legislative branch to keep them abreast of developments in telecommunications and regulatory issues before the agency. For example, in the area of universal service, Anatel imposed universalization goals on concessionaires and build-out requirements on licensees to achieve universal service policies in Brazil. In 2000, Congress passed the Telecommunications Universalization Fund (FUST) law that provided for the creation of a fund that can be used to achieve other societal goals and can complement the universalization policies imposed on service providers. While the overall policy for use of FUST funds is determined at the Ministry, Anatel must put the policy into practice.

[27] Presentation by Renato Navarro Guerreiro, President of Anatel, ITU Policy Forum on IP Telephony, Geneva, March 2001.

[28] Presentation by José Leite Pereira Filho, Member of the Board of Directors, "Telecommunications Regulation in Brazil," Brasilia, April 17, 2001.

Table 2 – Division of Responsibility between the Regulator and the Ministry		
Communications Sector	**Role of Ministry of Communications**	**Role of Anatel**
Broadcasting	• Administration of licensing for radio and television • Content regulation	• Excluded from the jurisdiction of the agency • Frequency assignment after licensing by Ministry • Enforcement of licensing provisions
Postal Services	• Creation and proposal of public policy for new services • Oversight of existing services • Monitoring of Brazilian Postal and Telegraph Company	None
Telecommunications	• General policy-making authority for telecommunications sector • Sets policy for universal service fund (FUST) and approves universal service goals • Administers FUNTEL • Determines whether a public regime for licensing is necessary • Approves licensing plan for the public regime • Authorizes the participation of Brazilian companies in intergovernmental consortia to provide telecommunications services	• Regulates the telecommunications sector • Puts universal service policy into practice and oversees implementation • Authorizes and licenses services • Administers and manages the radio spectrum and orbital slots • Enforces rules, licensing conditions, and spectrum assignments • Controls and monitors tariffs • Represents Brazil before international communications entities • Protects consumer interests • Issues rules regarding equipment utilization and product certification • Settles conflicts between service providers

5.3.2 Functions

Anatel has been empowered to oversee most telecommunications regulatory functions including licensing, tariff approval, establishing technical standards and interconnection rates, type approval, frequency allocation, establishing licensing fees and ensuring service quality. There are some areas of shared responsibilities such as dispute settlement, which is conducted both by the regulator and the courts. Anatel's decisions are binding and can only be amended by the courts.

Anatel's principle functions are to:

- issue rules for granting, rendering and using telecommunications services in the public sector;
- establish, control and monitor the tariff structure for each type of service rendered in the public sector;
- sign and manage concession contracts;
- issue procedural rules for providing telecommunications services in the private sector;
- exercise legal authority by controlling, preventing and repressing anticompetitive behaviour in the telecommunications sector, except in circumstances under the authority of the Administrative Council for Economic Defense (CADE);
- administer radio frequency spectrum and use of satellite orbits;
- define types of services based on their purpose, scope, form, means of transmission, technology employed and other factors; and
- oversee the rendering of the services and apply administrative sanctions against violators of telecommunications rules and regulations.[29]

Details on the way Anatel carries out some of these important functions are covered in later sections.

[29] Article 19, Telecommunications Law.

5.4 Financing and Budget

Decree 2338 of October 1997 establishes Anatel as an independent, financially autonomous agency. Anatel administers and draws upon its only financial resource, the Fundo de Fiscalização das Telecomunicações (FISTEL). All revenues associated with concessions, permits or authorizations to provide telecommunications services, and the use of radio frequencies for any services must be deposited into this fund (Article 48 of the Telecommunications Law), which reached a total of R$ 2.3 billion in 2000.[30] Anatel then draws from the FISTEL fund for its annual expenditures.

Article 51 of the Telecommunications Law lists specifies FISTEL's income sources:

a) appropriations consigned in the Federal General Budget, from special credits, assigned budget transfers, and financial transfers;

b) the product of credit operations contracted in the Country and abroad, and of income from financial operations made;

c) income in connection with the exercise of the granting power in telecommunications services under the public system, including payments in connection with the grant, fines and indemnification;

d) income in connection with the exercise of the ruling activity on the exploitation of telecommunications services, in the private system, including payments of the issuance of service authorization, fines and indemnification;

e) income in connection with the exercise of the granting power in connection with the right of use of radio-frequency for any purposes, including fines and indemnification;

f) inspection fees;

[30] Presentation by Renato Navarro Guerreiro, President of Anatel, "Telecommunications: A Decade of Change, Achievements 2000, The Future of the Model," Brasília, January 22, 2001.

g) resources from agreements and contracts entered into with entities, organs and companies either public or private, national or foreign;

h) donations, legacies, subventions and other resources that may be assigned to the Agency;

i) the product of fees, prices or fines, the amounts arising from the sale or leasing of assets, as well as those resulting from publications, technical data and information, including those for bidding purposes;

j) income arising from amounts received by the approval of product inspection reports, and from the rendering of technical services by entities of the Agency;

k) other income.

Anatel participates in several budget planning exercises, including the three-year plan called the "Multi-Year Plan" (Plano Plurianual) that spans the entire Federal Government. Anatel assists in developing the Annual Budgetary Guidelines Law (Lei de Diretrizes Orçamentárias Anuais), which sets the budgetary framework for the next fiscal year. Through the Annual Budget Law (Lei Orçamentária Annual), Anatel is authorized to receive revenues and to disburse funds. The Planning, Budget and Financing Division of the Superintendency for General Administration is responsible for the budgetary duties of Anatel. Anatel's budget for 2001 is R$ 518.4 million, with authorized expenditures of R$ 117.9 million for personnel, R$ 308.7 million for current expenditures, R$ 70.8 million for investments, and R$ 21.0 million for financial investments.[31]

[31] Using the exchange rate for August 1, 2001, in US dollars Anatel's budget for 2001 is USD 209.7 million, with authorized expenditures of USD 47.7 million for personnel, USD 124.9 million for current expenditures, USD 28.6 million for investments, and USD 8.5 million for financial investments. Estimated revenues for 2001 total USD 3,202.2 million.

Anatel's estimated revenues for 2001 are as follows:

Monitoring Fees (TFF & TFI)	R$ 513.9 million
Concessions and Permits	R$ 7,356.7 million
Other Revenues	R$ 2.7 million
Financial Applications	R$ 42.6 million
TOTAL	R$ 7,915.9 million

The Telecommunications Universalization Fund, FUST, (Fundo de Universalização de Telecomunicações) has been authorized at the following level for 2001:[32]

ESTIMATED REVENUES	
Contribution of 1% of corporate gross revenues	R$ 300 million
50% of revenues from licensing authorizations	R$ 700 million
Transfer of licensing authorizations	R$ 25 million
TOTAL	R$ 1,025 million
AUTHORIZED EXPENDITURES	R$ 1,025.0 million
Health	R$ 260.0 million
Education	R$ 673.2 million
Other (remote areas)	R$ 91.8 million

[32] See Section 11 for more details.

It is clear that Anatel brings in far more revenue than it expends, and until now, has been left to carry out its regulatory functions free from political pressures to raise revenues for the National Treasury. By law, Anatel must submit its budget to the President through the Ministry of Communications. The Ministry combines it with the budgets of other areas within the Ministry's purview, such as postal services. The budget is then transmitted to the Ministry of Planning (Ministério de Planejamento) who submits it to the President for final approval. So far, Anatel's budget has never been changed by either the Ministry of Communications or the Ministry of Planning, which has gone far to maintain its independence.

5.5 Procurement Authority

Articles 54-59 of the Telecommunications Law, set forth the parameters for Anatel to use when procuring goods and services. According to the law, Anatel has two main methods of procuring goods and services: the reverse auction (pregão) and the consultation. The reverse auction process begins with a public session in which proposals are initially submitted in writing by interested parties. Offers ranging in the lowest 10% then resubmit bids until the auctioneer declares a winner. Reverse auctions take place in public sessions in which bids and proposals are made. They are very efficient – usually taking no more than eight days.

Not all goods and services, however, are acquired by Anatel through the reverse auction system as simplicity is one of the main goals of this system. Therefore, more highly sophisticated goods and services, that is those with "variable performance standards and quality criteria that cannot be compared directly," are procured via the "consultation" system. Under this method of competitive bidding, a minimum of five highly qualified persons or corporations are invited by Anatel to submit bids for goods or services of an intellectual or conceptual nature, project development, consulting or auditing services, as well as custom-made equipment for Anatel.

These systems reflect the agency's innovative and modern approach that sets it apart from other regulatory agencies in Brazil. In fact, other Brazilian regulatory agencies are beginning to model their procurement systems after Anatel's.

The reverse auction and consultation methods for competitive bidding were established mainly through the Telecommunications Law and have proven to be a highly successful means of financial savings. As a result of the 102 auctions held through September 2000, Anatel was able to save R$ 2.9 million in the procurement of goods and services. There is a minimum threshold for the reverse auction and consultation so that if the agency needs goods below the threshold it can procure them directly from the source. Even Anatel's travel agent was chosen through these mechanisms.

The reverse auctions promote a more efficient and transparent method of contracting goods and services. Indeed, these benefits have been noted by the Federal Government, which has now begun to use the reverse auction system in its own procurement practices thereby anticipating a reduction of federal expenditures by approximately 20%.[33]

6 Organization of Anatel

Under the 1997 Telecommunications Law, Anatel was created to be the regulator for the citizens, to look after the public interest, and to provide investors with confidence in the Brazilian marketplace.

Anatel is comprised of two high bodies – the Board of Directors and the Advisory Council. The Board of Directors, the decision-making body, has five members called counselors. The Advisory Council is an independent body that includes congressional, Executive Branch, consumer and operator participants, and provides advice to Anatel on various policy issues.

Under the Board, the 1600 Anatel employees are organized into Superintendents or departments. These departments are organized along service-oriented lines in keeping with Telebrás' structure in order to save time in launching its activities. With major changes in the sector generated by convergence, Anatel is studying a reorganization along functional lines. This will reduce duplicative resources (e.g., there are three Superintendencies that license services).

[33] Anatel Magazine, "Anatel's Example Begins to Re-Shape the Nature of Public Auctions."

The following section briefly defines the different parts of the Anatel structure.

6.1 The Board of Directors

6.1.1 Appointment and Removal of Counselors

The Board of Directors is comprised of five Counselors, including the President of the Board of Directors, Renato Navarro Guerreiro, who was appointed in 1997. All Counselors are appointed by the President of the Republic and approved by the Federal Senate. They are appointed for five-year staggered terms regardless of their political affiliations. This ensures stability of its membership during government transitions, as well as continuity of experience.

When Counselors leave the Agency, they may not represent any person or interest before the agency for one year. Counselors may only lose their office as a result of resignation, final judicial decision or administrative disciplinary proceedings.[34] Non-observance of duties and prohibitions inherent to the position are sufficient to cause loss of commission. The Minister can initiate an administrative disciplinary proceeding conducted by a special commission. No counselor has ever been removed from Anatel.

6.1.2 Required Qualifications

Article 23 of the Telecommunications Law states that "the Members of the Board shall be Brazilian citizens, of highly regarded reputation, university-educated and have a high reputation in connection with his/her specialization, and shall be chosen and appointed by the President of the Republic, upon approval by the Senate." At present, all members have an engineering background.

Members may not hold any other professional or electoral position. They may, however, hold a position in academia. It is also forbidden to have direct or indirect participation in companies involved in the telecommunications sector.

[34] Telecommunications Law, Article 26.

6.1.3 Functions of President of the Board of Directors

The President of the Board of Directors serves as head of the Board and as Executive President of the agency. In the capacity of Executive President, he or she exercises authority over all areas of the agency's institutional responsibilities and attributions, in addition to its operational, functional, and organizational responsibilities and attributions. The President's staff is composed of a cabinet and advisory bodies – Legal Counsel, Inspector General, Consumer Affairs, International Advisory Staff, Technical Advisory Staff, and Congressional and Public Relations Advisory Staff. An Executive Superintendent assists the President in the discharge of his or her executive, institutional and technical duties. Additionally, there is an office of Ombudsman whose chief officer is nominated by the President of the Republic and who acts independently in the preparation, on a biannual basis or when appropriate, of critical assessments of the agency's performance, which are then submitted to the Advisory Council, the Ministry of Communications, other agencies of the Executive Branch and the National Congress.

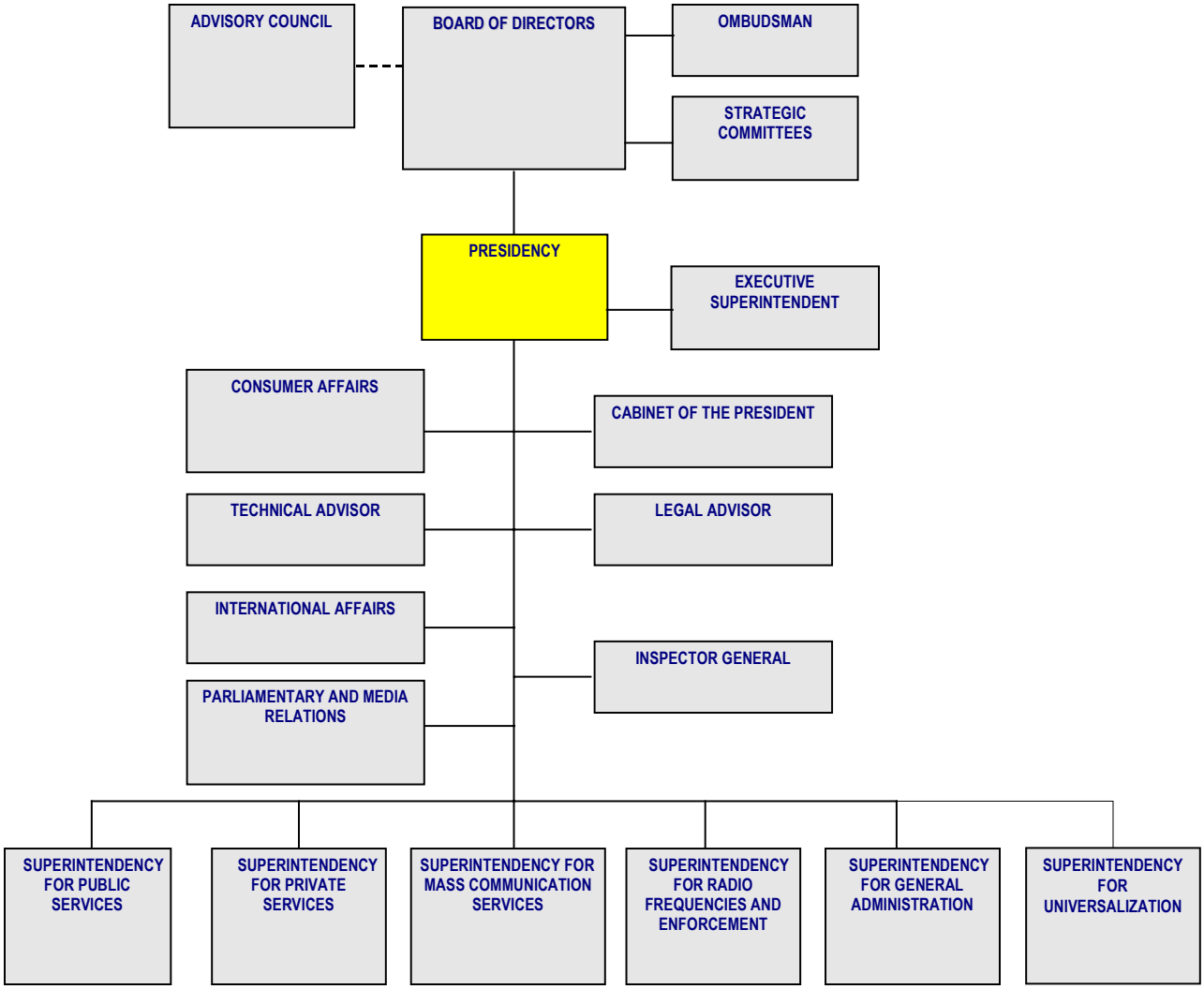
In general, the President spends approximately 30% of his time on functions related to his capacity as President of the Board, and 70% on administration of Anatel.

6.1.4 Functions of Board of Directors

The Board of Directors meets once a week. The agenda for each meeting is made public on the website. While the meetings are not public, they are always recorded and summaries are later made available on the Anatel website. The Executive Superintendent and the Legal Advisor are always in attendance. Decisions are made by absolute majority with each Counselor having one vote. In some cases, the Counselors have used electronic voting when they are not physically present at the meeting, as well as using conference calls to conduct meetings.

A unique element of their working methods is that the Counselors are not assigned certain areas. Instead they are involved in all subject areas facing the Board. This ensures that Counselors have an informed voice in all Board matters.

Figure 9 – Anatel's present structure



Note: The Superintendent for Universalization was created in July 2001.

According to Article 22 of the Telecommunications Law, the Board may, *inter alia*, submit modifications of the Agency's internal regulations to the President of Brazil, by means of the Minister, propose the establishment and changes in government telecommunications policies, approve bid notices and invitations to bid, issue standards, and approve radio-frequency band allocations and orbit occupation plans.

6.2 Advisory Council

The Advisory Council is an institutional body comprised of representatives from society who are not affiliated with Anatel. It was established under Chapter II of the Telecommunications Law with the purpose of giving Anatel a general sense of public concern thereby aiding the agency to better determine its priorities (see also Section 16.)[35] The Advisory Council is composed of twelve members from the Federal Senate, the Chamber of Deputies, the Executive Branch, telecommunications service providers, consumer-protection groups and entities representing society at large. Each of these institutions and entities occupies two seats on the Advisory Council. Advisory Council members are not remunerated. They are appointed for three-year terms and cannot be renewed.

[35] Anatel Magazine, "Public Participation in Anatel's Activities Increases," November 2000.

The Advisory Council renders advice regarding the General Licensing Plan, the goals articulated in the General Plan of Universalization, the government's telecommunications policies and the institution or elimination of services. In addition, the Advisory Council assesses the annual reports of the Board of Directors and may request information from the agency. Summaries of the Advisory Council's decisions are published in the Official Gazette and, simultaneously, in the library section of the agency's website, where the minutes of the Advisory Council's meetings are available as well. The Council meets on a monthly basis.

6.3 Strategic Committees

The Telecommunications Law gives Anatel the flexibility to create Strategic Committees, which are intended to develop studies, proposals and recommendations on specific matters in which representatives of different institutions participate under the jurisdiction of the Board of Directors. The following Strategic Committees are currently operating: the Committee for National Information Infrastructure (C-INI), Committee for Defense of Competition, Committee for Use of the Radio Frequency and Orbit, Committee for the Universalization of Telecommunications Services and the Committee for Consumer Protection. A counselor is assigned to chair each strategic committee and participation is open to users, consumers and operators. The Counselors are always present in these Committees and are assisted by the Superintendents.

6.4 Ombudsman

Anatel has an Ombudsman who is nominated by Brazil's President for a two-year term. There is currently no one filling the Ombudsman post at Anatel. The Ombudsman produces biannual critical evaluations regarding Anatel's performance that are distributed to the Board of Directors, Advisory Council, Ministry of Communications and other Executive Branch agencies, as well as the Congress. In order to carry out its functions, the Ombudsman has access to administrative and substantive support from Anatel.

6.5 Executive Superintendent

The Executive Superintendent is responsible for assisting the President in his or her administrative functions. The Executive Superintendent attends all of the Board meetings and transmits the decisions of the meetings to the other Superintendents. The Executive Superintendent is the chief liaison between the Superintendents and the Board of Directors. There are five persons working in this area.

6.6 Superintendencies

The agency's organizational and operational structure is divided into Superintendencies among which the multiple executive functions of Anatel associated with the Brazilian telecommunications sector and the agency's administration are apportioned. The Superintendents do not normally have direct contact with the Board, they pass through the Executive Superintendent.

The Superintendencies are:

- Superintendency for Public Services

The 105 people working in this department look after public services, which are considered "essential" services. The Superintendency is divided into three divisions: the division of rulemaking and standardization; division of authorization and provision of services; and the division of competition.[36] This Superintendency issues the concession contracts for the privatized Telebrás companies, as well as the permits (permissão) for the mirror and small mirror companies. It is responsible for setting forth the terms and conditions for the universalization and quality of service goals, as well as interconnection. This Department has developed the SAAL system of accomplishments and compliance of obligations, as well as the innovative tariff tracking mechanism SIPT (Information System on Prices and Tariffs/ Sistema de Informações sobre Preços e Tarifas).

- Superintendency for Private Services

The 131 people in this Superintendency are organized into three divisions: satellites and

[36] At the time of the field research, the Division of competition also covered universalization. Universalization functions were transferred to the new Superintendency for Universalization when it was created in July 2001.

global services, personal terrestrial communications, and private telecommunications services. The satellite and global services division is responsible for overseeing the various satellite services, the Brazilian orbital slots and the orbital arc, as well as international activities such as satellite notification and coordination. This Superintendency is also responsible for authorizing mobile services, including cellular, SMP, paging, etc. The private telecommunications services division, which regulates more than 300,000 authorized entities and 1,200,000 stations, includes services such as amateur radio, citizens band, aeronautical mobile, maritime mobile, radiotaxi, and security. In addition, the division authorizes limited specialized services, such as international backbone services and corporate networks, of which there are over 200 authorizations, with 40-50 operators.

- Superintendency for Mass Communications Services

The 145 persons working in this area are organized in two areas: planning and rule-making, and services licensing. The Mass Communications Superintendency is responsible for all the procedures for Cable TV, MMDS and Direct-to-Home licenses. The licenses for these services are granted through a competitive bidding process. Requests for broadcasting licenses are directed to the Ministry and then must be approved by Congress. Stations must be 100% Brazilian owned. Once the broadcaster has its license approved, Anatel assigns the frequency and authorizes the initiation of operations. The Superintendency is currently conducting a public consultation to determine the digital TV standard for Brazil.

- Superintendency for Radio Frequencies and Enforcement

This Superintendency is the largest with approximately 750 persons dedicated to enforcement activities and 50 persons assigned to spectrum engineering and certification. Anatel has 11 regional offices whose main task is to support the activities of this Superintendency. Enforcement activities cover radio interference, quality of service, and universal service obligations. Public telephony operators are subject to 216 obligations including 36 quality of service indicators.

- Superintendency for General Administration

There are 127 persons in this Superintendency which has jurisdiction over the administrative activities of the agency and supports the agency's organs as a whole. This Superintendency has three Departments: 1) Planning, Budget and Finance; 2) Administration; and 3) Information Management. The Planning, Budget and Finance Department is responsible for the agency's annual budget and financial performance and manages fee collection. The Administration Department is responsible for human resources, the administration of materials and contracts, and infrastructure services at Anatel's Headquarters and regional offices. The Information Management Department is responsible for the agency's information management, the corporate network management, maintenance of the communications channels with consumers, and for the information systems required for rendering services to the Brazilian population.

- Superintendency for Universalization

The Superintendency and Auditor for Universalization was created on 17 July 2001. This new Superintendency absorbs all issues pertaining to the FUST and universalization (in particular, the PGMU (Plan Geral de Metas para a Universalização – see Section 11), which were formerly under the charge of the Superintendent of Public Service. Previously, universalization issues had been treated separately by the various Superintendencies at Anatel. Anatel concluded that a consolidation of these issues under one Superintendency is more efficient from a structural and budgetary standpoint.

6.7 Offices Reporting to the President of Anatel

- Inspector General (Corregedoria)

There are nine persons working in the office of the Inspector General. The Inspector General works with the president of Anatel, investigates the activities of the departments and the performance of the employees. The Inspector General evaluates complaints against the agency or its staff, and may start a disciplinary hearing against staff members. These hearings involve three full-time staff at the same level as the concerned staff member. Three outcomes are possible following a hearing: closing the

investigation, a 30-day suspension, or the initiation of a disciplinary process by the Board.

- Legal Advisor (Procuradoria)

This section is responsible for the Agency's legal affairs and is directly connected to the President of Anatel. The Procuradoria advises the Board of Directors and is present at all Board meetings. There are 15 lawyers working in this office. The legal advisor also represents Anatel before the Judiciary.

- Consumer Affairs

Complaints about Anatel are sent to the relevant Superintendency or office. Complaints about Anatel are treated differently depending against whom the complaint is directed. This section handles consumer complaints that are communicated by e-mail, letters, or through Anatel's call centers. Call centers are open 24 hours per day and receive nearly 15,000 calls a day.[37] Most of the 280 people working in the call centers are not full-time Anatel employees but are outsourced. Complaints about service providers are sent to the relevant company that is required to contact the user in five days. Complaints about Anatel are sent to the specific area.

- Technical Advisor

This Unit has 7 persons and is responsible for strategic planning, such as considering long-term spectrum planning and orbital slot planning.

- Parliamentary and Media Relations

This section, with 24 staff, is responsible for protocol, public relations, and parliamentary matters. This group reviews and follows legislative proposals involving telecommunications and assists Anatel's staff and Board members when they go before Congress. The office issues all agency press releases and responds to press inquiries, which numbered almost 1,700 in the first quarter of 2001.

- International Affairs

The 9 persons working in this sector are responsible for Anatel's representation before international organizations. The Office of International Affairs ensures that all delegations are accredited through the Ministry of External Affairs. It is also responsible for the interface between the Ministry of External Affairs and Anatel. This group organizes meetings of the permanent committees (known as the Brazilian Communications Commissions (see Table 4). The permanent committees are based on ITU study groups and involve Anatel and the private sector, or any other interested party. Specialized groups are created to prepare for events such as the ITU's World Telecommunication Development Conference, Plenipotentiary Conference, or World Radiocommunication Conference.

6.8 Staff

Anatel, like most regulators around the world, is faced with the problem of being able to attract well-qualified staff and keep them. As mentioned previously, government salaries are very low. In an effort to improve the situation, the Brazilian Congress passed a new law in 2000[38] concerning the hiring of staff in "agencies."[39] This law would speed-up the hiring process, and allow for greater remuneration than in other government bodies. This law, the Human Resource Administrative Law for Regulating Agencies (Anatel), however, was appealed by the Labor Party on the grounds that it was unconstitutional. The matter is in the Federal Supreme Court and a decision is expected by the end of 2001. The Direct Action of Unconstitutionality (ADIN) requests revocation of some articles of Law No. 9986/2000; nevertheless, Anatel believes that the articles not appealed will remain in effect.

The new Human Resource Law established salaries for the Agency's staff that are greater than those established for the Executive Branch, with the intention of abolishing the several guarantees that exist in the Brazilian Government's public administration framework. Another difference is that Anatel will have its labor relationship ruled by the Consolidation of Labor Laws (CLT) and the related labor legislation, instead of under the government employment system.

[37] See also Section 7.

[38] The Human Resource Administrative Law for Regulating Agencies, Law No. 9986/2000.

[39] Anatel was the first "agency" in Brazil. There are now 5 agencies (electricity, and petroleum, for example) that are all modeled after Anatel.

Law No. 9986/2000 established that the Agencies shall implement, by means of internal regulations, the employees' promotions, taking into consideration the results achieved in the performance evaluations, training and qualification processes, aiming at recognizing and rewarding the quality and potential of each individual employee.

As a result of the ADIN appeal, there are many vacant positions presently at Anatel. Almost 50% of the staff currently working at Anatel are on temporary contracts (which cannot exceed 3 years), some are appointed on the grounds of their past professional experience, even without an employment relationship (called "nomeados") and many are detached from other organizations. Of the approximately 1500 employees permitted under the law, 354 come from Telebrás and 227 from the Ministry,[40] and 487 are under temporary contracts. There are currently approximately 400 vacant positions.

In order to be hired by Anatel, a public competition (concurso público) is held and all candidates must take an exam. There are three levels of competition: entry-level, middle, and senior. Entry level candidates have between 0-10 years experience, with mid- and senior-levels being tested at more advanced levels. Anatel has been working with one of the universities in Brasília to develop and administer the tests so that they are appropriate for the job and level being sought.

6.8.1 Staff Profile

Almost 30% of Anatel's staff are engineers and nearly 15% are technicians. Only 3% are economists, and 10% are lawyers. The remaining Anatel staff have some other specialization.

The lack of legal and economic expertise of staff was one of the main criticisms of the private sector during the field research conducted for this case study.

The average age of Anatel employees is fairly evenly distributed with 34% of the staff less than 35 years; 32% between the age of 35 and 44; and 34% are 45 and over. Sixty-one per cent of the staff are male and 90% of the managers are male.

6.8.2 Wages

Once the Law for Human Resources is implemented, the average salary range for professional staff or those with a university degree (nível superior) will be R$ 1,990-R$ 7,100. For general staff, the medium range (nível medio) will be from R$ 514 to R$ 3,300 per month. These ranges will be about twice that of regular staff of the Brazilian government.

6.8.3 Training

Anatel offers free language training to its staff in English, French, and Spanish. In addition, Anatel has financed post-graduate courses for some of its staff. Special training courses have been offered in technical areas and in quality management (courses in subjects such as service planning, service licensing, mediation and arbitration).

6.8.4 Outsourcing/Needs

The Brazilian government outsources specialized advisory services for regulations, concessions, legal, administrative and other non-permanent activities. Working together with ITU, the government was able to outsource to a large international consultancy which was instrumental in getting Anatel up and running quickly, as well as assisting in the drafting of the concession contracts and the regulations relating to the liberalization of the market.[41] The ITU participation was essential in ensuring credibility, transparency, and neutrality in the process. Anatel has also outsourced much of its call center activities. The outsourcing of enforcement activities is forbidden by the Telecommunications Law.

[40] Until the hiring authority of Anatel is confirmed by the court, Telebrás will continue to serve as one of the sources of Anatel staff and Anatel will pay Telebrás for their services. Telebrás no longer provides telecommunications services as all of the operating companies have been privatized.

[41] The Brazilian Government entered into a cooperation agreement with the United Nations in 1962. This agreement serves as an umbrella agreement under which Anatel and ITU have been able to work together.

7 Consumer Interest and Protection

The drafters of the Telecommunications Law considered consumer rights to be a high priority. In Article 3, various consumer rights are enumerated such as the right to quality of service, non-discrimination, the right to petition Anatel against a service provider, and to be reimbursed for any damages incurred from a violation of consumer's rights.

Anatel's transparency in the regulatory process goes hand in hand with its respect for and interest in public opinion and participation. This is demonstrated not only by its transparent and participatory rulemaking process but by its many means of public outreach. Various forums exist for the public to both express its opinions and be aware of Anatel's activities. The agency's detailed website is where Anatel's virtual library can be found. (See http://www.Anatel.gov.br) This library gives the public an opportunity to communicate with the Agency on issues ranging from regulations to tariffs and prices.

"Call Centers" are another means by which the public and Anatel can have a permanent dialogue. In this case, any member of the public can call a toll free number to speak with an attendant 24 hours a day, including Sundays and holidays, about any inquiries they might have. Currently, 92% of all inquiries are addressed promptly, with only about 7% being complaints. In 2000, complaint calls increased by 115% over the previous year, however, there was a reduction in the number of complaint calls in relation to the total number of calls received by Anatel's call centers. Presently, about 14,000 calls a day are received at the call centers, which have had to grow continually to accommodate the increase in the volume of calls since the inception of the toll free access to Anatel.

The most recent mechanism to communicate with the public is the "Citizen Room." Equipped with computers, printers, fax machines, scanners, telephones, TV sets and VCRs, the Citizen Room functions as a means of providing interested parties with information relating to Anatel's activities. Any party can conduct online searches of the agency's reports, contracts, decrees, resolutions, standards and decisions as well as have access to all telecommunications legislation. Additionally, the Citizen Rooms can be used to monitor ongoing cases, submit license requests and file complaints regarding services. Staff attendants are also present to answer questions. Citizen Rooms can be found in at least 7 Brazilian cities and are expected to be established in all of Brazil's state capitals by the end of 2001.

Institutional campaigns, user satisfaction surveys and a strong relationship with the media are additional means by which Anatel maintains its strong and open relationship with the public.[42]

A further example of Anatel's commitment to transparency and quality is exemplified when on 20 December 2000, Anatel became the first telecommunications regulatory agency in the world to receive an ISO-9001 certification, an internationally accepted technical standard for managing all processes that affect an organization's ability to meet customer requirements for a quality service or product. Anatel received its ISO-9001 certification from an internationally recognized registrar, Det Norkse Verita, after meeting a series of system and procedural requirements to assure quality of its services to telecommunications service providers, manufacturers, and consumers. Anatel credits much of its efficiency to its processes that allowed it to receive this certification. (See Section 18.8.)

[42] Anatel Magazine "Public Participation in Anatel's Activities Increases."

Figure 10 – *Tudo o que a Anatel faz está disponível no site!* (Everything that Anatel does is available on its website!) http://www.antel.gov.br

One of Anatel's objectives is to maintain a permanent dialogue with the community and provide absolute transparency.[43]

Anatel's website gives all Brazilians an opportunity to be informed of and participate in the activities of the agency.

Anatel's website contains:

- Information on upcoming seminars and meetings, and how to participate;
- Access to all telecommunications laws and decrees;
- Ability to submit filings to public consultations electronically;
- Access to comments made during consultations;
- Information on best prices and tariffs available from operators by day, time, and destination;
- Annual updates on how the operators are complying with their obligations;
- Anatel's organizational chart and a telephone list of employees.

The agendas of the Counselors are also available on the web site.

In 1998, the site had 13,000 pages. By 1999, this had grown to almost 23,000 pages.

[43] Anatel Magazine, "Public Participation in Anatel's Activities Increases," November 2000.

Box 1: The Dialogue continued: Order and Progress in Brazilian Telecommunications

The dialogue with the public is a top priority for Anatel, and this is apparent in all of Anatel's activities. Anatel remains committed to interacting with the public at large through a sophisticated website, weekly press meetings, conferences, Citizen Rooms and call centers.

Anatel also uses institutional campaigns to promote interaction and awareness with the public. With an 85% television penetration rate in Brazilian households, television has served as an effective mechanism. In 1999, the government unveiled a campaign called "Order and Progress in Brazilian Telecommunications". The campaign was geared towards giving information to the public about the expansion and quality goals for telephony; to remind users of the obligations of operators and their right to demand compliance and to provide the public with statistics about increases in service expansion following the privatization. The main media used for the campaign was television and print. The campaign consisted of a series of short commercials, with catchy images that would stick in the consumers' minds, describing telecommunications developments in simple terms. The commercials focused on fixed, mobile, and pay phone service.

Joel Araújo Carneiro has a small business. He picks up newspapers, bottles, glasses, and provides cleaning services. To reach him, call his cell phone. The announcer talks about ending the monopoly, the increase in cellular phones, and the decrease in tariffs.

David Carlos is on his boat in a river in the Comunidade Ariau. Accessing the rest of the world, or linking up to the rest of the world, will take a long time by boat. In the next scene, he gets off his boat to make a phone call at the pay phone. His link with the rest of the world was much quicker. The commercial announces that with the privatization, the licensees are required to install a certain number of pay phones.

The third commercial shows Dona Cecilia looking at a Christmas card from her daughter last year, and then getting a phone call from her daughter this year to wish her a Merry Christmas on her fixed-line. The announcer talks about the cost of phone service in the monopoly era and how the price has decreased substantially just 24 months later. It also mentions the expansion and build-out obligations of the fixed-line operators.

Each commercial ends with an expression familiar to all Brazilians "ordem e progresso" (order and progress) in Brazilian Telecommunications. This is the national motto and appears on Brazil's flag.

This approach is not only very creative but also quite unique in the world of regulators. The way the campaign was designed will certainly result in a more informed consumer. In addition, the commercials serve to inform the public that there is a regulator, Anatel, and that regulator is looking out for the interests of all Brazilian citizens. By contrast, in most countries, the average citizen may not even know if their own country has a regulatory authority, and if so what it is called. Moreover, it is unlikely that most persons not involved in telecommunications operations, policies or regulation would know that their operators have obligations, that a number of new lines will be installed, and that tariffs have decreased by a certain amount and will continue to decrease as a result of privatization and liberalization of the market. This approach of making the actions of the regulator known to the public, explaining past and present reforms and market developments, as well as the benefits for the consumer, will likely draw more citizens into Anatel's activities.

Source: For photos, Publicis Norton.

8 General Regulatory Powers

8.1 Rulemaking

Through its transparent and thorough rule-making procedures, Anatel was designed to be a pioneering model of the restructuring of the Brazilian State. Indeed, Anatel's relationship with society at large extends far beyond its rulemaking procedures. With numerous means of trading information with the public such as a library (as provided in Article 8 of the Telecommunications Law), Call Centers, Internet, and the use of "Citizen Rooms" discussed in Section 7, Anatel is considered one of the most transparent agencies in the world.[44]

According to Article 19 of the Telecommunications Law, Anatel should issue rules on the use of telecommunications services in both the public and private sector, spectrum management, equipment utilization and on "rules and standards that ensure compatibility to the integrated operation and interconnection between networks also encompassing terminal equipment."

As for the rulemaking procedures themselves, all regulatory acts are submitted for public comment known as "public consultations" and any interested party has the right to comment as well as attend public hearings[44] Sending comments to Anatel is a simple and convenient process. Notice of the content and objective of issues available for comment are posted on both the Internet and in the Official Gazette. Comments can be sent by any interested party to the agency via Internet, e-mail, post, or fax. Comments that are filed electronically can be done through a few simple steps.

The comments are evaluated and responded to by the Board of Directors. The responses, along with the comments, are then made available to the public through Anatel's library. Anatel informs interested parties of the issues via public notices, draft decisions, notices placed in the offices of telecommunications companies, newspapers or other media advertisements and Anatel's website. Filings (e.g., license applications, complaints, tariff notices, etc.) are also available for public inspection. The regulatory decisions resulting from this notice-and-comment process are communicated to the public through the Official Gazette and the Internet.[45] Any interested party has the right to petition or appeal any rule within 30 days, and Anatel has 90 days in which to render its decision. Because the process is transparent and allows for public participation, the process often can take more time than the private sector would like, but Anatel has decided to place greater weight on transparency in the trade-off between that principle and efficiency.

In addition to the range of issues commented on by the public, Anatel receives feedback from the Advisory Council, which serves to provide guidelines and advice to Anatel.

8.2 Arbitration and Dispute Resolution

Anatel also plays an arbitration and dispute resolution role among the various economic players in the telecommunications sector.[46] Article 19 of the Telecommunications Law establishes Anatel as an agency with a duty "to settle conflicts of interest among telecommunications service providers."

When parties cannot reach agreement, Anatel intervenes via arbitration by appointing a three-person council to serve as final arbiter of the dispute.[47] However, as with any executive decision made by Anatel, the parties can appeal to the Board of Directors. Arbitration has been used for issues involving interconnection and access. For example, the arbitration process was used when a new entrant was denied access to the international backbone of another company. The new entrant asked for Anatel to assist through an arbitration panel composed of three Superintendents. The arbitration panel decided in favour of the new entrant and the issue was resolved without involving a long court process. Before initiating the arbitration process, Anatel meets with the parties to encourage them to resolve their differences without arbitration.

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[44] Anatel Magazine, "Public Participation in Anatel's Activities Increases."

[45] ITU, Telecommunications Regulatory Survey 2001

[46] Article provided by See http://www.brasilemb.org, "The Privatization of the Brazilian Telecommunications Sector," by Ana Novaes.

[47] ITU Development Symposium for Regulators; Geneva, Switzerland, November 22, 2000.

8.3 Enforcement Authority

Anatel's enforcement authority is provided in Article 19 of the 1997 Telecommunications Law. Specifically, the agency has the duty to conduct searches and seizure of goods, conduct investigations and impose sanctions when services are of poor quality, prosecute violations of consumers' rights, prevent and deter anti-competitive behaviour (except for such behaviour which falls under the ambit of the competition authority CADE) and to decide on other matters within its competence.

Anatel takes its enforcement authority very seriously. It has enhanced the agency's effectiveness by demonstrating that obligations are and will continue to be enforced and non-compliance penalized.

An operator has 30 days in which to pay any fine imposed by Anatel or to appeal a decision to the Board of Directors. One recent Anatel enforcement decision was appealed to the Supreme Court. The service provider claimed that it should not have to pay the fine until the court's final decision was issued. The court, however, ruled that the operator had to pay the fine before the judicial proceeding ended.

Through the end of 1997, all telecommunications investigations were conducted by the Ministry of Communications. When Anatel took over this function in July 1998, much tighter supervision and control of the telecommunications sector was one of its objectives, and it doubled the number of enforcement proceedings conducted by the Ministry.[48] The Superintendency of Radio Frequencies and Monitoring, which oversees all enforcement actions, was allocated 50% of Anatel's budget last year (about USD 100 million). At the same time, the income generated by enforcement and surveillance fees accounts for 90% of Anatel's budget.

Anatel's vast spectrum monitoring activities and costly monitoring equipment is funded through two fees assessed against operators who use radio frequency equipment. The first, an installation monitoring fee (taxa de fiscalização de instalação – TFI), is a one-time fee that is paid the first year that the radio equipment is deployed. The second, known as the operational monitoring fee (taxa de fiscalização de funcionamento – TFF), is an annual fee charged at a rate of 50% of the TFI.

Anatel relies on its 11 regional offices throughout Brazil for much of its monitoring and enforcement activities. To ensure consistency in these activities, Anatel has developed a field officer manual that investigating officers use to assist them in their duties and to determine appropriate enforcement measures.

Anatel's strict enforcement policy is also evidenced by the fact that from January to September 2000, 8,541 Procedures for the Verification of Noncompliance with Obligations (Precedimentos de Apuração de Descumprimento de Obrigações – PADO) were launched by the enforcement division of Anatel. The PADO actions usually involve enforcement of spectrum license violations, illegal operations, operators exceeding power limits and terminal issues. In the first nine months of 2000, 3,811 clandestine broadcasting stations were shut down and fines and other sanctions were imposed on violations involving degradation of service quality and service interruption.[49]

In 2001, Anatel is targeting systems operating under expired spectrum licenses and operators that have not paid required fees. Anatel envisions that its monitoring activity will result in the cancellation this year of between 25,000 and 30,000 unused frequency assignments. In São Paulo alone, only 1,000 out of 8,000 frequency assignments opted to continue – over 7,000 were not being used. This effort is expected to produce many efficiencies in the frequency assignment process.

Anatel has also stepped up effort to enforce obligations such as universalization and quality of service requirements. In July 2000, Anatel launched 1,273 Administrative Proceedings for Noncompliance with Obligations (Procedimentos Administrativos por Descumprimento de Obrigações) against fixed-line or public telecommunications service providers. There are over 216 individual contract items that are

[48] Presentation by Renato Navarro Guerreiro, President of Anatel, "Telecommunications: A Decade of Change, Achievements 2000, The Future of the Model," Brasília, January 22, 2001.

[49] Anatel Magazine, "Anatel Increases Its Enforcement Actions."

divided into 18 classes of obligations. The classes include, *inter alia*, universal service obligations, quality of service, tariffing, and continuity of service obligations. In the past, no such checks were conducted.[50]

In addition to enforcement proceedings, Anatel is now able to practice another form of enforcement: radiomonitoring. The Spectrum Monitoring Management System (Sistema De Gestão de Monitoragem do Espectro – SGME) enables Anatel to monitor electromagnetic spectrum throughout Brazil through the use of 27 mobile stations and 56 fixed stations.[51] All mobile stations and six fixed stations are operating now, and the remainder will be deployed in the near future.

Anatel also uses a recently acquired broadcasting content monitoring system to enforce content regulations of the Ministry of Communications. The system has been deployed nationwide, with one station in each state capital (where content is usually generated), and Anatel can monitor for percentage of time devoted to news and advertisements and other content standards.[52]

9 Licensing

All operators must obtain a license from Anatel in order to provide services in the Brazilian telecommunications market. Anatel grants three different types of licenses (outorgas), which include the concession (concessão), the permit/permission (permissão), and the authorization (autorização).

The following services are regulated and subject to licensing by Anatel: local service, domestic long distance, international long distance, XDSL, wireless local loop, data, VSAT, leased lines, mobile analogue and digital, paging, cable television, fixed satellite, mobile satellite, GMPS, and IMT-2000. Local services, domestic long distance, international long distance and wireless local loop are licensed for 20 years, and VSAT, mobile analogue, mobile digital, paging, cable television, fixed satellite, mobile satellite, GMPS, and IMT-2000 are licensed for 15 years. The duration of XDSL licenses is tied to the authorization of the operators of local services. Licenses for data and leased lines have no duration limits unless they use radio frequencies.

Telecommunications services are divided into several categories according to the Telecommunications Law. The first distinction is between telecommunications services and value-added services. Telecommunications services are then classified into collective interest services and restricted interest services. Each of these are further classified as either public or private regimes.[53] Telecommunications services provided under the public regime are subject to universalization and continuity of service obligations, and include services such as all fixed telephone services for the general public.

Telecommunications services provided under the public regime are licensed in either of two methods. The first licensing method, which has been used for the privatized Telebrás companies, is a concession and is granted through a tender process conducted by Anatel. The concession contract entered into between Anatel and the concessionaire includes the terms and conditions for rendering services, universalization and continuity of services obligations, tariffs, general interconnections conditions, termination, sanctions and methods of settling disputes out of court. (Article 93)

The second licensing method used by Anatel for telecommunications services within the public regime is the permit ("permissão"). The Telebrás mirror companies have been licensed through the permit process using a simplified bidding procedure. The permit is formalized by signing a document similar to the concession contract. Permits are not subject to universal service obligations, but are subject to quality of service obligations.

Anatel determines which telecommunications services provided under the private regime require specific authorization. Service providers

[50] Anatel Magazine, "Anatel Increases Its Enforcement Actions."

[51] Presentation by Renato Navarro Guerreiro, President of Anatel, "Telecommunications: A Decade of Change, Achievements 2000, The Future of the Model," Brasília, January 22, 2001.

[52] Meeting with Marcos Bafutto, Superintendent for Radio Frequencies and Monitoring, Brasília, April 17, 2001.

[53] Collective interest services are similar to those referred to as common carrier services in the United States.

exempted from the requirement to obtain an authorization must nevertheless notify Anatel before launching their activities. In addition, Article 132 of the 1997 Telecommunications Law requires a carrier to present a technically feasible project – showing that it is compatible with applicable standards and that any necessary radio frequencies are available – to obtain authorization for private service.

Collective interest service authorizations under the private regime are subject to a series of additional conditions, including whether the company is established pursuant to Brazilian law, has administrative headquarters in Brazil, possesses the necessary technical qualifications to render service properly, is in good economic-financial standing, tax compliant and in good standing with the Social Security system, and does not provide the same service in the same region or location. Providers are selected through a bidding procedure and can include universalization and continuity of service requirements.

The Superintendency of Public Services is responsible for licensing local and long distance public services, including wireless local loop. The Superintendency of Private Services is responsible for the licensing of satellite, terrestrial wireless (including cellular and SMP services) and private telecommunications services.

10 Interconnection

The regulatory framework for interconnection has been set forth via legislation, licensing, regulatory statements, and a series of directives. This framework applies to interconnection from any type of network to any other type of network. In addition, the regulatory framework imposes an obligation on existing network operators to provide interconnection to competing carriers. This obligation is imposed on all fixed and mobile network operators and is enforceable by Anatel and other interested and affected parties. In the event that a carrier fails to provide interconnection or fails to offer reasonable interconnection terms, Anatel may sanction the operator through license revocation or monetary penalties.

The regulatory framework establishes the interconnection charges and pricing principles to be applied in interconnection negotiations. However, interconnection charges may also be set through commercial negotiations without approval by Anatel.

The regulatory framework also prescribes the number and location of points for interconnection, network management across points of interconnection, and other requirements such as signalling, transmission, and quality. In addition, incumbent carriers are required to collocate the equipment of competitors in their central offices to enhance competition.

The terms and conditions of interconnection must be reasonable and non-discriminatory. Yet, there is no cost model prescribed as the basis for the determination of interconnection charges. Once an interconnection rate is established, it is available at a standard rate to all telecommunications service providers. Interconnection agreements are made public and available at the request of any interested party.

During the field research for this case study, it became apparent that many of the mirror and long-distance companies are concerned about the issue of "unbundling the local loop." [54] These companies believe that Anatel has not done enough to resolve unbundling issues and that they are losing valuable competitive opportunities as a result of Anatel's reluctance to get involved in the process. Anatel's position is that unbundling is a commercial issue that should be resolved between carriers. However, Anatel has created a working group to consider alternatives to unbundling Brazil's experience is similar to other countries: the incumbents contend that they are doing their best to get the new entrants interconnection and access to their networks, and the new entrants and long-distance carriers accuse the incumbents of dragging their feet and not acting quickly enough.

Another area of concern to the long-distance carriers was bypass. The long-distance carriers were concerned that Anatel was not taking an active enough role in overseeing carriers who provide long-distance services without necessary regulatory authorization. They believe long-

[54] There are three forms of unbundling: "bit stream", shared line, and full unbundling.

distance bypass costs them hundreds of thousands of U.S. dollars.[55]

11 Universal Service

Universal service, one of the pillars of the new Brazilian telecommunications model, embodies the principle that everyone in society, no matter what their location or socioeconomic status, should have access to telecommunications. To ensure universal access and service, Anatel encourages competitors in the telecommunications sector to provide telecommunications services of acceptable quality and commercially reasonable rates to any physical or legal person demanding such services; and to provide alternative forms of access to telecommunications services with lower rates in order to guarantee access to persons not able to pay commercially reasonable rates.

A two-pronged approach is used to achieve universal service goals in Brazil. The first approach implements the goals set forth by the Executive Branch (the President and the Minister of Communications) in the General Plan of Universalization Goals (Plano Geral de Metas para a Universalização – PGMU) of May 1998. The PGMU establishes specific universal service goals for companies providing fixed telephone services under the public regime. These goals are developed by Anatel but approved by the Executive Branch (MINICOM). The second approach is the use of a universal service fund called the Fund for the Universalization of Telecommunications Services (FUST), which was created to finance universal service initiatives that complement those in the PGMU, such as bringing services to hospitals and schools. The Telecommunications Law prohibits the use of the FUST to cover costs of universalization mandated for fixed telephone services under the PGMU and specified in the concession contract.[56]

11.1 PGMU

According to the PGMU, the number of fixed lines must reach 33 million by the end of 2001.[57] Additionally, the density of pay phones should reach 7.5 per 1,000 inhabitants by the beginning of 2004. Future goals include requiring all localities with 100 inhabitants or more to have at least one public phone by the year 2005 as well as installing individual fixed phone services in localities with more than 300 inhabitants. Table 3 gives examples of some of the universalization goals delineated in the PGMU.

In June 1998, the General Plan of Quality Goals established the quality goals that Fixed Switched Telephone Service provider – under both public and private regimes – are required to fulfill.[58]

11.2 FUST

Law 9.998, creating the Fund for the Universalization of Telecommunications Services (FUST) was passed in August 2000. The purpose of FUST is to channel the necessary resources to finance the purchase and implementation of telecommunications equipment in small communities and isolated regions. According to former Communications Minister Sérgio Motta,

The fund represents not only the path through which the social role of telecommunications can be fulfilled, but through which social justice can be promoted as well.[59]

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[55] Embratel recently lodged a complaint with Anatel accusing one company of by-passing Embratel's long-distance network and operating long-distance without authorization.

[56] See Section 5.4 for more information on the FUST financing.

[57] Universalização de Serviços de Telecomunicações, Presentation by Edmundo Antonio Matarazzo, Superintendent of Public Services, Anatel.

[58] All operators have service quality obligations, but only concessionaires have universal service obligations. (See Section 9.)

[59] Anatel Magazine, November 2000, p. 42.

Table 3 – General Plan of Universalization Goals (PGMU)

Installation of Individual Fixed Phone Services	
Deadline	Number of Inhabitants
December 31, 2001	*Areas with >1000*
December 31, 2003	*Areas with >600*
December 31, 2005	*Areas with >300*
Response Time to Individual Access Requests	
Starting Date	Time Frame
December 31, 2001	*Within 4 weeks*
December 31, 2002	*Within 3 weeks*
December 31, 2003	*Within 2 weeks*
December 31, 2004	*Within 1 week*
Access to Public Telephones in Locations with Fixed Service	
Starting Date	Distance from Individual Access
December 31, 1999	*800 meters*
December 31, 2001	*500 meters*
December 31, 2003	*300 meters*
Access to Public Telephones in Locations without Fixed Service	
Deadline	Amount of Inhabitants with One Public Phone
December 31, 1999	*Areas with >1000*
December 31, 2001	*Areas with >600*
December 31, 2003	*Areas with >300*
December 31, 2005	*Areas with >100*

Source: Anatel.

The Ministry of Communication, in consultation with other Ministries, is responsible for determining fund allocation priorities. Anatel is tasked with executing, implementing, monitoring and enforcing the policies and directives.

The first priorities determined by the Ministry of Communications are to use the fund for education (Internet in schools) and health care. As a consequence, schools and hospitals in isolated areas will be supplied with the needed technology to support applications such as distance learning, teleconferencing, and telemedicine. In addition, FUST must provide for public access to digital information (i.e., the Internet) on favourable terms and conditions in libraries and educational establishments.

Within the FUST framework, Anatel must ensure that services are provided both to low income areas and locations with less than 100 inhabitants; anticipate and "complement" the goals of the Plano Geral de Metas para Universalização (PGMU); install high speed networks; serve strategically important but remote border areas; provide individual accesses and interface equipment to institutions serving disabled persons and establish rural telephony.[60]

All operators were required to contribute 1% of their annual revenues to FUST starting in 2001. In addition, 50% of the money generated from the auctions of the C, D, and E Band will go into this fund. The government plans to use R$ 673 million for education, and R$ 260 million for healthcare from the estimated R$ 1 billion the fund is expected to generate in 2001. Anatel is responsible for submitting annual budget proposals regarding FUST to the Ministry and for maintaining accounts of the Fund's allocations.[61]

The law mandates that only the incumbent operators – the four concessionaires – may bid to use the funds even though all 696 operators are required to contribute to it. Draft legislation is before the Congress that would allow all operators to bid for FUST funds. During field research for this case study, many operators expressed concern about the current restricted access to FUST funds and the potential politicization of the use of the FUST money. Although the involvement of Anatel guarantees transparency of the use of resources, the Ministries' involvement in determining fund allocation may result in political pressure. The companies were concerned that the politics of allocating the FUST funds could compromise Anatel's high integrity.

Anatel has conducted two public consultations regarding the operations and disbursements of FUST funds. In December 2000, Anatel initiated a public consultation on the regulations regarding the operations of FUST. A second consultation followed in February 2001 on the implementation of universal service goals using FUST resources in public schools at the middle and professional levels.

Currently, the Superintendency of Universalization at Anatel is responsible for implementing all universal service regulations.

11.3 FUNTEL

FUNTEL is another telecommunications development fund that is administered by the Ministry of Communications, with Anatel only being a member of FUNTEL's board. Under the terms of the law that created FUNTEL, Anatel transferred R$ 100 million from the resources of FISTEL to establish FUNTEL, but this transfer will not occur again as operators are required to contribute 0.5% of telecommunications tariffs to this fund. The goal of FUNTEL is to ensure continued development and research in telecommunications by Brazilian entities. Two development agencies within Brazil, FINEP and BNDES (the National Development Bank of Brazil), will also be involved in the application of these funds. Twenty per cent of this fund will go to the CPqD (Centro de Pesquisa e Desenvolvimento), the research arm of Telebrás, that became a private foundation in 1998. The regulatory process regarding the application for and use of these funds is still in the early stages.

12 Quality of Service

Quality of service is one of the three pillars of the Brazilian telecommunications model, and therefore a high priority for Anatel. The General Plan of Quality of Service Goals for Fixed Switched Telephone Service was issued by Resolution 30 of Anatel's Board of Directors on

[60] See http://www.Anatel.gov.br

[61] See http://www.Anatel.gov.br

29 June 1998 shortly following Anatel's creation and before Telebrás was privatized. Unlike universalization goals that are imposed solely on concessionaires, quality of service standards have been established for all companies with concessions, permits or authorizations. There are 36 quality of service indicators including goals for response to request for repairs, response to requests for change of address, response time by telephone, quality of service for public telephones, information regarding provider selection codes for the consumer, emission levels and network modernization.

Anatel has fined many carriers for not reaching their quality of service indicators. Anatel can impose fines of up to R$ 40 million.

13 Management of Scarce Resources

13.1 Spectrum Management

The Telecommunications Law gives Anatel the duty to manage the radio-frequency spectrum in Brazil, which is considered to be a public good and a limited resource. Anatel is responsible for maintaining an allocation plan that designates radio frequencies for exclusive military purposes (made in conjunction with the Armed Forces), telecommunications services under the public and private regimes, broadcasting services, emergency and public security services, and other telecommunications activities. If it finds that it is in the public interest or if it is necessary to comply with international treaties, Anatel may modify frequency assignments provided an adequate and reasonable time is given to comply with such modifications. In addition, Anatel is responsible for updating the frequency assignment book that includes all uses of spectrum throughout Brazil.

Anatel must issue an authorization to use radio frequencies, unless the use is by the Armed Forces in exclusive military bands or the use is by restricted radiation equipment. In the event that more than one party is interested in using a specific frequency band, Anatel must use a bidding process to authorize the use of the radio frequency and charges for the use of the spectrum. The term for the authorization to use radio frequencies is the same as the term for the concession or permit for the underlying service, while the term for an authorized service is 20 years and renewable once. Anatel has implemented a system whereby authorizations for frequency assignments can be obtained from the regional offices around the country, which has greatly increased the efficiency with which these authorizations have been issued.

A new regulation on spectrum usage in Brazil was issued by Anatel on April 17, 2001. The regulation sets forth in detail the framework for spectrum usage in Brazil, codifying Anatel's existing practices.

13.2 Numbering

On December 30, 1998, immediately after privatization, Anatel issued two regulations concerning numbering: "Regulation on Numbering" (No. 83) and the "Regulation on the Administration of Numbering Resources" (No. 84), as well as an annex to resolution No. 86 "Regulation of Fixed Switched Telephone Service Numbering." These regulations establish the basic principles and rules for the definition, administration and use of numbering resources necessary for the provision of telecommunications services.

Since then, Anatel has developed innovative numbering systems. One example is the "0500" numbers which are permitted to be used by public interest entities such as charitable organizations, associations and foundations. Donors may call these numbers to make a contribution that can be listed on their phone bill. The donation is separate from the user's telecommunications services so that failure to make the payment has no effect on the donor's telecommunications services.

Provider Selection Codes

In July 1999, fixed switched telephone services (STFC) underwent a dramatic change with the implementation of Provider Selection Codes. This system, through which consumers may select the carrier they wish to use for each long-distance call, constituted the first step in ensuring direct competition in STFC services. Consumers can choose their service provider on a call by call basis and have enjoyed lower rates

and improved quality of services.[62] Long-distance costs were initially reduced by approximately 25% and then by almost 50% bringing calling costs down to unexpectedly low rates. In addition, the innovative tariff tracking mechanism, SIPT (Information System on Prices and Tariffs / Sistema de Informações sobre Preços e Tarifas), allows consumers to compare prices every time they make a phone call to determine which provider is the cheapest.[63]

14 Satellite

Anatel has adopted pro-competitive regulatory policies regarding satellite services in Brazil which were initially provided exclusively by Embratel. Anatel's regulations opened this sector to other companies, resulting in greater choice of services and price reductions for satellite services.

Under Article 170 of the Telecommunications Law, Anatel determines the criteria under which telecommunications services using satellite transmission can be provided. Satellite transmission is considered to be a mode of communications and is not regulated as a separate service from telecommunications services using satellite transmissions to reach users. For example, services such as GMPCS, private/limited specialized services, radiodetermination, meteorological services, and scientific or experimental services, are all overseen by the Satellite and Global Services Division of Anatel's Private Services Superintendency. Companies must receive these authorizations before applying for authorizations issued by the other Superintendencies.

Under Article 171 of the Telecommunications Law, foreign satellites can be used only if a Brazilian company contracts for their services. Anatel grants authorizations for access to Brazil's preferential orbital slots, which are located between 46.5 E and 163.2 W. Four slots within this range are occupied by Brazilian satellites. In addition, Anatel has authorized 13 companies to acquire space capacity from Intelsat directly. By the end of September 2000, 12 geostationary satellites and 4 foreign nongeostationary systems were authorized to operate under the C and Ku Bands in Brazil.

In addition, Anatel transmits information on satellite networks for publication in the ITU's International Circular, coordinates satellite networks, conducts technical analyses to verify inference between satellite networks, and registers satellite networks in the ITU's Master Registry.

15 Equipment Certification

Anatel is currently conducting a public consultation on proposed standards for type approval certification for telecommunications products (Consulta Pública No. 299). The main objective of this proceeding is to bring uniformity to the procedures for certification of telecommunications equipment in accordance with the rules established in the Regulation for the certification and homologation of Telecommunications Products (Annex to Resolution 242, 30 November 2000). The proceeding also attempts to harmonize the certification procedures used by Designated Certification Entities (Organismos de Certificação Designados – OCD). There are currently two OCDs, five other entities have applied to become OCDs. By instituting these procedures for equipment certification, Anatel simply will be responsible for homologation certification by its accredited entities and not responsible for type approval and certification that had been done previously by Anatel.

16 Relationship with Industry

Anatel places high importance on open dialogue with the industry and encourages the private sector to participate in Anatel's processes. Private sector telecommunications corporations have representation in Anatel's Advisory Council and Strategic Committees. The latter comprise members of Anatel's technical staff and representatives from the Health and Education ministries, the National Congress, consumer rights organizations, various institutions and the private sector. In addition, Anatel allows the private sector to provide input in its regulatory proceedings through e-mail and electronic filing mechanisms.

62 Anatel Magazine "Competition in Telephony Services Benefits Millions of Brazilians."

63 See http://200.252.158.174/SIPT/

Another way in which Anatel maintains an open relationship with the private sector is by conducting public preparations for meetings and conferences of international organizations such as the ITU and CITEL. Any private sector representative can participate in such meetings and assist Anatel to develop positions that will be supported by Brazil at international telecommunications meetings.

16.1 Transparency and Availability of Information and Decisions

As mentioned in Section 7, Anatel's regulatory processes have achieved a very high level of transparency. All of its decisions are posted on its website and it also publishes all of its decisions in the Official Gazette. Even the president of Anatel's schedule is available to the public. Anatel has made every effort to give consumers the benefit of as much information as possible, including listing each operator's different tariffs to allow for easy comparison.

16.2 Information to be Provided by Industry to the Regulator

The companies that provide telecommunications services in Brazil have a series of reporting requirements that they must fulfill. Most of these requirements are found either in the Telecommunications Law or are included in the terms of the concession contracts, permits and authorizations. Quality of service standards and universal service obligations must be reported on a monthly basis to Anatel.

17 Participation in International Organizations[64]

Article 19 of the Telecommunications Law provides that Anatel shall "represent Brazil before international communications entities, under the coordination of the Executive Branch." Since its inception in 1997, Anatel has participated actively in international organizations. Anatel represents Brazil at meetings of the three ITU sectors: Radiocommunication (ITU-R), Telecommunications Standardization (ITU-T), and Development (ITU-D). In addition, Brazil is one of the few countries within Latin America that participates actively in Study Groups and Working Parties, including having leadership positions in these committees. Anatel holds various leadership positions at the Organization of American States telecommunications body, the Inter-American Telecommunications Commission (CITEL). Anatel also participates in Mercosul on issues relating to telecommunications.

To assist Anatel in its representation of Brazil, the agency has created a series of committees to develop positions in preparation for international conferences and meetings called Brazilian Communications Commissions (Comissões Brasileiras de Comunicações – CBCs). The objectives of the CBCs are to:

- coordinate and ensure Anatel's participation in various international forums such as the ITU, CITEL and Mercosul;
- encourage other relevant sectors of Brazilian society to participate in international forums and debates related to telecommunications;
- optimize Anatel's usage of human resources in the field;
- bring Brazilian delegations up to speed with the various positions in the telecommunications field so that a unified position is taken.

The Commissions are open to all the public and private segments of the Brazilian society that have interests in the telecommunications sector (e.g., operators, scientific organizations, consulting groups, etc.).

18 Best Practices

Anatel has been able to build on the positive experiences and avoid the pitfalls of countries that underwent the sector reform process prior to Brazil. Anatel's experience has produced a number of best practices. These best practices, as well as the continuing challenges that Anatel faces are discussed in the sections that follow.

18.1 Continuity, Stability and Flexibility of Anatel Counselors

Members of Anatel's Board of Directors have fixed five-year staggered terms that ensure continuity of processes and knowledge, which

[64] Anatel Annual Report, 1999.

results in the agency having experienced counselors constantly on the Board of Directors. Because the counselors are not appointed based on political affiliation they are relatively insulated from political influences. In addition, the members' five-year terms guarantee that they carry on in their positions regardless of government changes.

New issues and proceedings are assigned to individual counselors randomly, rather than based on expertise, so that each counselor has the opportunity to be the lead counselor on a particular issue. This unique management approach keeps the counselors involved in a variety of issues and gives them broad expertise.

18.2 Recognizing the Regulator's Primary Client, the Consumer

Anatel has developed a methodology – almost an ideology – to try to protect and understand the interests and needs of current users as well as future users of telecommunications and information and communication technology services. Anatel has made obtaining consumers' views its top priority by making the decision-making process transparent and accessible to the public. Not only has Anatel created customer care centers, it is also an educator and marketer that informs the public of critical issues being considered by the regulator, alerts the public to changes in services or tariffs, and assists the consumer in using the network efficiently and effectively.

Table 4 – The 12 Permanent and 4 Temporary Brazilian Communications Commissions (CBCs)

CBC 1	Data Networks and Telematic Systems
CBC 2	Audio and Visual Transmissions and Multimedia Systems
CBC 3	Tariffs and Accounting Principles
CBC 4	Definition of Services, Structural Plans and Network Management
CBC 5	Signalling, Switching, Protocols, Language and General Aspects of Networks
CBC 6	External Plant and Electromagnetic Compatibility
CBC 7	Telecommunications Development
CBC 8	Mobile, Radiodetermination and Amateur Radio Services
CBC 9	Fixed and Scientific Services
CBC 10	Administration of the Radioelectric Spectrum and Propagation
CBC 11	Broadcasting
CBC 12	International Negotiations on Telecommunications
Temporary CBCs	1) Preparation for ITU World Radiocommunications Conference 2) Coordination of MERCOSUL Sub-working Group Number 1 "Communications" 3) CITEL Coordination 4) Preparation for ITU Plenipotentiary Conference 2002 5) Preparation for ITU World Telecommunication Development Conference

18.3 Prioritizing the Important Issues

Anatel was created in November 1997, just four months after the nation's sector reform law was passed, and seven months prior to the privatization of Telebrás. Anatel immediately recognized that it could not have a complete regulatory framework in place in such a short time. The agency therefore prioritized the functions and mandates that were the most important to accomplish before privatization. This resulted in the agency being able to focus on core areas, such as the terms and conditions of the concession contracts (the licenses for the privatized Telebrás companies) and regulations regarding telephone service, interconnection and numbering. In fact, the interconnection regulation was issued 5 days before privatization. The regulatory framework for telecommunications in Brazil is still not complete, as exemplified by the fact that the nation's spectrum regulatory framework was issued during 2001. Still, Anatel has concluded that this is the best approach and it appears to be working well.

18.4 Developing a Strategy for Advancing Network Development and Universal Service/Access

Anatel has undertaken the responsibility for promoting the national availability of quality services at fair, reasonable, and affordable rates. Anatel has taken seriously its commitment to bringing telecommunications services to all areas of Brazil and has developed regulations and policies to increase access to advanced telecommunications services throughout the nation, including access to such services at reasonable terms, rates and quality to all consumers, including the disenfranchised (e.g., poor, disabled) and those living in high cost services areas (e.g., rural communities). Anatel and the Executive Branch have worked together to develop a two-pronged approach of imposing universalization goals on operators, as well as having a fund to subsidize other priority projects.

18.5 Transparency

Anatel takes pride in its commitment to transparency and has instituted procedures that are some of the most transparent in the world. For every regulatory decision that is made, a public consultation is conducted that allows anyone to comment in either of two phases. All regulatory proceedings and decisions are posted on Anatel's website and in its virtual library, and the public may file comments electronically, via e-mail, fax or by paper submission. The public has access to Anatel at its various regional offices. Procedures that are open and allow public participation at every level often take longer than closed procedures. While transparency can result in regulatory delays, it also results in a rich record that can assist with regulatory decision-making.

18.6 Adopting Innovative Procurement and Outsourcing Mechanisms

Anatel has adopted a system of reverse auctions that has resulted in a more efficient and transparent method of contracting goods and services. Other agencies within the Brazilian Government are now starting to use the reverse auction system in their own procurement practices, which may lead to a savings of up to 20%. Anatel has also outsourced many of its functions during times of intense regulatory activity, which has helped it keep up with a booming telecommunications market.

18.7 Developing Effective Enforcement Mechanisms

Anatel has an elaborate enforcement system in place and expends almost half of its financial and human resources on monitoring and enforcement. This has encouraged licensees to meet their universalization and quality of service obligations. The agency strives for consistency in its monitoring and enforcement by developing an enforcement manual that dictates a consistent method of investigating and penalizing specific violations.

18.8 Commitment to Quality – ISO-9001 Certificate

Anatel not only sets goals of high quality and transparent services, but also became the first telecommunications regulatory agency in the world to receive an ISO-9001 certification. To receive such a certification, an entity must achieve very high standards and pass rigorous

review concerning a series of requirements ranging from development of systematic procedures and manuals to internal quality audits. For an agency so recently created to receive such an internationally recognized certification shows a high degree of commitment to quality and to servicing the consumer and the companies that it regulates.[65]

18.9 Making Tariffs Accessible to Consumers

Anatel has created and maintained an innovative regulatory mechanism that enables consumers to obtain the best prices and tariffs possible for operators by day, time, and destination called the "Sistema de Informações sobre Preços e Tarifas" (SIPT) (See: http://200.252.158.240/sipt/). The information, which compares basic rates for domestic long-distance, international long-distance and mobile charges, is collected from operators and published on Anatel's website, which receives thousands of hits each day. Many industry analysts initially doubted that Anatel could implement such a tariff information system. Because Brazil's telecommunications sector has become so competitive, the providers themselves constantly update the information, creating a downward trend in telecommunications prices in Brazil.

19 Challenges

As Anatel matures it faces many challenges – some that it can address, others that require outside intervention.

- Resolving the Personnel Issues

The most overwhelming challenge that Anatel faces is one confronted by nearly all telecommunications regulators-personnel. Bureaucratic government requirements hinder Anatel's ability to find and hire qualified staff. Government restrictions on remuneration make it extremely difficult for Anatel to retain staff. The agency cannot currently hire new personnel because the legislation that created a new salary and benefits system has been appealed to Brazil's Supreme Court, and the Court has not yet rendered a decision. Even if Court decides in Anatel's favour, the proposed salary levels are still far below those in the private sector. Because the market is becoming more and more robust, the private sector is hiring many of the most experienced and knowledgeable senior and mid-level staff. If Anatel cannot find a way to retain its staff, it will suffer a tremendous loss of resources that will directly impact its ability to carry out its regulatory duties. This issue concerns not only Anatel but also the companies it regulates.

- Adapting Personnel to the New Regulatory Environment

Anatel's senior levels have been predominantly staffed by engineers, which have given the agency a strong technical base with which to develop the regulatory framework for the newly privatized and liberalized sector. However, as the sector becomes more competitive and issues become more focused on legal and economic areas, Anatel will need to increase its ratio of economists and lawyers. This observation was echoed by the private sector and staff within Anatel.

- Market Opening

Since its creation in 1997, Anatel has been managing limited competition in the main sectors of the telecommunications market (fixed local, long-distance and mobile services). Now Anatel faces the challenge of issuing new regulations to provide new entrants and incumbents with adequate time to prepare to compete under the new market conditions. Once the market is completely liberalized Anatel will need to adapt to the new market realities. Unfettered competition brings more choice to the consumer but also can result in more unethical behaviour on the part of some operators, particularly in a highly competitive area such as long-distance. Anatel already has a strong rapport with the consumer and this relationship will need to become even stronger when open competition is introduced.

[65] This is the requirement standard that is used to assess one's ability to meet customer and applicable regulatory requirements and thereby address customer satisfaction. See http://www.iso.ch/iso/en/iso9000-14000/ Source: http://www.Anatel.gov.br/biblioteca/Publicacao/certificado_Anatel.pdf

- Begin to Let Market Regulate Itself as Competition Increases

Anatel has been a very zealous regulator during its first four years of existence. This has resulted in many benefits to consumers but has been extremely resource intensive. As competition develops, Anatel will need to assess where it can disengage from some of its regulatory activities and determine how it can become more flexible. For example, teledensity is expected to rise tremendously for both wireline and wireless services in the next four years. As teledensity increases, the demand for pay phones should decrease. Currently, however, fixed-line operators have strict universalization goals regarding pay phone deployment. These may have to be reconsidered to adapt to new market realities. Another example is the regulation of quality of service. In a competitive market, some consumers may be willing to accept lower quality services for substantially cheaper prices. Anatel will need to determine if it should reassess its quality of service indicators to accommodate all types of consumers.

- Convergence and Technological Development

As convergence between technologies and services occur, Anatel, like all regulators facing the same challenge, will need to review its regulations and may have to revise its approach to particular services or technologies. Anatel has already started to consider these issues and to draw on outside resources to assist in an evaluation of convergence. Anatel is also confronted with the challenge of all regulators on how to establish a flexible regulatory framework that is forward looking and can evolve with technological change.

- Structure of Anatel

Anatel is currently internally structured along service lines, but it may have to adapt to respond to the many challenges it faces. Anatel has had four years to operate under its current structure and is reviewing the advantages and disadvantages of its organizational structure. Under the present structure, several Superintendencies are involved in licensing. The responsibility for different aspects of wireless services is spread across at least four individual Superintendencies. Anatel is considering creating a functional or horizontal organization. In July, Anatel added another Superintendency for universalization and it may be making additional changes.

- Maintaining its Independence

Anatel is considered by both the private sector and other government agencies, as well as by its own staff, to be an independent agency. It has not suffered political intervention in its decisions by the Executive Branch and has maintained a budget that adequately serves its needs. However, Articles 19 and 49 of the 1997 Telecommunications Law require Anatel to submit its annual report and budget plan as well as FISTEL's budget plan, to MINICOM for review. Under a different government, these requirements could enable the Ministry to intervene in many of Anatel's key activities.

- Universal Service

Allow All Operators Access to FUST

All telecommunications service providers must contribute 1% of their gross revenues to the FUST, but only four companies are currently eligible to use FUST funds. Anatel is constrained by the terms of the Telecommunications Law and cannot change the policy until the law is amended. Anatel should work with the legislative branch and the private sector to resolve this issue. The danger is that the more companies are excluded from use of FUST funds, the less innovative proposed solutions for its use will be. This is particularly important with the market opening in 2002.

Bringing Advanced Services to the Underserved

As Brazil struggles to bring fixed telephone service to the 82% of the population that does not have it, creative solutions to bring more advanced technologies and services to the impoverished areas must be considered as a means to bridge the digital divide. The use of FUST to bring Internet to schools is but one means to do this.

20 Conclusion

This case study on Anatel, determining best practices to be shared with both newly formed and more experienced regulators, has produced a wealth of information. Brazil has crafted a telecommunications regulator to meet its own specific needs and priorities. Anatel itself has set high standards to meet those priorities while keeping the consumer as its top priority.

Furthermore, the agency has introduced a number of innovative regulatory mechanisms, some unprecedented for telecommunications regulators worldwide, some unprecedented for regulatory agencies within Brazil. Anatel has obtained the prestigious ISO 9001 certification for its regulatory practices, produced a comparative database for consumers to use in order to choose their telephone carrier, and given consumers wide access to the agency and its decisions. Procurement through reverse auctions and competitive bidding has saved millions of dollars and has resulted in other governmental agencies adopting Anatel's innovative procedures.

Like all regulators, however, Anatel faces serious challenges. First and foremost is hiring and maintaining a highly skilled and experienced staff. Anatel has been able to temporarily staff itself through experienced employees loaned from the Ministry of Communications and Telebrás, as well as consultants, which have provided the agency with the resources it needed to begin regulating the sector. These appointments, however, are not a permanent staffing solution. Anatel must be able to hire and retain good employees and one mechanism to do this, a new human resource law, has been held up by litigation. Even the new law, however, will not provide a salary base on par with the dynamic private sector. This will require Anatel to develop aggressive policies to maintain its high caliber employees.

Another challenge facing Anatel is the complete liberalization of the market in January 2002. Anatel will need to adapt its regulatory processes from those designed for managed competition to those created to foster open competition. The regulator may not need to take such an active role in regulating market players. However, as competition starts to flourish, new services and providers will be available to consumers. As a result, the regulator's strong commitment to consumer protection may develop as an even more important focus of its regulatory oversight.

Annex A

Abbreviations and acronyms

ADSL	Asymmetrical Digital Subscriber Line
AMPS	Advanced Mobile Phone Service
ANATEL	Agência Nacional de Telecomunicações do Brasil
BDT	Telecommunication Development Bureau
CADE	Administrative Council for Economic Defense
CATV	Cable Television
CBCs	Brazilian Communication Commissions (Comissões Brasileiras de Comunicações)
CBLC	Liquidation and Custody Brazilian Company
CDMA	Code Division Multiple Access
C-INI	Committee for National Information Infrastructure (C-INI),
CITEL	Inter-American Telecommunications Commission
DTH	Direct to Home
EC	European Commission
EU	European Union
FDC	Fully Distributed Costs
FISTEL	Fiscal Fund for Telecommunications (Fundo de Fiscalização das Telecomunicações)
FUST	Universal Service Fund (Fundo de Universalização dos Serviços de Telecomunicações)
GATS	General Agreement on Trade in Services
GDP	Growth Domestic Product
GSM	Global System for Mobile communications
ICT	Information and Communication Technology
IMT-2000	International Mobile Telecommunications-2000
IP	Internet Protocol
ISDN	Integrated Services Digital Network
ISP	Internet Service Provider
IT	Information Technology
ITU	International Telecommunication Union
ITU-D	ITU Development Sector
ITU-R	ITU Radiocommunication Sector
ITU-T	ITU Telecommunication Standardization Sector
IXP	Internet Exchange Point
JV	Joint Venture
LECs	Local Exchange Carriers
MINICOM	Ministry of Communications
MMDS	Multichannel Multipoint Distribution System
NRA	National Regulatory Authority

OAS	Organization of American States
OCD	Designated Certification Entities (Organismos de Certificação Designados)
PADO	Procedures for the Verification of Noncompliance with Obligations (Precedimentos de Apuração de Descumprimento de Obrigações)
PASTE	Programme for the Recuperation and Expansion of the Telecommunications and Postal Systems
PGMU	General Plan of Universalization Goals (Plano Geral de Metas para a Universalização)
PSTN	Public Switched Telephone Network
PTO	Public Telecommunications Operator
PTT	Posts, Telephone and Telegraph Administration
RNP	Rede Nacional de Pesquisa
SAAL	System of accomplishments and compliance of obligations (Sistema de Acompanhamento de Atendimento em Localidades)
SGME	Spectrum Monitoring Management System (Sistema de Gestão de Monitoragem do Espectro)
SIPT	Information System on Prices and Tariffs (Sistema de Informações sobre Preços e Tarifas)
SMC	Mobile Cellular Service (Serviço Móvel Celular)
SMP	Personal Mobile Services (Serviço Móvel Pessoal)
STFC	Fixed Switched Telephone Service (Serviço Telefônico Fixo Comutado)
TDMA	Time Division Multiple Access
TFI	Installation monitoring fee (taxa de fiscalização de instalação)
TFF	Operational monitoring fee (taxa de fiscalização de funcionamento)
UN	United Nations
UNESCO	United Nations Educational, Scientific and Cultural Organization
USD	US Dollars
USO	Universal Service Obligation
VAS	Value-added Services
VSAT	Very Small Aperture Terminal
WLL	Wireless Local Loop
WTO	World Trade Organization

Annex B

Licensed telecommunications providers in Brazil

Local Service

Region I	Region II	Region III	Region IV (National)
Telerj (Rio de Janeiro)	Telesc (Santa Catarina)	Telesp (São Paulo)	Embratel
Telemig (Minas Gerais)	Telepar (Parana)	Ceterp (São Paulo)	Intelig
CTBC Telecom (Minas Gerais)	Sercomtel (Parana)	CTBC Telecom (São Paulo)	
Telest (Espirito Santo)	Telems (Mato Grosso do Sul)		
Telebahia (Bahia)	CTBC Telecom (Mato Grosso)		
Telergipe (Sergipe)	Telemat (Mato Grosso)		
Telasa (Alagoas)	Telegoiás (Goias)		
Telpe (Pernambuco)	CTBC Telecom (Goias)		
Telpa (Paraíba)	Telebrasília (Distrito Federal)		
Telern (Rio Grande do Norte)	Teleron (Rondonia)		
Teleceará (Ceará)	Teleacre (Acre)		
Telepisa (Piaui)	CRT (Rio Grande do Sul)		
Telma (Maranhão)	CTMR (Rio Grande do Sul)		
Telepará (Pará)			
Teleamapá (Amapá)			
Telamazon (Amazonias)			
Telaima (Roraima)			

Long-Distance

Region I	Region II	Region III	Region IV (National)
Telemar (includes: Telerj, Telemig, Telest, Telebahia, Telergipe, Telasa, Telpe, Telpa, Telrn, Teleceará, Telepisa, Telma, Telepará, Teleamapá, Telamazon, Telaima)	Brasil Telecom (includes: Telesc, Telpar, Telems, Telemat, Telegoiás, Telebrasília, Teleron, Teleacre, CTMR)	Telesp	Embratel
Vesper	Global Village Telecom Ltda –GVT	Vesper	Intelig

Source: Anatel, July 18, 2001.

Annex C

Organizations met

The project team visited Brazil from 16-20 April to carry out field research. Below is the list of persons and organizations met.[66]

ANATEL

- President Renato Guerreiro
- Counselor José Leite Pereira Filho
- Counselor Antonio Carlos Valente da Silva
- Vilmar Rosa de Freitas, Assessor
- *SUE (Superintendência Executiva)* – Executive Superintendency
  - Amadeu de Paula Castro Neto
- *SPV (Superintendência de Serviços Privados)* – Superintendency for Private Services
  - Santos José Gouvêa
  - Dirceu Baraviera
  - Sueli de Matos Araújo
  - Francisco Eugênio
- *SCM (Superintendência de Serviços de Comunicação de Massa)* – Superintendency for Mass Communication Services
  - Marconi Thomaz de Souza Maya Yapir Marotta
  - Luiz Fernando Ferreira Silva
- *SRF (Superintendência de Radiofreqüência e Fiscalização)* – Superintendency for Radiofrequency and Enforcement
  - Marcos Bafutto
  - Edilson Ribeiro Dos Santos
  - Gilberto Alves
- ATC *(Assessoria Técnica)* – Technical Advisor
  - João Carlo Fagundes Albernaz
- ARU *(Assessoria de Relações Com os Usuários)* – Consumer Affairs
  - Rúbia Marize de Araújo
- CRG (*Corregedoria*) – Inspector General
  - Anamaria Bastos e Silva
- SAD (Superintendência de Administração Geral) – Superintendency for Administration
  - Edmur Carlos Jorge de Moraes
  - José Souza Dantas
  - Claudiano Manoel de Albuquerque
  - Sylvio Santiago

[66] This list reflects the positions held by these persons at the time of the field research.

Francisco Eduardo de o Morais

- *SPB (Superintendência de Serviços Públicos)* – Superintendency for Public Services

  Edmundo Antônio Matarazzo

  Ara Apkar Minassian

  José Gonçalves Neto

  Rosa Maria Silvestre

  Clélia Virgínia Santos Piragibe

- *AIN (Assessoria Internacional)* – International Affairs

  Hélio de Lima Leal

- *APC (Assessoria Parlamentar e de Comunicação Social)* – Parliamentary and Media Relations

  Pedro Paulo Mattos Pimenta da Cunha

  Virgílio José de Aguiar

- *PRC (Procuradoria)* – Legal Advisor

  Antônio Domingos Teixeira Bedran

Ministry of Communications

- Pimenta da Veiga, Minister of Communication
- Juarez Quadros do Nascimento, Executive Secretary
- Rodrigo da Costa Fonseca, Assessor Especial do Ministro

International Telecommunication Union (ITU)/Telecommunication Development Bureau/Americas Regional Office

- Juan Zavattiero, Head
- Vera V. Zanetti
- Ana Jamily Veneroso
- Luciana Tavares

Private Sector Meetings

Brasil Telecom

- Luiz Otávio Calvo Marcondes, Diretor de Regulamentação
- Carlos Altino Paiva, Diretor de Relacões Setoriais

Centro Oest Celular

- José Gamarski, Gerente do Departamento de Planejamento e Engenharia
- Sergio Assenço Tavares dos Santos, Diretor de Rede e Operações
- Guilherme de Oliveira Mendes, Assessor de Regulamentação

Embratel

- Purificación Carpintero, Vice Presidente de Assuntos Externos
- Arthur Ituassu, Gerente Geral de Assuntos Regulatórios

Intelig

- Alain Riviére, Diretor de Assuntos Regulatórios

- Airton Luciano Aragão, Departamento de Assuntos Regulatórios

TEC-LA

- Luiz Bonilha, President

Tele Centro Oeste Celular – TCO

- Sérgio Assenço, Diretor de Rede e Operações

Telefonica

- Eduardo Navarro de Carvalho, Vice-Presidente de Estratégia Corporativa e Regulatória
- Jonas de Oliveira Junior, Vice-Presidente Adjunto de Assuntos Regulatórios

Telesp

- Mr. Jonas de Oliveira Junior, Vice-Presidente de Assuntos Regulatórios

Terra

- Marcelo Lacerda, Diretor Geral

Vésper

- Leoncio Vieira de Rezende Neto, Vice-Presidente de Assuntos Regulatórios