

Broadband Expansion Plan in Brazil

ANATEL

Agência Nacional de Telecomunicações

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- Overview data Brazil
 - Broadband Public Policies
 - Challenges and Trends
-

UNIVERSALIZATION



- Service Universalization Plan
- Public Fund
- Rules of the landline contract

ACCESS EXTENSION



- Auctioning of mobile communication frequencies
- Special Public Policies (PNBL, PBLE, GESAC, etc)
- Other rules from contract

TIMELINE PUBLIC POLICIES

95/97 – CONSTITUCIONAL AMENDMENT n° 08 / LGT

97 – B BAND GRANT AND LIMITED SERVICES

98 – PGO/*UNIVERSALIZATION PLAN*/CONTRACTS/*PRIVATIZATION* OF TELECOMMUNICATION

99 – AUTHORIZATION OF OTHERS COMPANIES

99 – CHOICE OF LDN F-F, F-M COMPANIES

00 – *PUBLIC FUNDING LAW*

01 – *MOBILE SERVICE (SMP) AND BROADBAND AUTHORIZATION*

02 – *FREE COMPETITION OF LANDLINE*

03 – *CHOICE OF LDN M-M, M-F COMPANIES*

05 – *II UNIVERSALIZATION PLAN*

07 – *3G LICENCES*

10 – *III UNIVERSALIZATION PLAN AND PNBL*

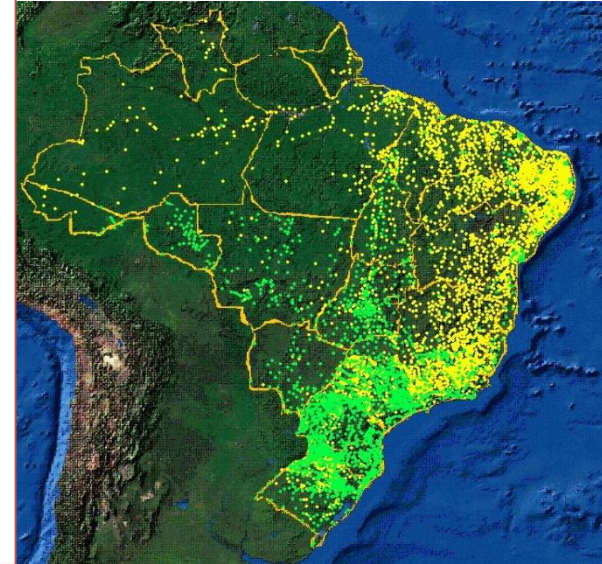
12 – *4G/450Mhz LICENCES*

12 – *COMPETITION PLAN*

14 – *700Mhz*

Art. 13 Concessionaire company should install backhaul in main cities without service in your own regions...

§ 2º Verified..., final leftover, it will be applied to backhaul expansion to small cities or higher speed, as written on Anatel regulation.

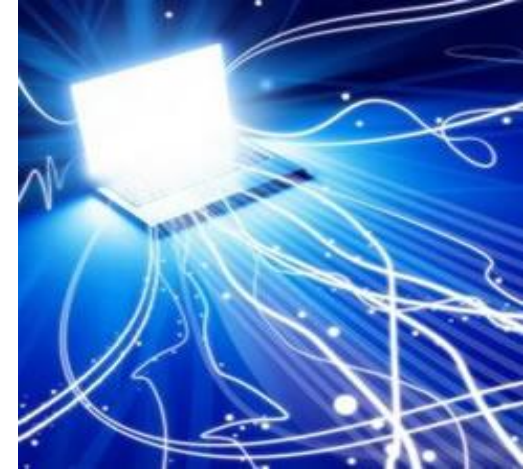
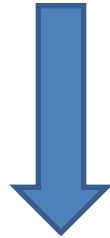


2.125 – CITIES WITH BACKHAUL BEFORE THE DECREE

3.445 – CITIES WITH BACKHAUL OBLIGATION AFTER THE DECREE

BROADBAND PLAN TO PUBLIC URBAN SCHOOL

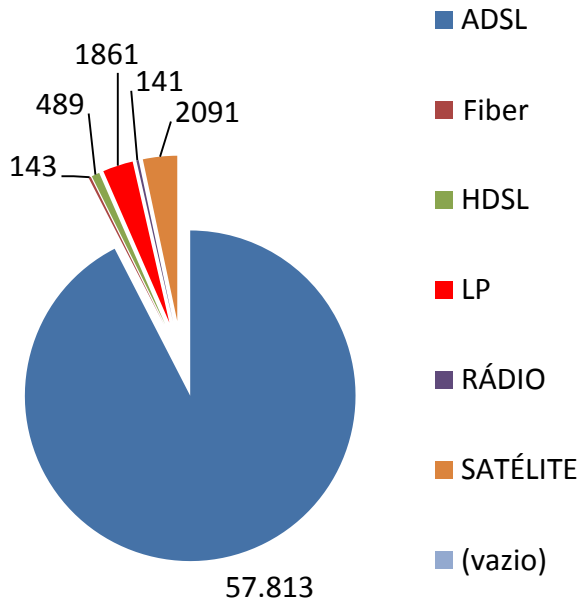
- Free broadband access (2 Mbps *download* and 256 Kbps *upload*) to all urban public schools
- 65 Thousand of schools already online over a total of 70 Thousand



More than 50 million students - 86% of brazilian students will receive broadband service from the project

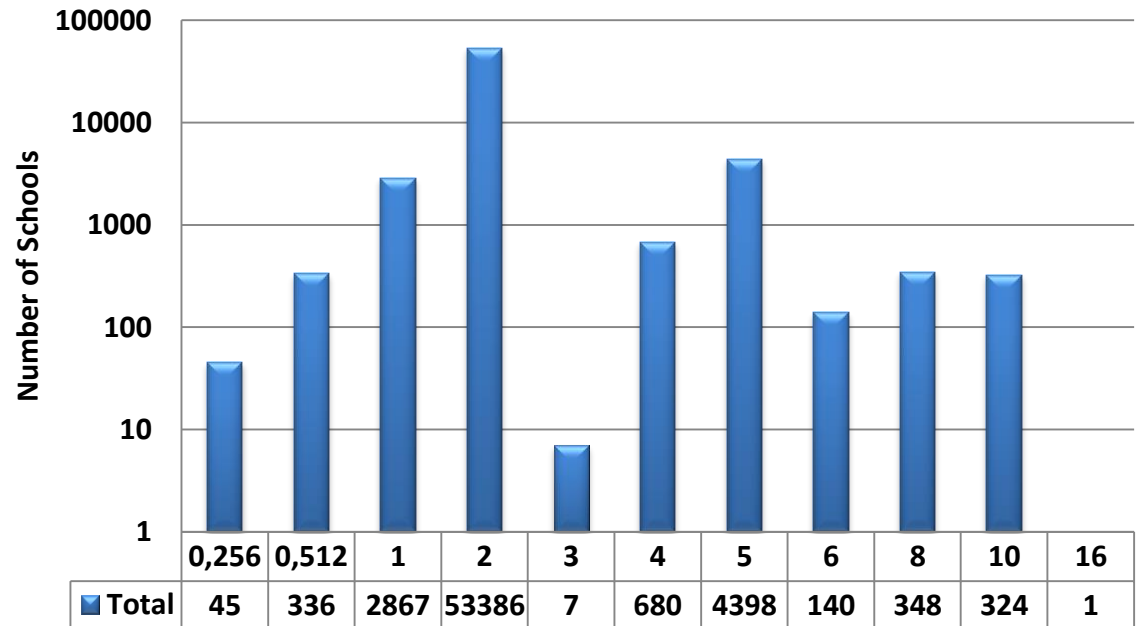
BROADBAND PLAN TO PUBLIC URBAN SCHOOL

ACCESS BY TECHNOLOGY



84% with 256Kbps to 2 Mbps speed

Broadband Speed (Mbps)



NATIONAL BROADBAND PLAN (PNBL)

Decree n° 7.175/10

PNBL is an initiative from Federal Government to expand broadband access all over the country, mainly to rural and remote area.

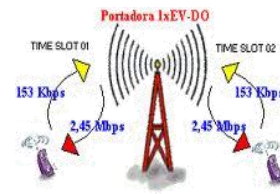
Goal: To expand the telecommunication infrastructure and services, to promote population's access and to achieve better price, national presence and quality conditions.



To expand broadband access



To expand telecommunications service to rural areas and remote regions



To encourage investment on telecommunications infrastructure



Regulatory and Financial program to reduce price and rate



To improve voice and data services

➤ In order to fulfill the goal to connect to internet more than **40 million of** households, some actions were made:

- Tax discount for network and telecommunication access devices
- Expansion of public optical fiber by public company called Telebras
- Tax free program to smartphones
- Popular broadband plan at a cost of U\$ 16.00 for 1 Mbps



- **March 2013:**
 - 2.930 cities served
 - 68,2 million access
- **Increase since PNBL launch:**
 - 330% of cities
 - 347% of access

Goal: Ensure telecommunication access and infrastructure in rural area

SERVICE BEFORE THE RURAL POLICY



PUBLIC TELEPHONE

SERVICES AFTER THE RURAL POLICY



PUBLIC TELEPHONE
FIXED INDIVIDUAL TELEPHONE
FIXED BROADBAND
MOBILE BROADBAND

- **The incumbent companies must offer landline service in rural area to any household.**

SCHEDULE TO RURAL OFFER WITH LANDLINE SERVICE

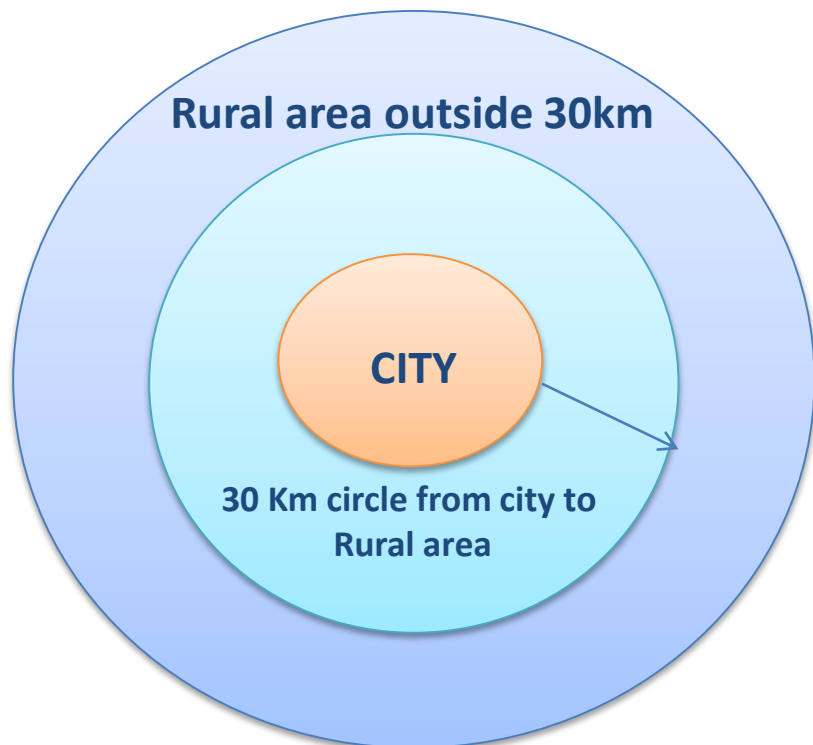
Until June 30 of 2014 in 30% of Brazilian cities

Until December 31 of 2014 in 60% of Brazilian cities

Until December 31 of 2015 in 100% of Brazilian cities

RURAL AREA PROJECT

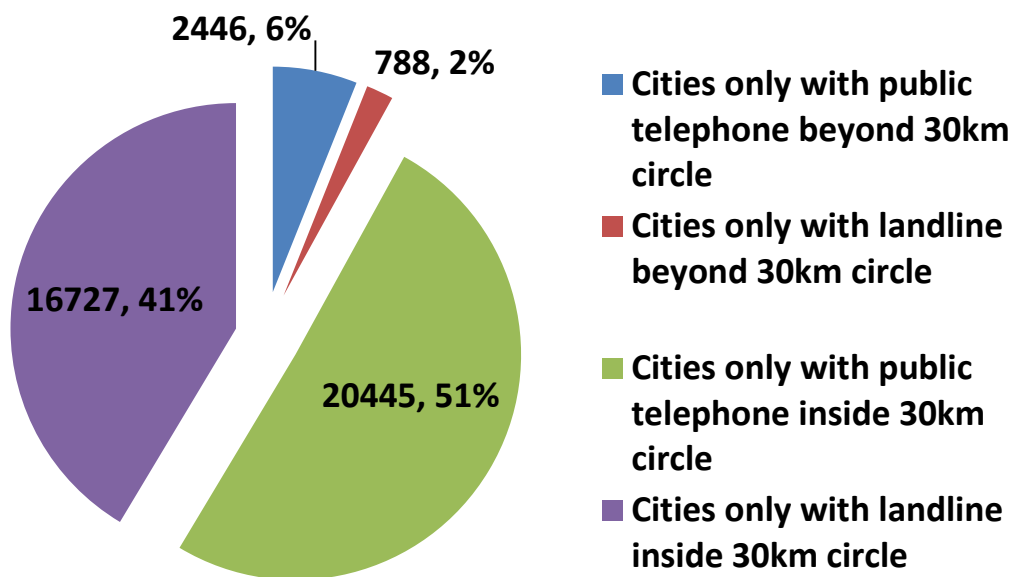
The auction for 450 MHz forced winner companies to offer **telecommunication service, mainly broadband**, to all households in rural area that is inside of 30 km circle from the main city.



- It is necessary to highlight that almost all Brazilian county already has mobile phone and mobile broadband services and until 2019 will have 3G services.
- These national offer for a long time was only with landline service.

- **92% of small cities with landline service will have broadband access until 2019**

Cities that have fixed service from the county



The population that lives outside 30 km circle from the main city is 965,5 thousand (almost 1% of Brazil population)

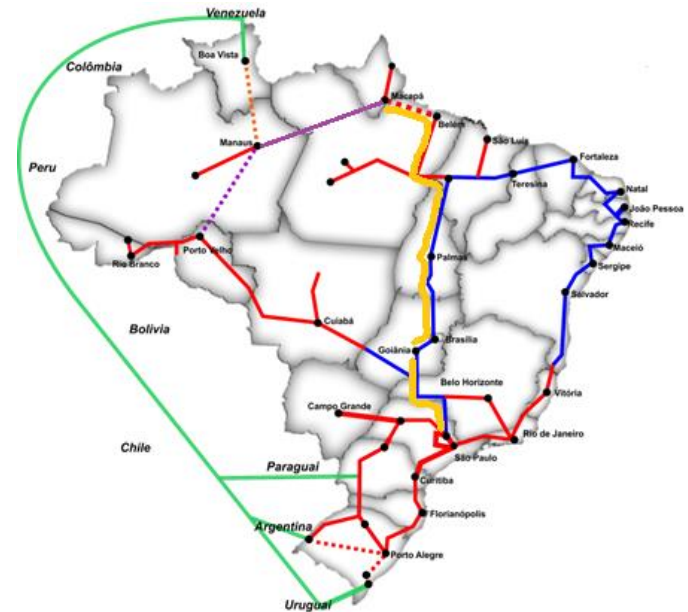
➤ **Free broadband service to all rural public schools (96% of total rural schools).**

- **Enlarge spectrum radiofrequency to achieve National Broadband Program – PNBL.**
- **Expansion of 4G service to cities with less than 30 thousand citizens.**
- **Mandatory offer with mobile service to rural area.**

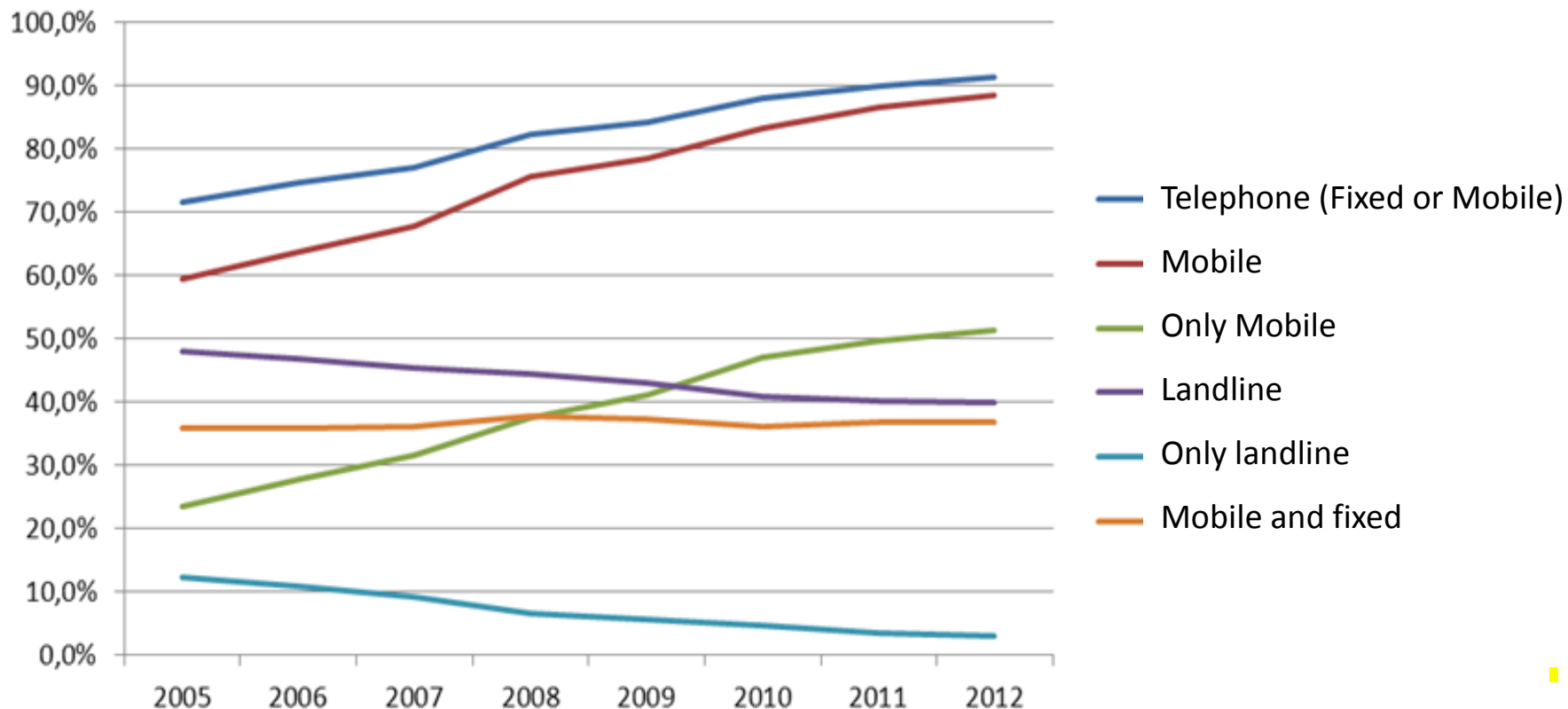


- **Brazilian Counties: 5.570**
- **Counties with more than 30 thousand citizens: 1.073 (75,7% of urban population)**
- **Counties with less than 30 thousand citizens: 4.497 (24,3% of urban population)**

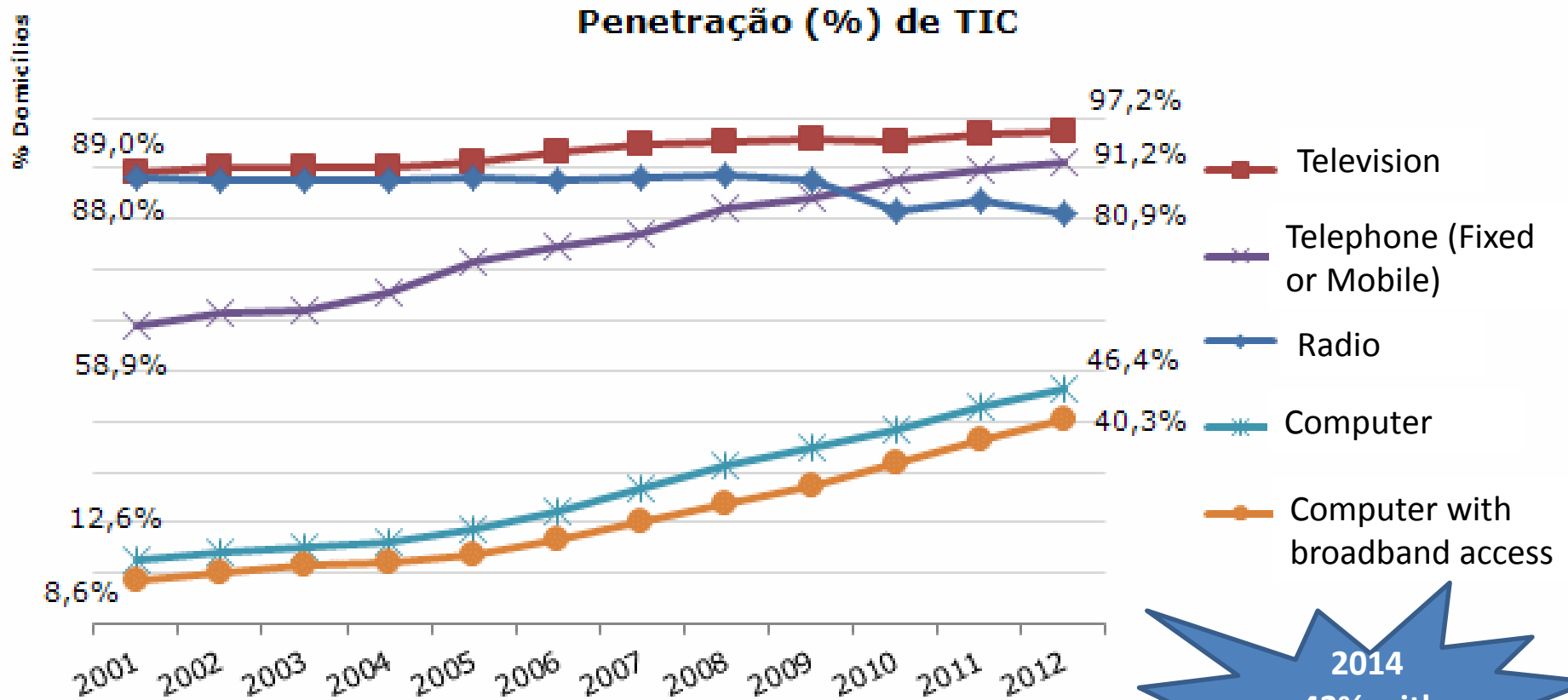
- **Brazil's Population: 202.352.574**
- **Rural population: 29,5 million**



National Research of Residencies data shows that less than 10% of Brazilian households don't have individual telephone (fixed or mobile). Another important data is regarding the mobile service, more than 50% of the households has only mobile telephone.

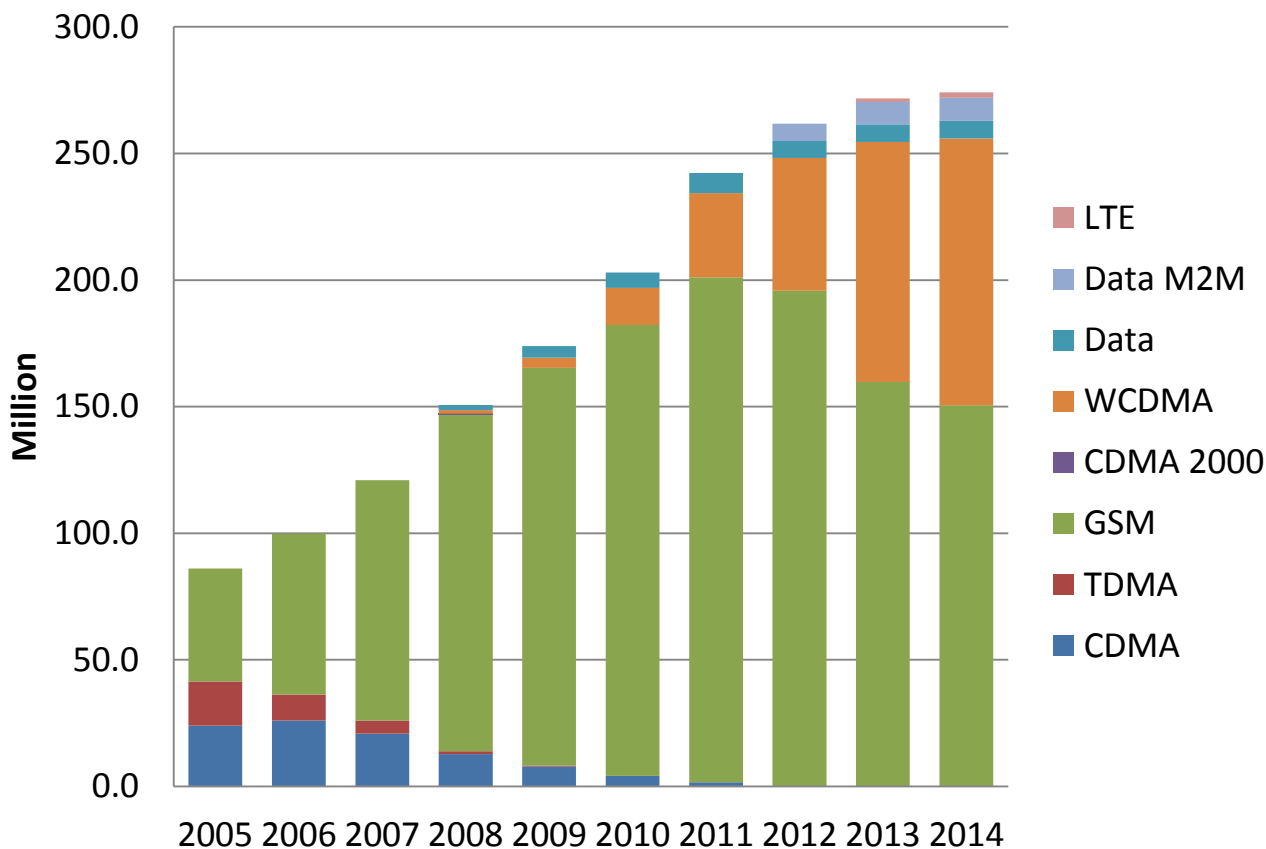


- Brazilian households (%) with Radio, TV, Telephone, Computer and Computer with broadband access



**2014
42% with
broadband**

Access by Technology

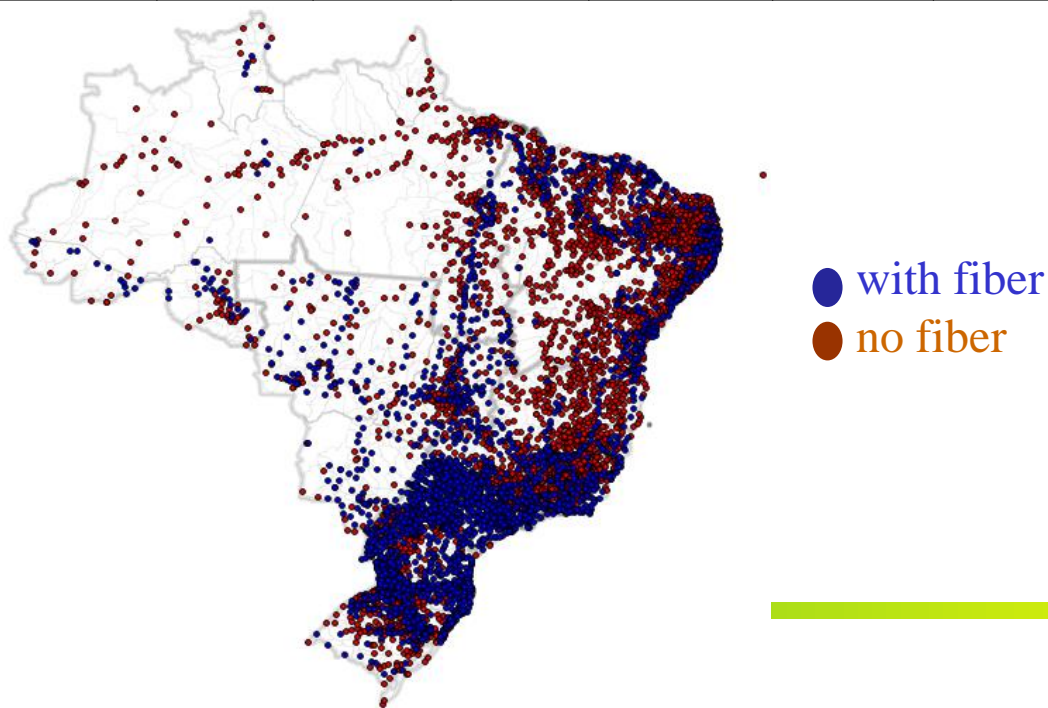


- 104,9 Million mobile broadband Access
- 96,1 Million 3G/4G
- 8,8 Million Modems

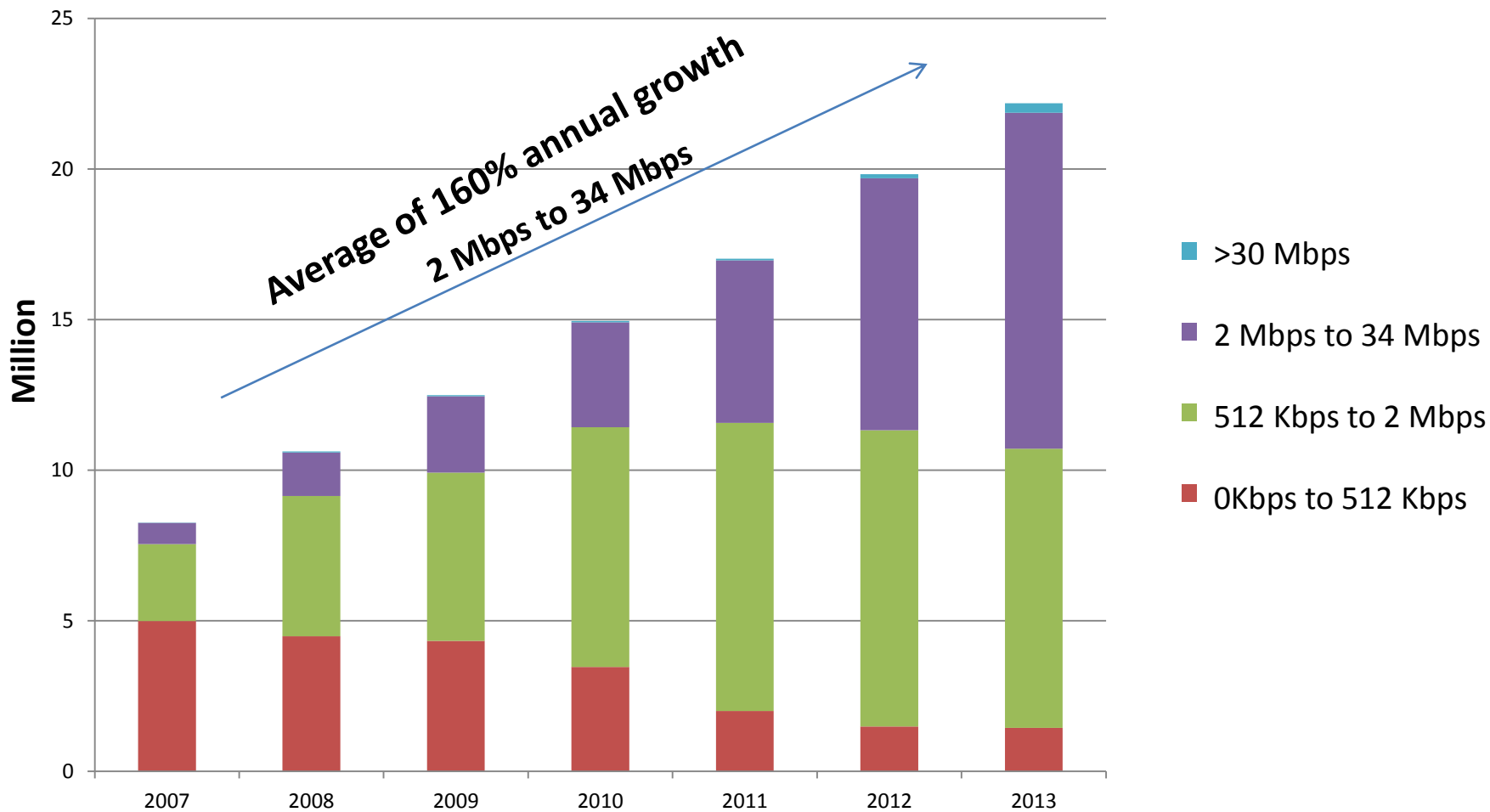
- 5.570 cities with 2G/2,5G
- 3.395 cities with 3G (90% os urban population)

NOWADAYS

	Only Fiber	One fiber operator	Fiber and others	Just Fiber	Radio	Dedicate line	satellite	Others	No Fiber
Cities	250	2121	311	2.682	1636	13	64	1175	2.888
%	4,5%	38%	5,5%	48%	29%	0,2%	1,3%	21,5%	52%

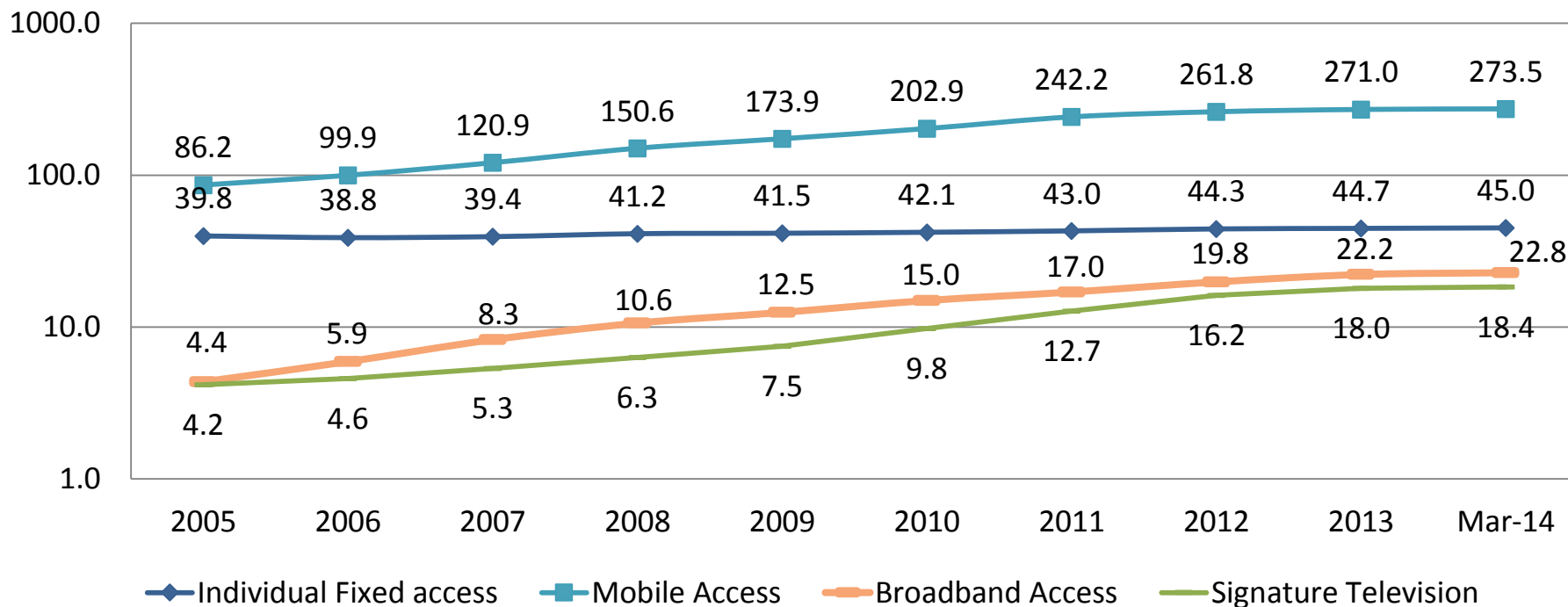


Evolution Data



Landline is losing social and economic relevance to others services like Mobile service, Broadband and Signature Television.

Telecommunication Evolution Data



Date (*)	Average Monthly Speed (download e upload)	True Speed (download e upload)
2013	Minimum 60% of hire speed	Minimum 20% of hire speed
2014	Minimum 70% of hire speed	Minimum 30% of hire speed
2015	Minimum 80% of hire speed	Minimum 40% of hire speed

* Regulation to management of broadband quality, nº 574 e 575, 28/10/2011

Exemplo:

Hired plan 2 Mbps download	Average Monthly Speed (Minimum)	True Speed (Minimum)
2013	1,2 Kbps	400 Kbps
2014	1,4 Kbps	600 Kbps
2015	1,6 Kbps	800 Kbps

Access

Infrastructure

Content

Use

Ensure high speed broadband, as well as use conditions of all applications and public service to any person or institution, regardless of location and social-economic status

CHALLENGES AND TRENDS

Access

- **To offer access to telecommunication service to:**
 - Residencies; Public Institutions; Low income families; small companies
- **To reduce broadband price to low income families**
- **To increase broadband speed**

Infrastructure

- To expand high capacity infrastructure
- To expand transport network and access to north and northeast regions minimizing territorial differences
- To enhance connectivity of public institutions
- To speed the broadband offer in rural área and remote area

Content

- To qualify the broadband use costumer experience and to offer content and apps developed by national industry

Use

- To use TIC's to promote social inclusion of brazilian population

● COMPANIES RESOURCES

● REGULATORY UPDATE

- New Universalization Goals
- Review of telecommunication service regime
- Use of the sector fund

● AUCTION FOR RF'S

● PUBLIC FUNDING





THANK YOU!

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