O Mercado Brasileiro de Telecomunicações

Aluizio Byrro

Nokia Siemens Networks

Chairman – Latin America

Como chegamos aqui?

Nosso mercado antes e depois da privatização

História das Telecomunicações no Brasil

Do Segundo Império ao Governo Militar

- Investimento privado e pouca regulamentação
- Vazios de telecomunicações: 2% de penetração e sem telefone público

Estatização

- Minicom, Embratel e Sistema Telebrás
- Desenvolvimento das telecomunicações

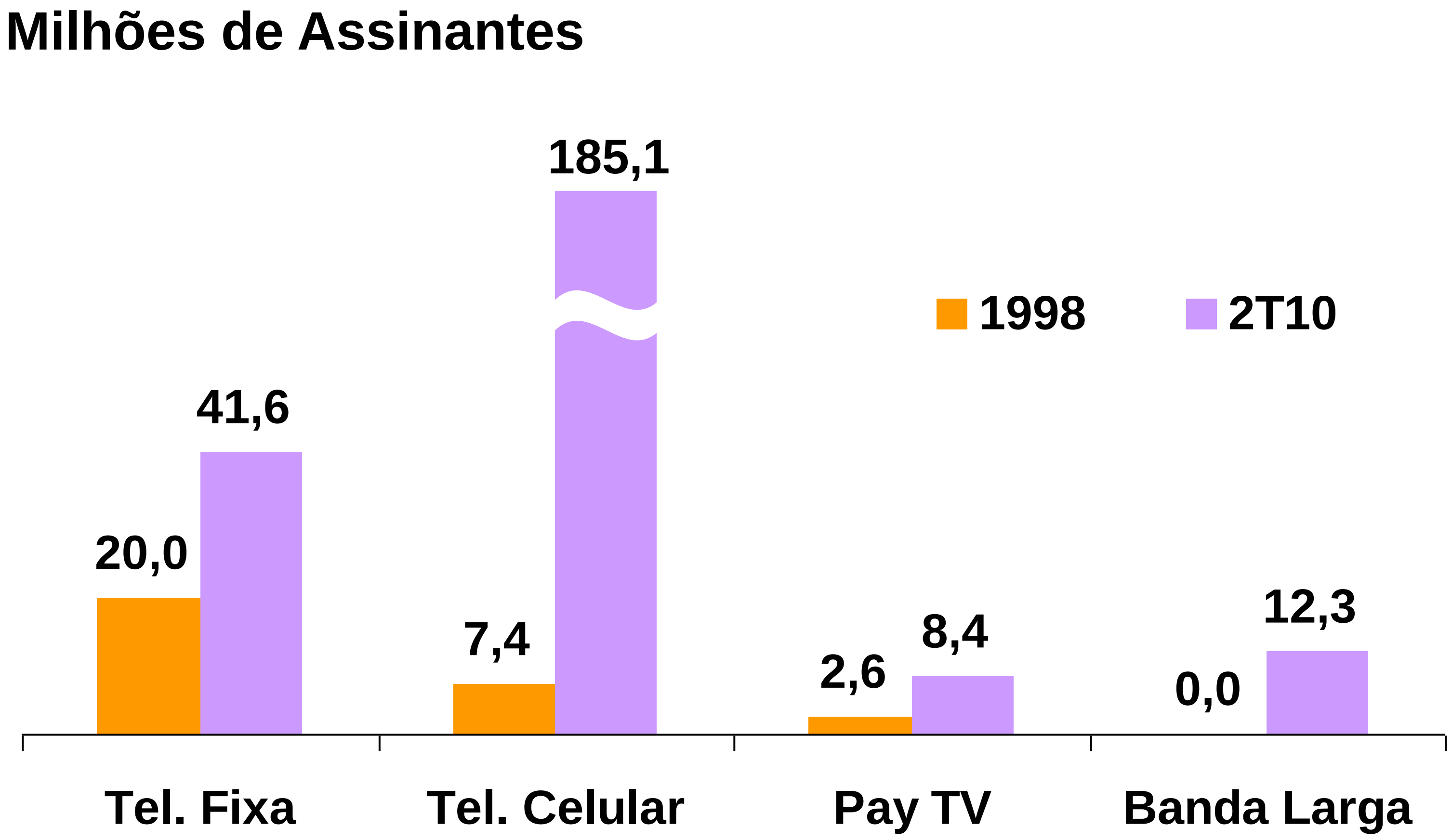
Privatização

- Necessidade de investimento
- Capital privado e regulamentação governamental

Pós Privatização

- Consolidação
- Desafios

O Brasil pré e pós a privatização



Que país construímos nos últimos 12 anos?

1998-2010

Source: Eduardo Levy – Sinditelebrasil

247 milhões

de acessos (telefonia fixa, móvel, internet e tv por assinatura)

Source: Eduardo Levy – Sinditelebrasil

5.565 municípios

com acesso a redes de Banda Larga Fixa

3.000 municípios

atendidos com
Banda Larga Móvel

4.621 municípios

com TV por assinatura

Source: Eduardo Levy – Sinditelebrasil

26 milhões

de acessos Banda Larga, incluindo rede fixa e 3G

Source: Eduardo Levy – Sinditelebrasil

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R$ 180 bilhões

de investimentos privados

R$ 0 bilhões

de investimentos públicos

Source: Eduardo Levy – Sinditelebrasil

R$ 43 bilhões

em tributos

por ano

Source: Eduardo Levy – Sinditelebrasil

A verdade sobre as privatizações

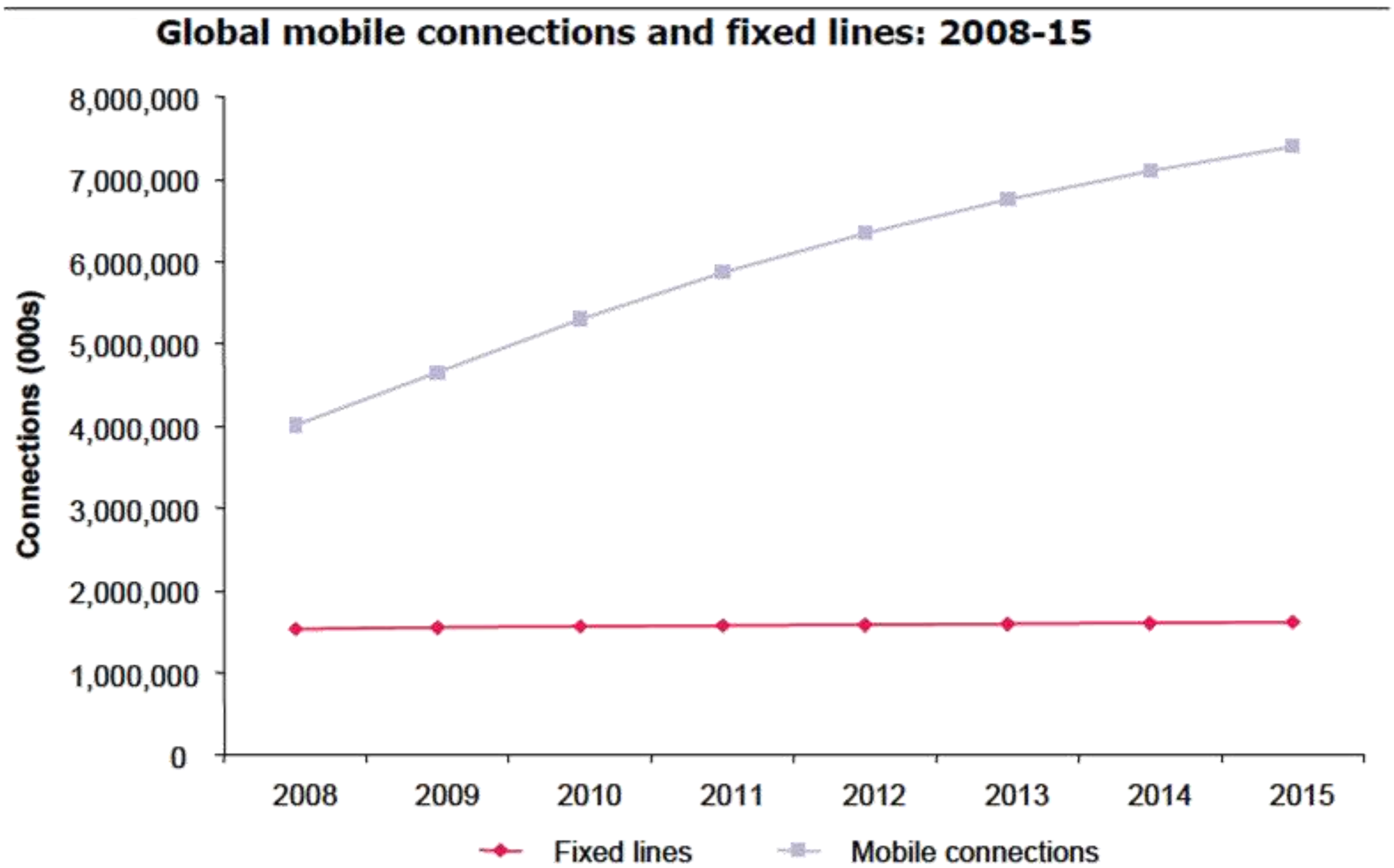
Antes da privatização	Hoje
havia 14 telefones por grupo de 100 habitantes.	Essa média saltou para 124
em 25 anos como estatal a Telebrás investiu R$ 60 bilhões	Em 11 anos a iniciativa privada investiu R$ 180 bilhões
a Telebrás cobrava US$ 1 mil por linha telefônica	preço zero pela linha
usuário esperava dois anos pela instalação	usuário consegue o telefone em menos de uma semana
no mercado negro a instalação custava até US$ 10 mil.	não há mercado negro
Quando a Telebrás foi privatizada, o País tinha 24,5 Mi de telefones	tem 224 Mi telefones

*) Suely Caldas, Estado 31/10/2010

Onde estamos?

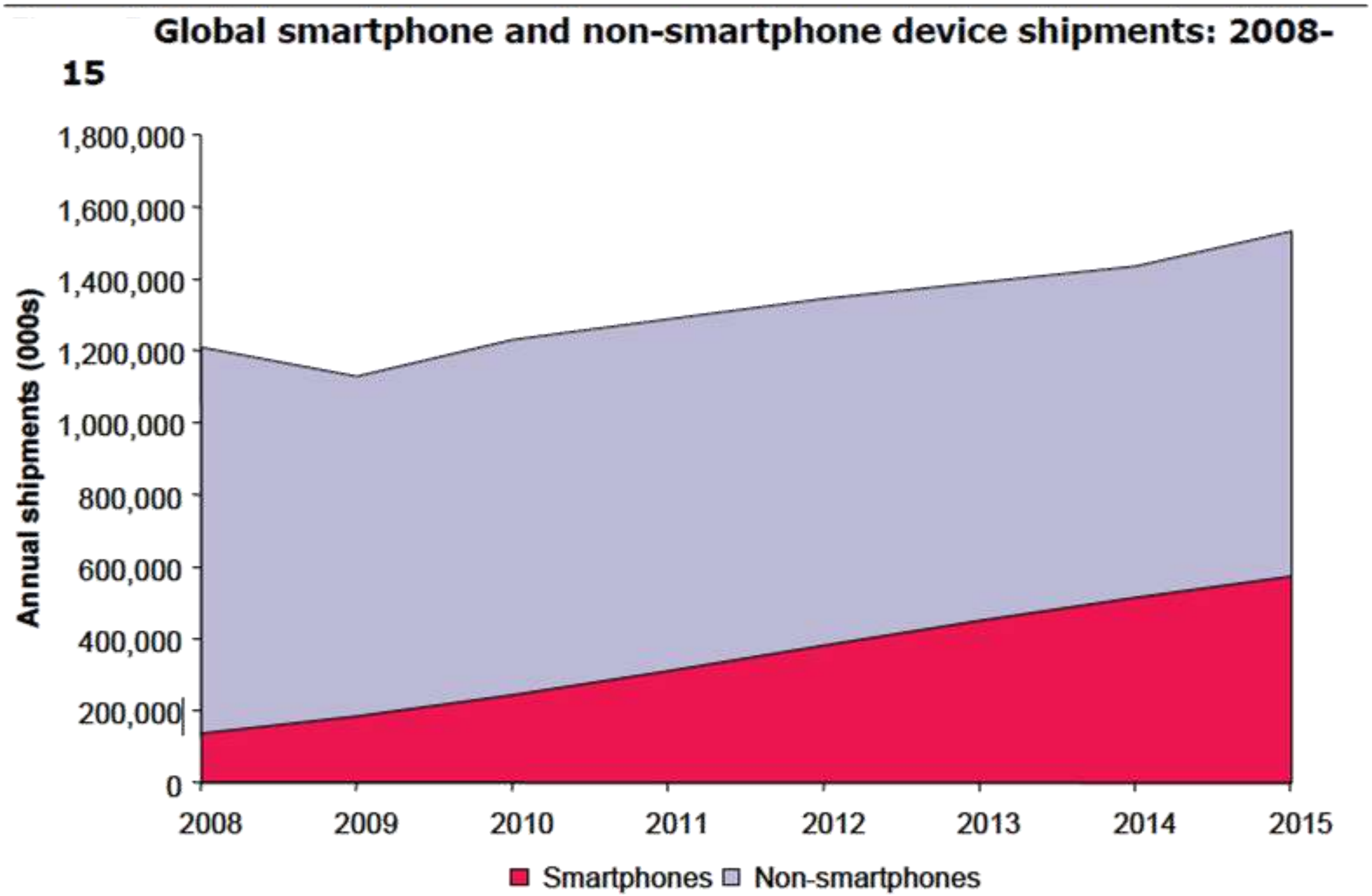
O mercado de telecomunicações no Brasil e no Mundo

Global connections: fixed and mobile



Source: Ovum

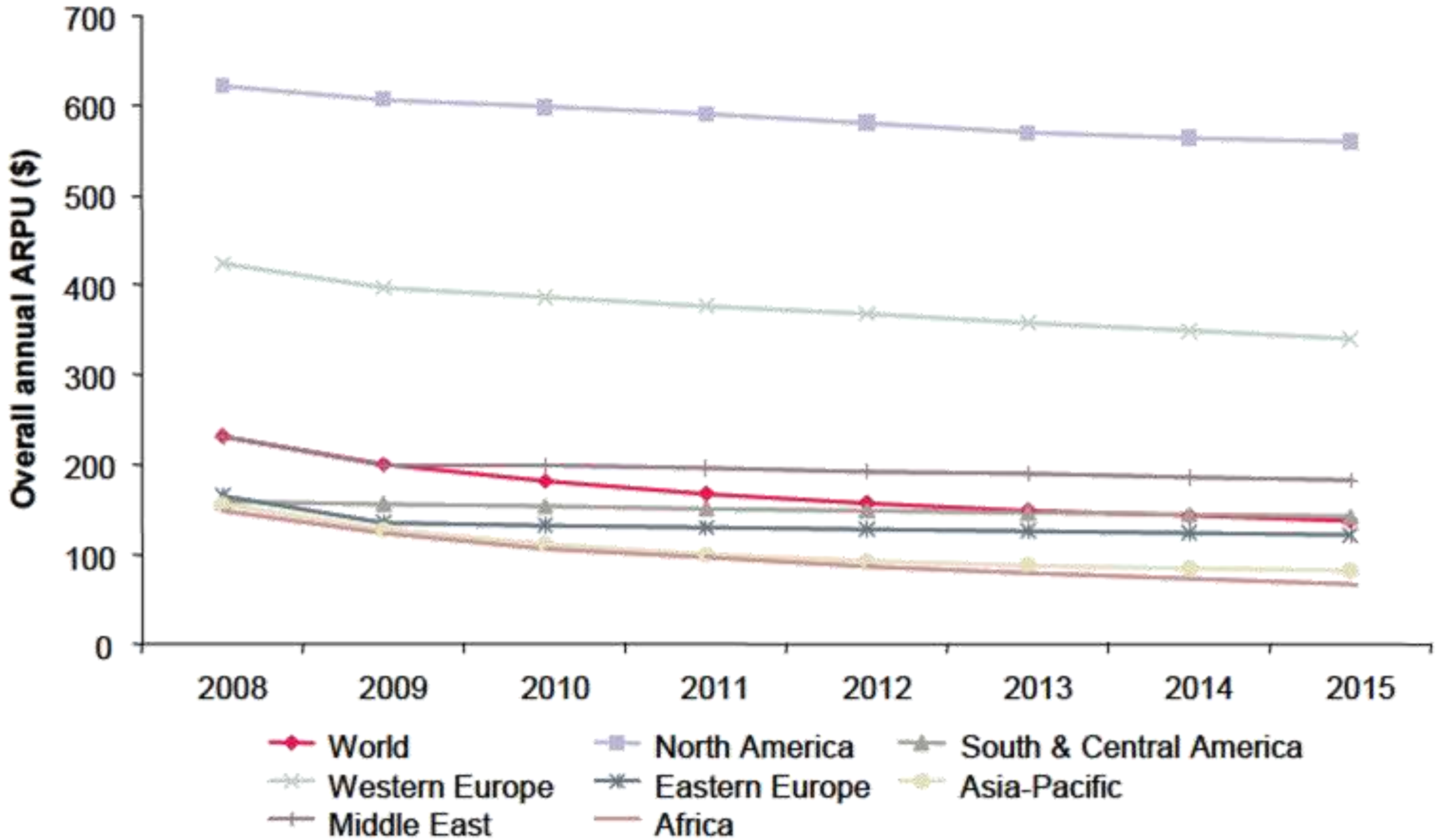
Smartphones shipments increase



Source: Ovum

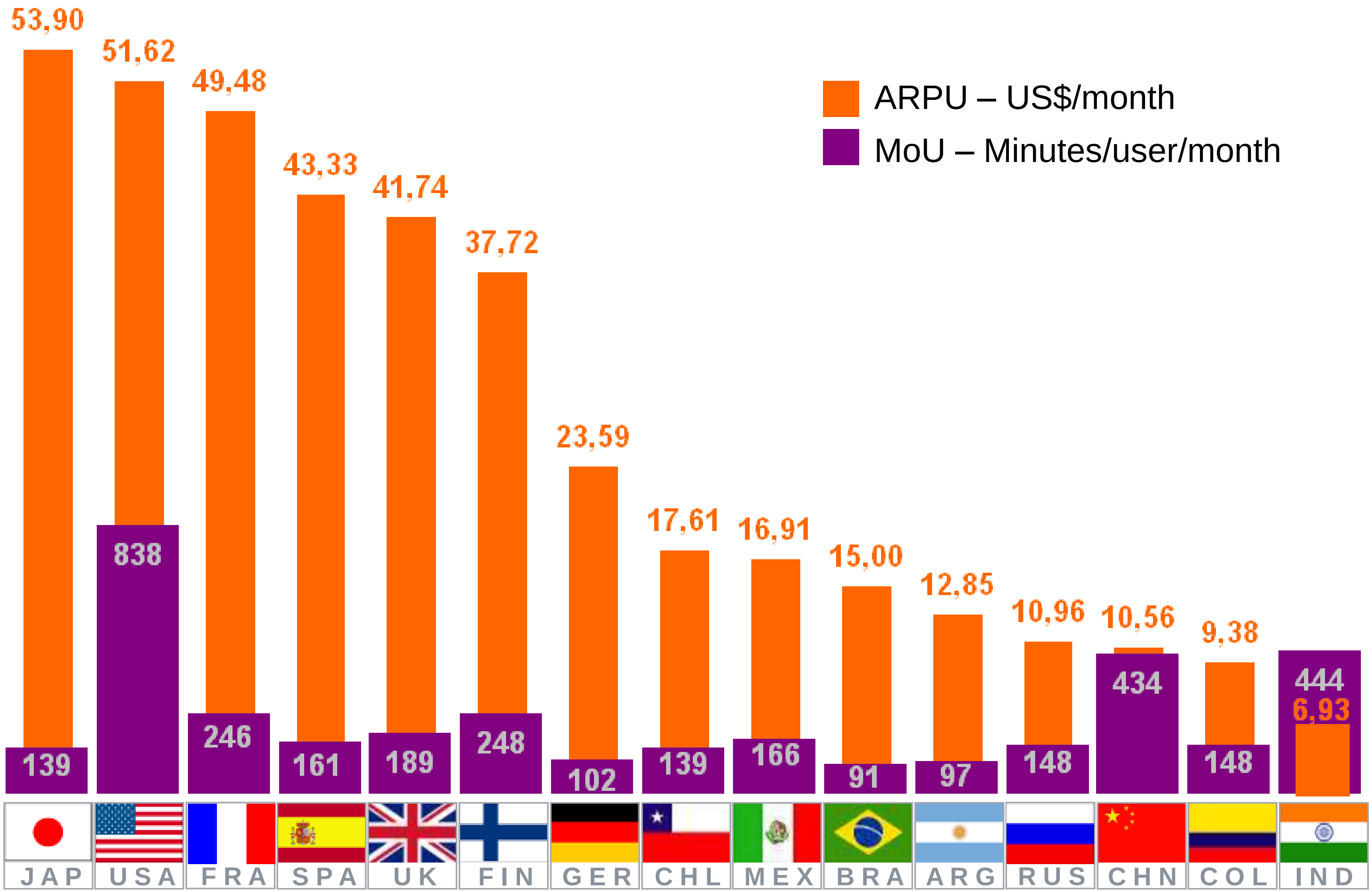
ARPU decrease may not be so dramatic

Figure 7 **Global and regional overall annual ARPU: 2008-15**



Source: Ovum

LAT markets combines low ARPU and low traffic



Source: Merrill Lynch (2008)

The next step for **applications is going mobile**

Content
- Self-created
- Online distribution

Information
- Search, maps
- Creation
- Publishing

WAPEDIA

Mobile portals

Mobile broadband

Communities
- Contact networks
- Blogs
- Recommending, tagging, swapping content

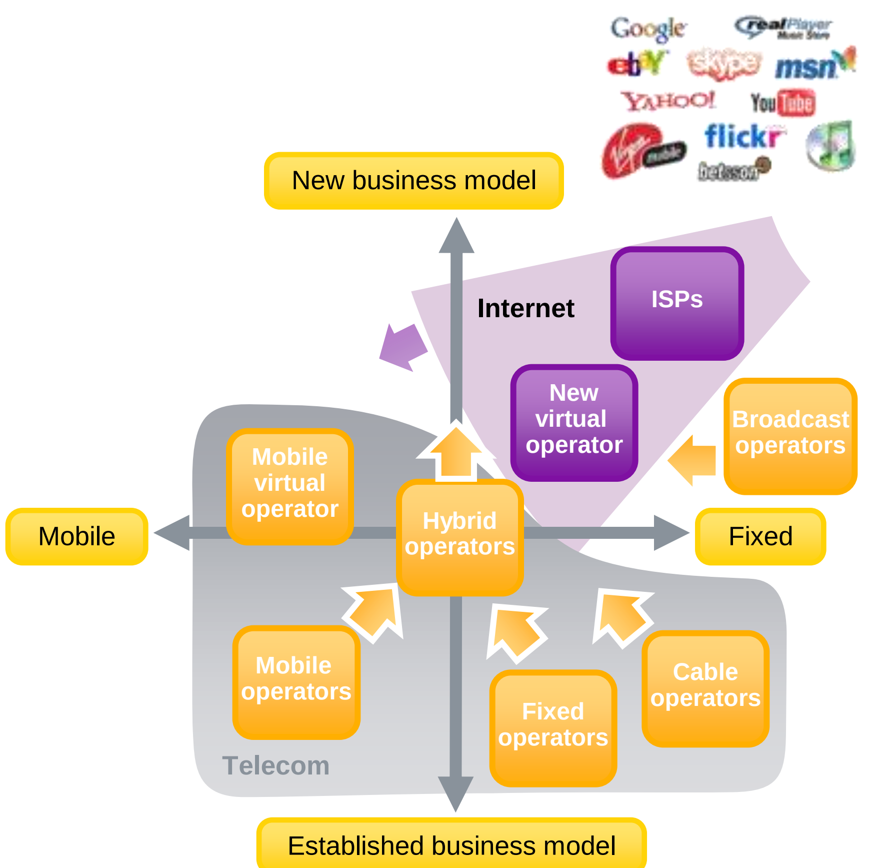
Virtual environments
- Gaming
- Dating
- Etc…

Commerce
- Online commerce of physical and digital goods

Work
- Mobile push e-mail

New players impose new competitive requirements for the operators

What are the market dynamics?



New players in the market

- Internet players with strong brands and disruptive offerings are competing in telecom markets with new business models
- Alternative operator types, like xVNOs have brought competitive pricing and aggressive marketing
- Content SPs search for new channels in Internet/Mobile

→ **Endangering operator's core business – avoid the bit pipe role!**

Barreiras à Convergência: Culturas e Paradigmas precisam ser harmonizados

	Telecomunicações	**Radiodifusão**	**Tecnologia da Informação**
Cultura	"one to one"	"one to many"	"many to many"
Foco	Operação	Geração, Distribuição e	Tecnologia
Abrangência	Global	Local	Global
Regulação	Regulado	Regulado	Pouco Regulado
Padronização	Formal	Formal	Padrões *"de facto"*
Ciclo de vida	Longo	Muito Longo	Curto
Rede	Alta Complexidade	Média Complexidade	Média complexidade
Competição	Poucos players	Diversos players	Muitos players

... some data points

Skype added **40.3** million registered users during the quarter and ended the period with more than **521** million registered users
(Ebay Qu. report)

In US, „teenagers average the greatest number of text-messages sent or received, at **1,742** messages per month in Q2 2008“
(Nielsen, Oct. 2009)

34 community messages per user per day in a mobile only social network (U.S.)
(itsmy.com)

Massive growth in social networking
- Now the **4th** most popular online activity
- Global phenomenon

(Nokia)

Facebook Mobile worldwide audience: **65** million monthly users, representing around **20%** of Facebook online audience
(Facebook)

Globally, Facebook is the largest social network with **> 300 mio** users now.
In many countries other social networks are even more popular

Trend: The phone is more than a phone - a mentor / life enabler

- The device becomes the daily
  - mentor / guide / tutor
  - decision making support system /
  - transaction device /
  - potentially even health monitor
- Users rely on their connected device for trivial and important decisions
- Information accuracy and transparency are key to customer satisfaction & decisions
- Mobile computing is increasingly relevant as business platform

- U.S. i-phone users have 28 apps installed in avg.
- 50k i-phone apps are available in total
- I-phone and Android platform users are most active in downloading apps
- Online recommendations drive consumer choice (e.g. Trip Advisor, Amazon, eBay)

- Network providers should work on addressing constraints that may stand in the way of spontaneous usage (e.g., latency, bandwidth limitation, privacy, security, etc)
- Explore opportunities to enable different value chains connected

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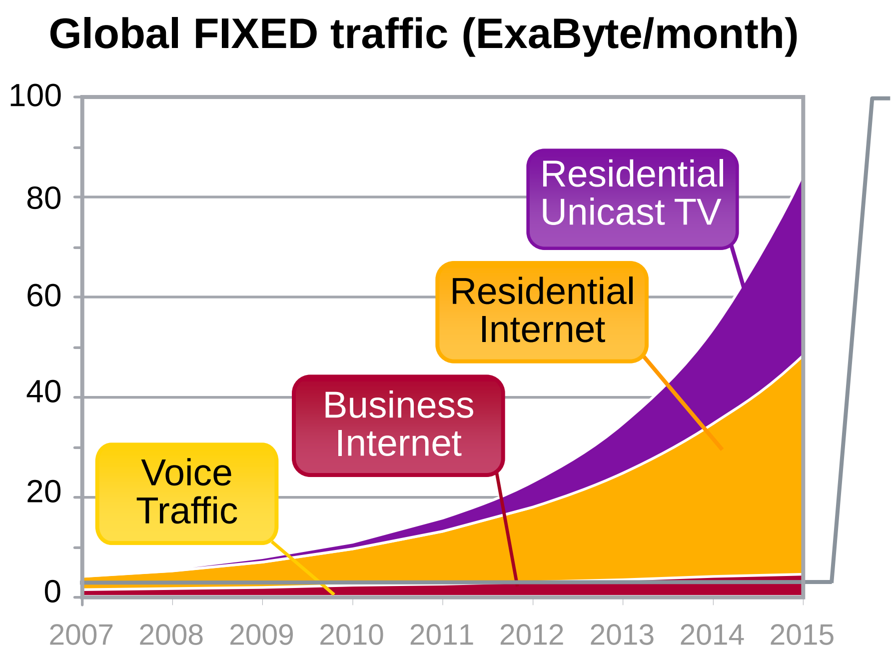
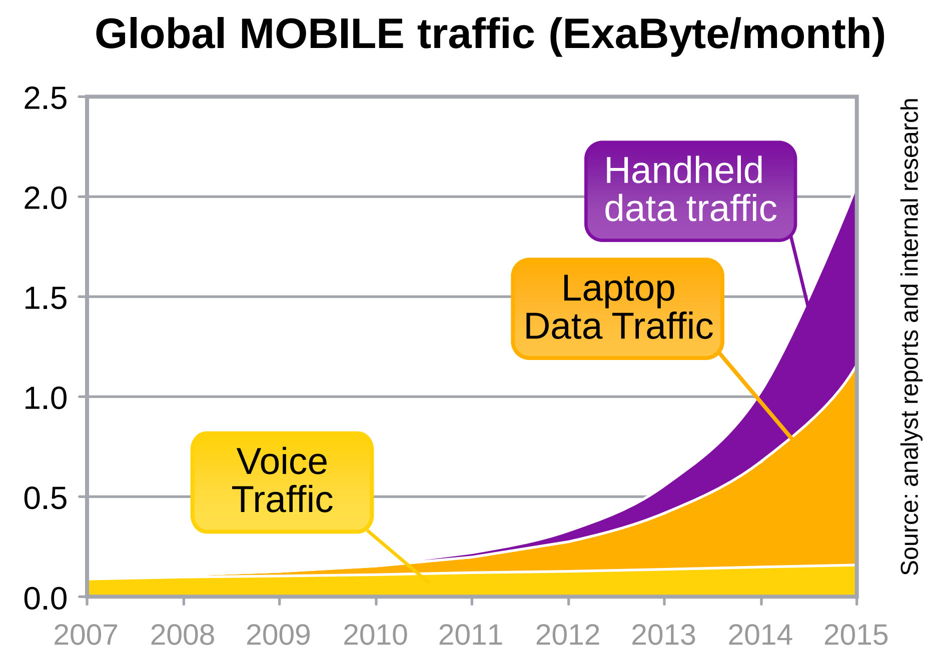
Exponential growth in fixed and mobile



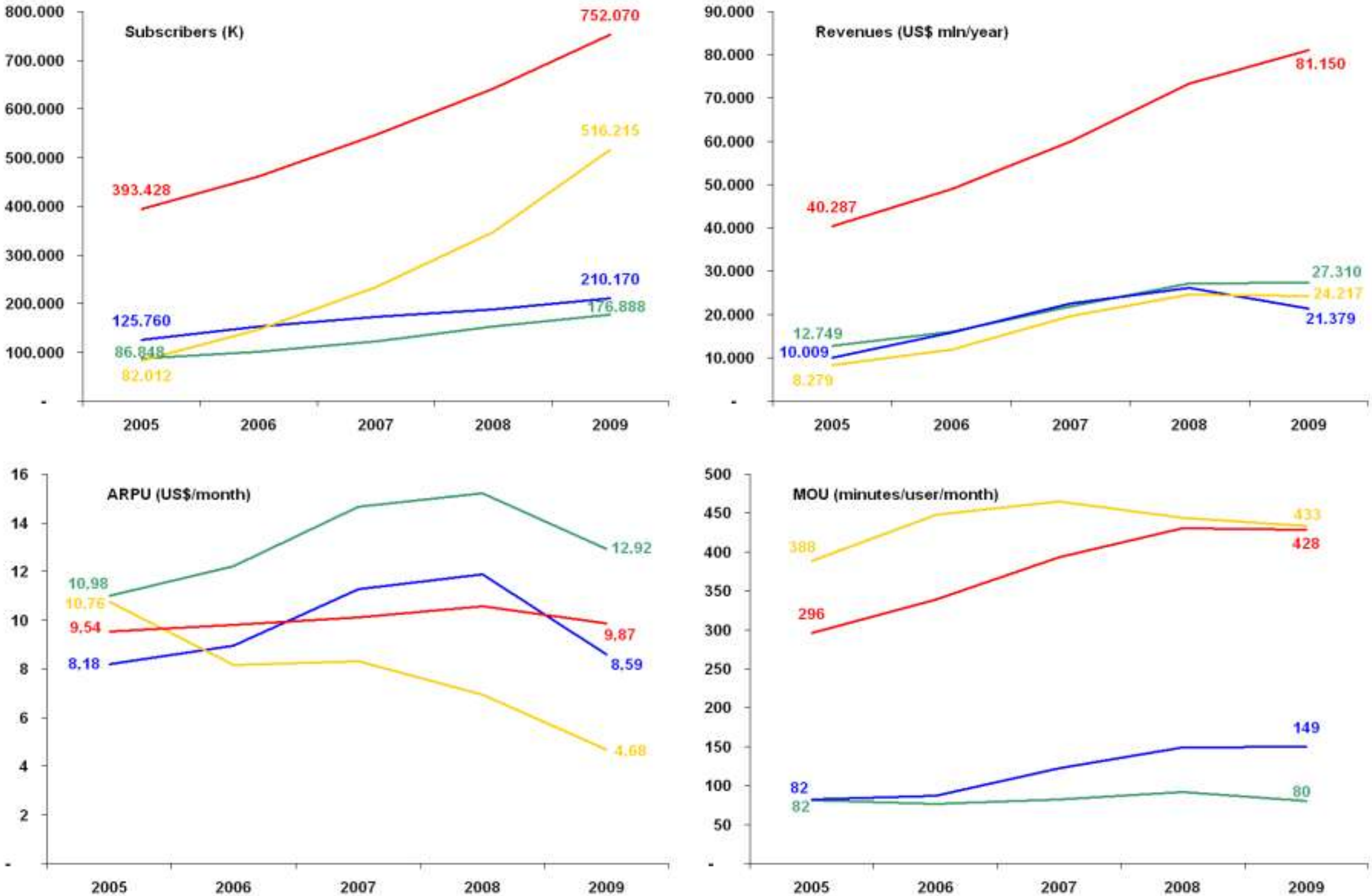


Fixed broadband traffic is 40x mobile in 2015

Mobile data traffic grows 300 fold

Source: NSN

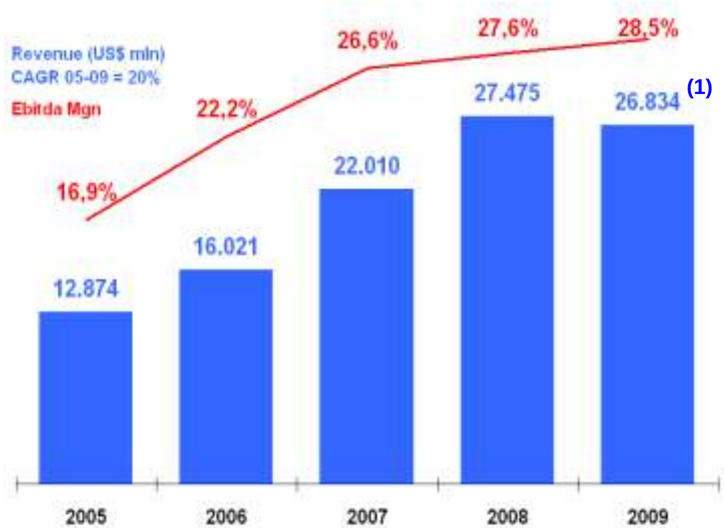
Mobile Market – BRIC



Brazil **Russia** **India** **China**

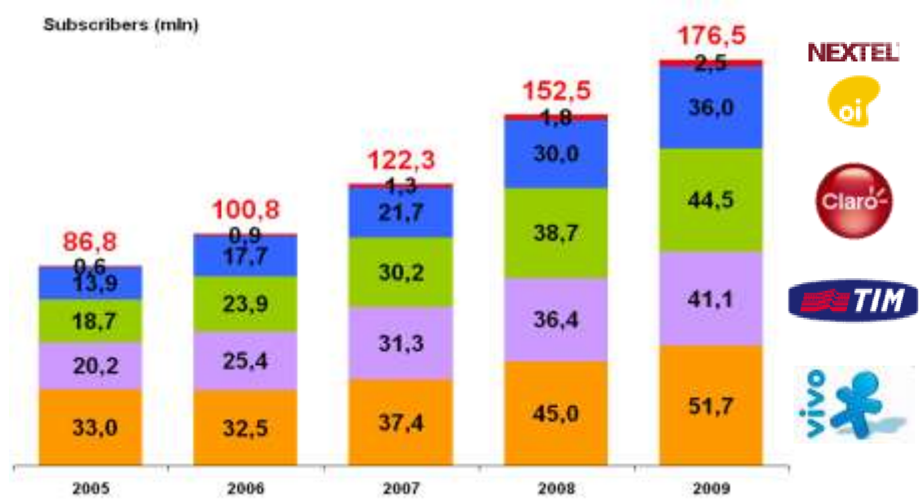
Mobile Subscribers and Players

Total market grows steadily with fierce competition and growth is expected to go on



1) Market grew 8% in R$ in 2009

- Subs growth accounts for ¾ of market growth. Currency appreciation is ¼.
- Ebitda Margin constantly improving, but not world class with high competition



- Total Penetration reached 90% in 2009, subscriber penetration around 50% of end-users (2)
- Vivo recovering growth after migrating to 3GPP
- Oi and Claro have best growing performance among Top 4 operators.

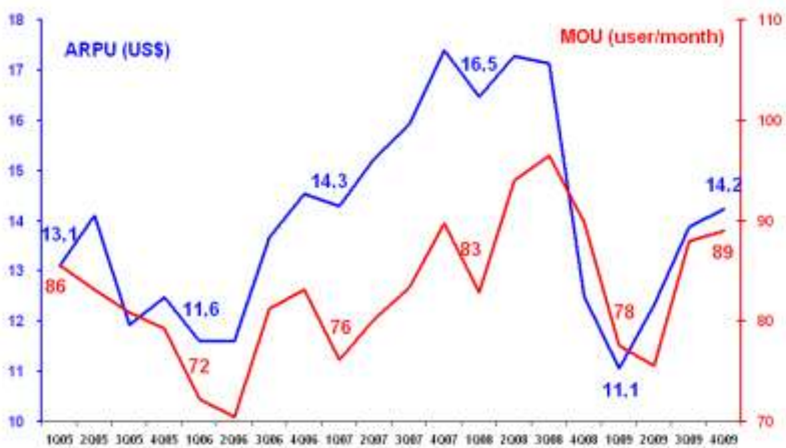
2) Source: PNAD-IBGE; Others being multi-SIM users and M2M

Brazil presented constant growth last 4 years. Currency appreciation and increasing penetration projects continued growth in market and revenues for coming years

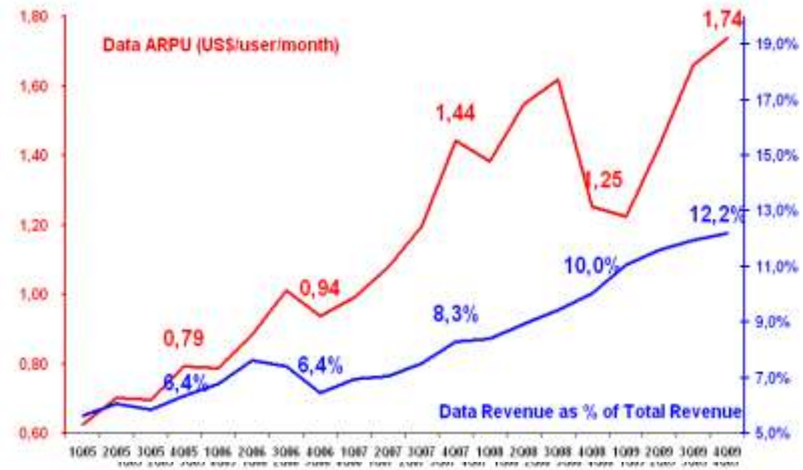
Sources: Merrill Lynch, Teleco

Mobile Indicators

Mobile Broadband and flat fee drive indicators growth



- Low ARPU in Global comparison, but highest among BRIC.
- MOU growing despite same ARPU level (in BRL), due to flat-fee packs and promotions.
- High taxes and interconnection fees prevent MOU growth: 44% of tariff are taxes.



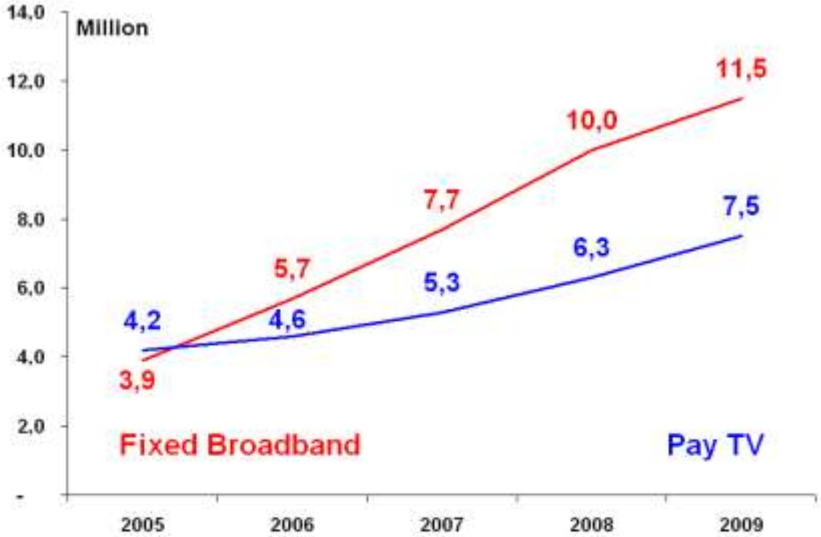
- Data ARPU grew almost 40% in USD yoy.
- Mobile browsing is the main driver for growth. Only 6% of subs is responsible for this growth
- Mobile Broadband is expected to surpass Fixed in 2010.

Mobile data traffic is booming and will continue to grow expressively, increasing network usage and creating bottlenecks in transport infrastructure

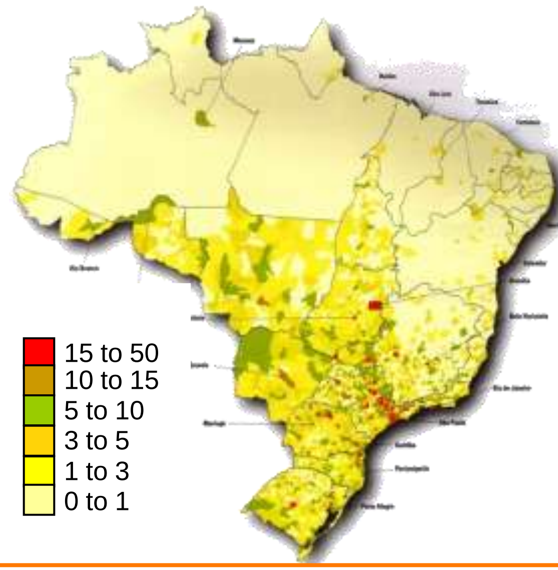
Sources: Merrill Lynch, Teleco

Broadband and Pay TV

... Where the government has a nationwide plan to aggressively drive Broadband and competition into the Brazilian market



Fixed BB Penetration by 100 habitants



- National Broadband Plan to take BB to 83% of cities, 75% of its households and US$ 8 bln investments up to 2014. Main levers: Govt' direct investment, stimulus to CSP and tax reductions.
- Pay TV market has small penetration when compared to similar countries.
- Lack of backbones and competition leads to high BB prices in remote cities and states. Only 6% of cities have actual competition in BB, 56% have 1 player and 38% have none.
- Law project 29 (PL-29) could allow incumbents to triple play in their concession area.

Source: Teleco, Anuário Telecom, Exame Magazine

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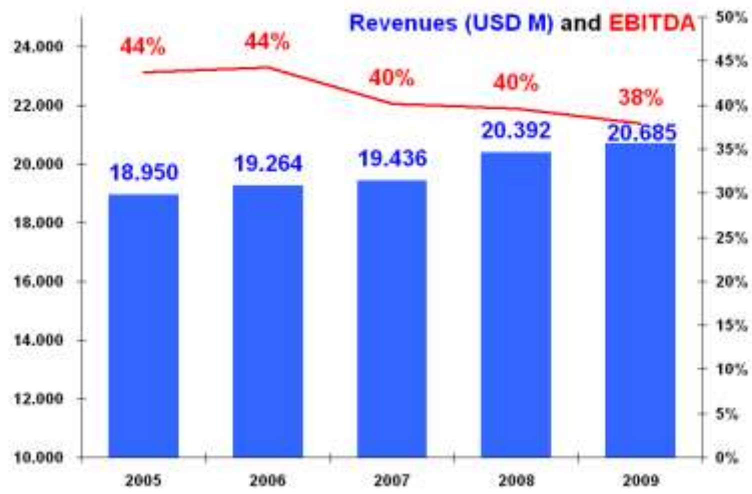
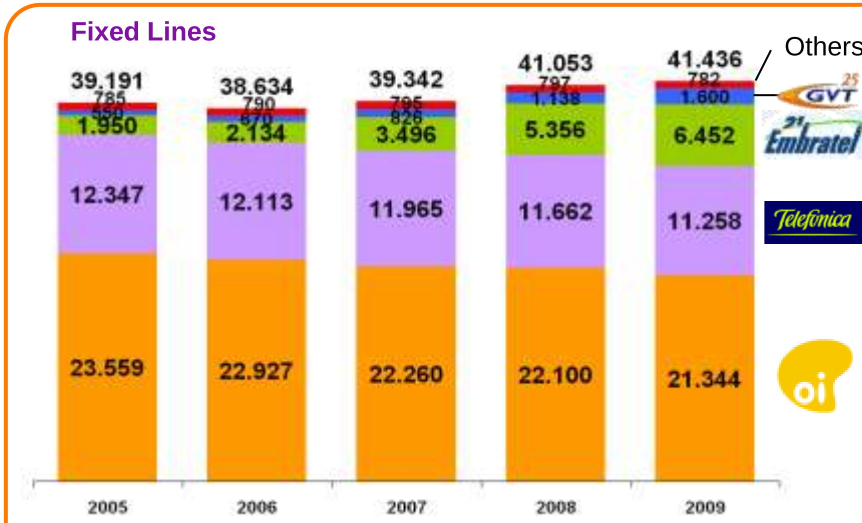
Fixed Market

The fixed market is flat, and growth is only expected from new businesses as broadband and Triple Play



- Ebitda erodes as mobile voice replaces fixed
- High pressure for Opex reduction to keep margins



- Fixed market was able to stop declining and had slight recovery.
- Embratel / Net triple play offer based in VoC is the main driver of this trend.
- GVT is also growing fast with triple play offers, mainly outside original concession area.

Significant investments are expected in the Broadband Access market...

Source: Teleco

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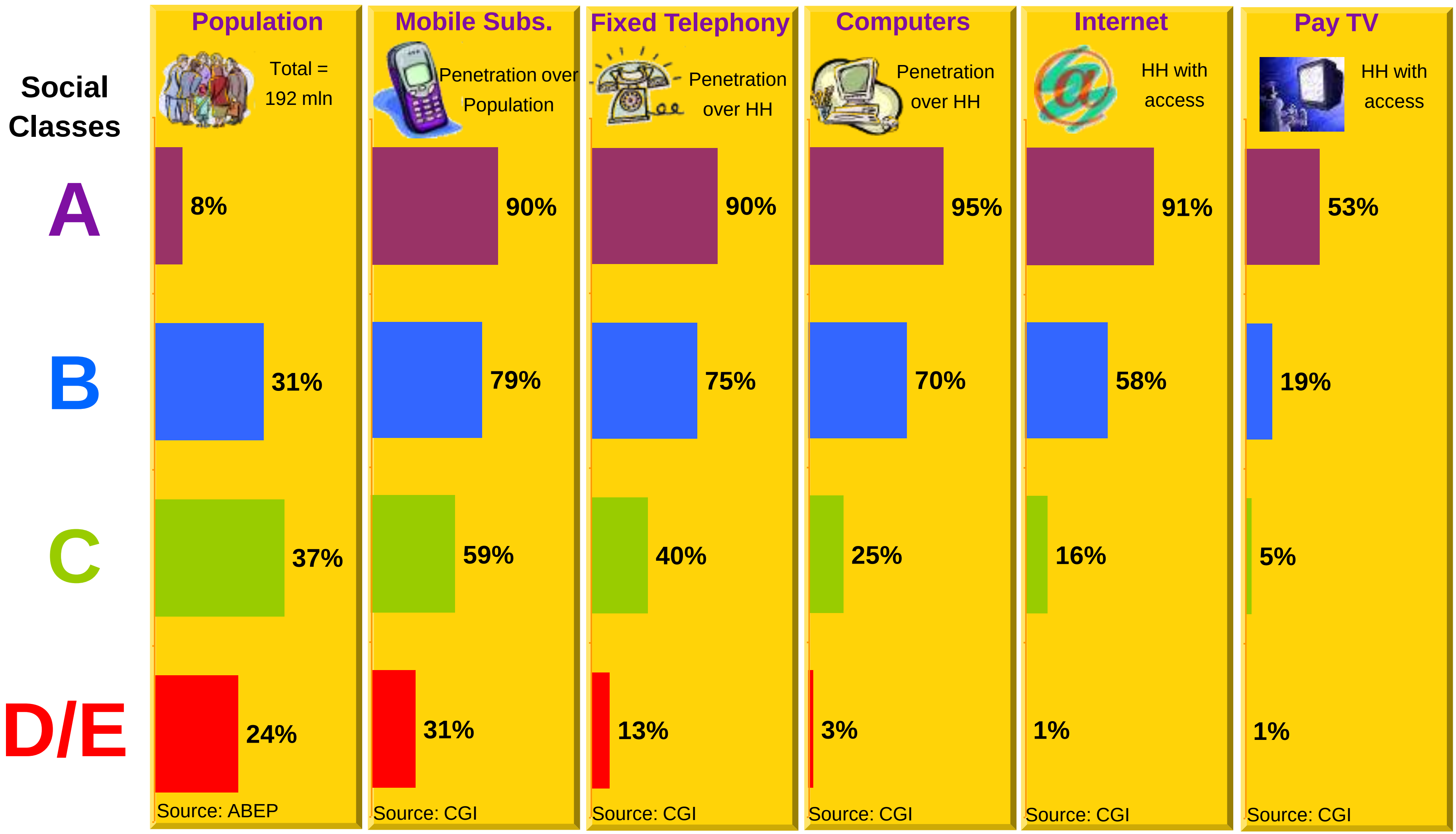
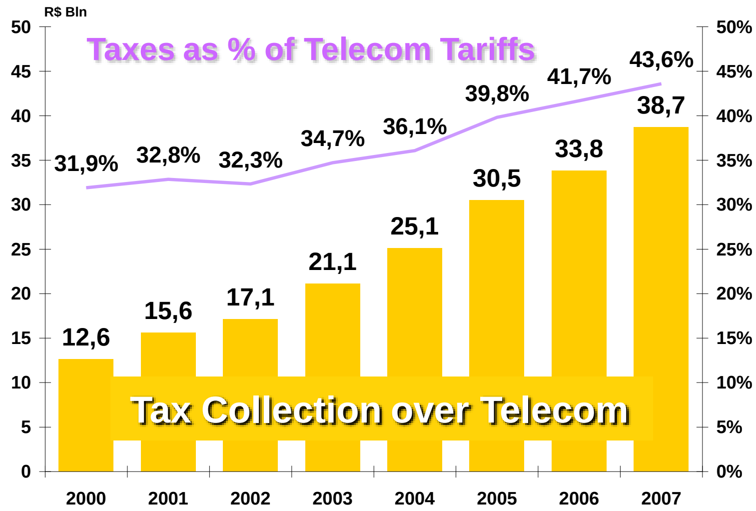
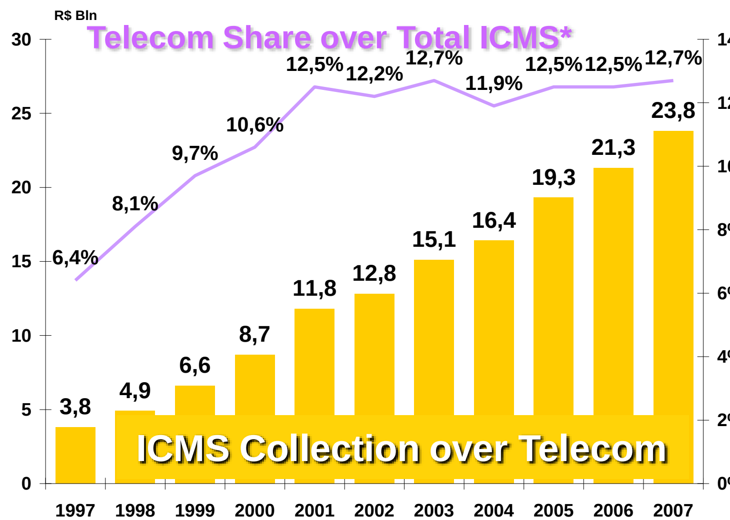
Penetration by Social Classes



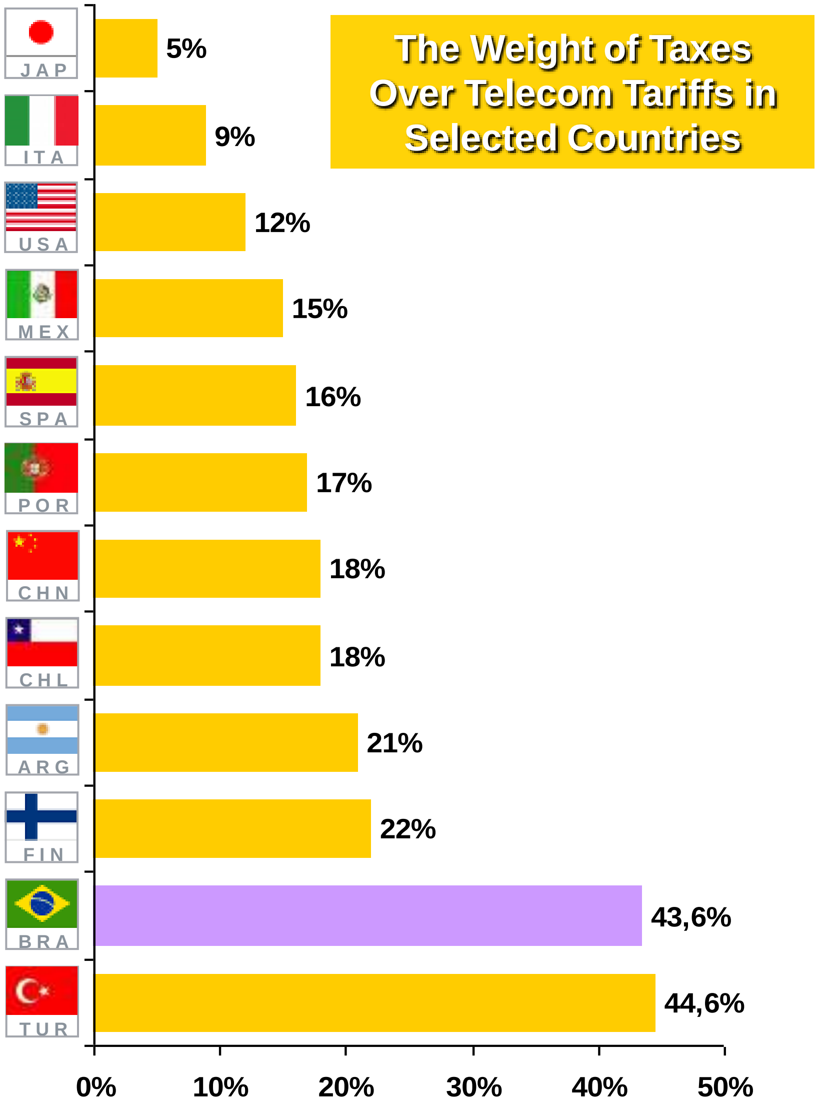
Yearly Income per Household: A>US$ 45.000, B>US$ 13.500, C>US$5.000, D/E<US$5.000

Telecom Tax Burden





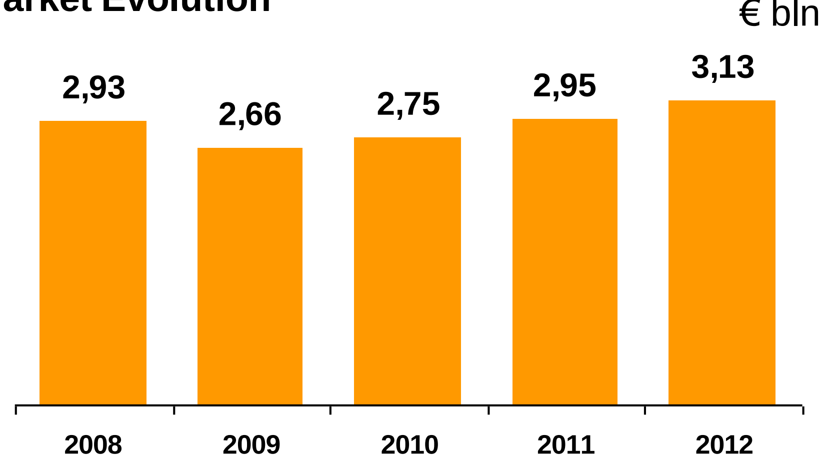
* VAT comparable tax



Sources: NSN LAT SBD, Teleco, Gazeta Mercantil, Deloitte

Brazilian Telecom Market at a Glance

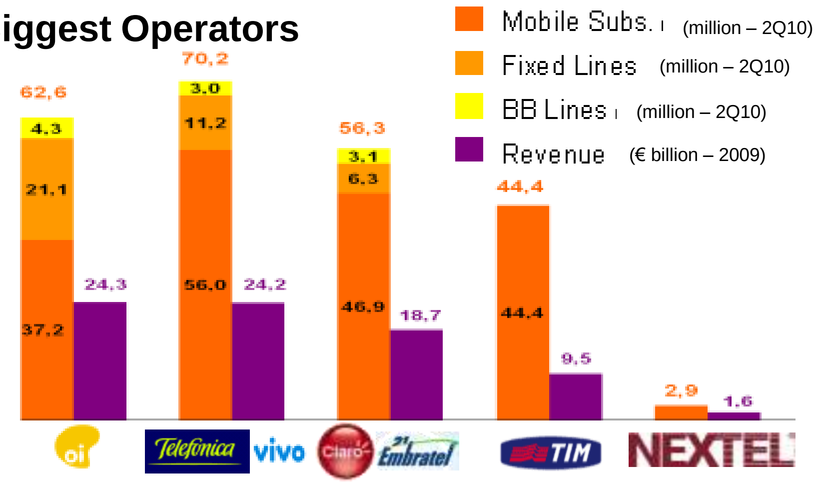
Market Evolution



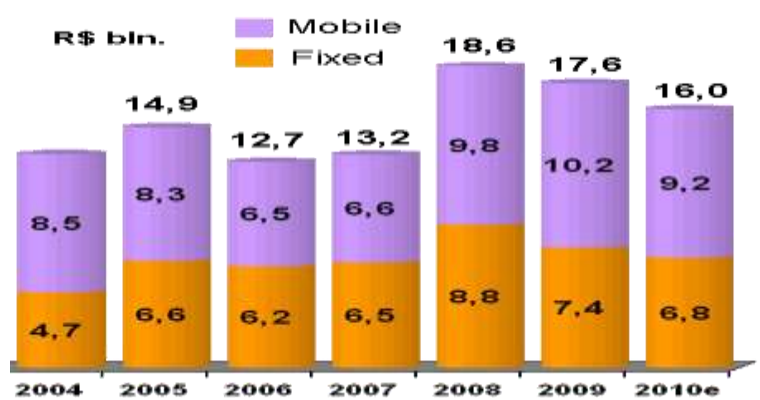
Main Issues

- Nationalistic bias increasing demanding more local content
- Fierce competition from Chinese competitors
- Market consolidation: Telefonica owns 100% of Vivo and PT associates with Oi
- New 3G player to come with Band H auction, until YE10
- National BB Plan to foster investments from CSPs and govenent

Biggest Operators



Capex



E a Indústria?

Panorama da indústria de telecom no país

Indicadores da Indústria Eletroeletrônica

Dados de Faturamento, Exportação, Importação e Saldo Comercial para a Área de Equipamentos para Telecomunicações

Indicadores	2006	2007	2008	2009	2010 (p)
Faturamento (Em US$ milhões)	7.690	8.964	11.726	9.207	11.393
Exportações (Em US$ milhões)[1]	3.115	2.491	2.540	1.701	1.846
Importações (Em US$ milhões)[1]	1.235	2.021	3.203	2.331	2.529
Saldo Comercial (Em US$ milhões)	1.880	471	-664	-630	-683

Fonte: ABINEE. De 2006 a 2009: dados efetivos. Previsão para 2010, previsão.

1 Refere-se a bens finais (equipamentos e aparelhos), ou seja, não inclui componentes.

Indicadores da Indústria Eletroeletrônica Anos Recentes

Faturamento da Indústria Eletroeletrônica por Área (em Milhões de Reais)

ÁREAS	2006		2007		2008		2009		2010 (p)	
	Receita	% do Total	Receita	% do Total	Receita	% do Total	Receita	% do Total	Receita	% do Total
AUTOMAÇÃO INDUSTRIAL	2.708	2,6%	3.097	2,8%	3.446	2,8%	2.943	2,6%	3.164	2,8%
COMPONENTES ELÉTRICOS E ELETRÔNICOS	9.409	9,0%	10.150	9,1%	9.500	7,7%	8.263	7,4%	8.802	7,9%
EQUIPAMENTOS INDUSTRIAIS	13.322	12,8%	15.541	13,9%	18.369	14,9%	15.003	13,4%	17.181	15,4%
GTD	9.169	8,8%	10.599	9,5%	11.919	9,7%	10.604	9,5%	11.826	10,6%
INFORMÁTICA	29.418	28,3%	31.441	28,1%	35.278	28,7%	35.278	31,5%	40.400	36,1%
MATERIAL ELÉTRICO DE INSTALAÇÃO	6.755	6,5%	7.646	6,8%	8.323	6,8%	7.954	7,1%	8.952	8,0%
EQUIPAMENTOS DE TELECOMUNICAÇÕES	**16.742**	**16,1%**	**17.465**	**15,6%**	**21.546**	**17,5%**	**18.367**	**16,4%**	**19.937**	**17,8%**
UTILIDADES DOMÉSTICAS	16.560	15,9%	15.773	14,1%	14.710	12,0%	13.427	12,0%	15.381	13,8%
TOTAL	104.083	100,0%	111.711	100,0%	123.092	100,0%	111.839	100,0%	125.643	112,3%

Fonte: ABINEE. (1) Inclui motocompressores para refrigeração, eletrônica embarcada e partes e peças. Dados de 2010: previsão.

Análise SWOT para a Área de Equipamentos para Telecomunicações

FORÇAS:

Mercado forte e em crescimento;
Dinamismo tecnológico contorna riscos de saturação do mercado;
Mercado receptivo a inovações;
Existência de pólos de manufatura, com larga experiência, e P&D em software e hardware;
Apoio do BNDES ao conteúdo local.

FRAQUEZAS:

Indústria de componentes instalada no país é incipiente;
Custo Brasil elevado (logística, burocracia, custos de capital, etc);
Mercado/demanda com forte oscilações, dificultando o planejamento da indústria;
Taxa de câmbio desfavorável, estimulando importações;
Baixa inserção no mercado internacional.

Análise SWOT para a Área de Equipamentos para Telecomunicações

OPORTUNIDADES:

Exportações especialmente para América Latina e África;

Política governamental para ampliação do acesso aos serviços de Telecom;

Forte e constante crescimento do mercado de TI gerando demanda para Telecom;

Crescimento econômico que assegura estímulos para o mercado de Telecom.

AMEAÇAS:

Carga tributária exercendo pressão negativa para o crescimento da economia;

Insuficiência de recursos humanos especializados;

Insegurança e rigidez do arcabouço regulatório,

Instabilidade nas regras das políticas de incentivo existentes: ausência de procedimentos claros – lentidão na tomada de decisão do regulador (ex: destinação do espectro de RF);

Entraves ao Desenvolvimento da Indústria de Equipamentos de Telecomunicações no Brasil

Ausência de uma política industrial abrangente para o setor;

Elevada carga tributária;

Taxa de câmbio excessivamente valorizada;

Ações de inovação ainda incipientes/Frágil relação universidade-empresa;

Volatilidade do mercado e imprevisibilidade da demanda, com prejuízo para consolidação da economia de escala;

Incertezas e lentidão com respeito às decisões de caráter regulatório;

Mudanças nas regras e nas políticas governamentais.

Qual o futuro deste mercado?

Desafios e Oportunidades no mercado de telecomunicações

Market Trends

Telecom Brazil

- S ▪ Vivendi buys GVT paying 33% more than initial bid (R$ 5,4 bln for 57% of shares)
- S ▪ Band H auction for 3G: opportunity for Nextel. GVT may partner as MVNO.
- S ▪ After acquiring Brasil Telecom, Oi is facing high Net Debts. Portugal Telecom paid R$ 8,4 bln for 22,4% of Oi and the situation may improve.
- S ▪ Reactivating Telebrás: the shell company that remained after privatization maybe the driver for National Broadband Plan
- S ▪ Telefonica acquires PT stakes at Vivo (7.5 Eur bil) and prepares integration with Telesp
- M ▪ 4G / LTE: 2,6 GHz. Frequency expected to be auctioned by the end of 2011.
- M ▪ Tax exemptions for lower classes must increase demand.
- M ▪ Pay TV market may have a boom if CSPs are authorized to play in their concession areas.
- L ▪ Consolidation of CSP lowered pace. LTE may bring new players.
- L ▪ Foster local production, technology and R&D
- L ▪ Smaller players and municipalities to provide service where it’s unattractive to CSPs.

Short Term (<1yr) Medium Term (1to3 yrs) Long Term (>3 years)

Source: NSN LAT BD

Brazilian Political Outlook and the PNBL

National content has become a high priority on the Government's agenda

- Brazil is about to have a Government with the highest political power ever, with President Lula making his successor, with weak political opposition, and able to rule according to their own
- And government officials are highly ideological on Brazilian content, standards, R&D and manufacturing

Brazilian Government is using its purchasing Power through the "Natl' Broadband Plan" (PNBL)

- The plan was launched in mid 2010, aiming at threefold increase of broadband penetration by 2014, (from 12 to 40MM households and reaching all 4300 Brazilian cities)
- Starts with a national Broadband Backbone, and includes Manufacturing + R&D policies

... And the PNBL becomes an instrument for this nationalistic agenda

- New legislation (Interim law MP495) ensures exclusivity for "Brazilian Equipment" in strategic sectors (as PNBL) and up to 25% price advantege preference for locally manufactured and developed products

Local Players in Brazil are building a stronger position

- DWDM and MW manufacturers formed a "Brazil Group" and lobby together for more market protection

... While lobal Players push back, but swimming against the current

- E/// is only player stating commitment to Local Manufacturing in Brazil
- While Huawei and ALU declared to be "analyzing" local production. Local production tax benefits come with obligations to reinvest in R&D in Brazil – although these definitions are somewhat vague

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Acelerar

Novo ciclo 2011-2014

- **Contratando serviços** com soluções completas com TI e comunicação multimídia
- **Fomentando investimentos** em redes, serviços e acessos com conteúdos e aplicativos multimídia
- **Capacitando cidadãos** e pequenos empresários de municípios com **baixo IDH**
- Conectando **75%** das residências
- Conectando **100%** dos cartórios, prefeituras, câmaras, assembleias legislativas, unidades de ensino, pesquisa, saúde, etc

Acelerar

Novo ciclo 2011-2014

- Implantando infraestrutura de redes **nas obras públicas** (estradas, ferrovias, oleodutos)
- Incentivando ou **desonerando os tributos** de toda a cadeia de produção e distribuição de conteúdo multimídia
- Liberando **novas licenças e faixas** de frequências
- **Aprovando PLC 116** (PL 29) em 2010
- **Reduzindo** significativamente o FISTEL
- **Não contingenciando** o FUST, FISTEL e FUNTTEL

A Simples Verdade sobre o LTE

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Atualmente, já estamos distribuindo estações rádio base habilitadas para LTE, por isso, já aprendemos alguma coisa em relação ao futuro da conectividade.

OBRIGADO!