

TIM Fiber Day

December 5th, 2011

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Network: Architecture,
development and quality



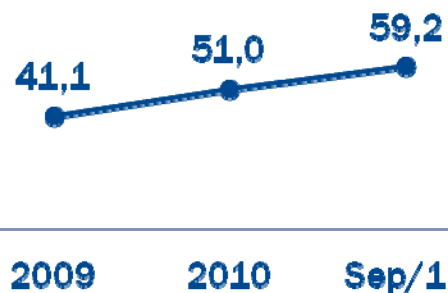
Você, sem fronteiras.

Achievements 2009-11: Business Growth with Network Efficiency



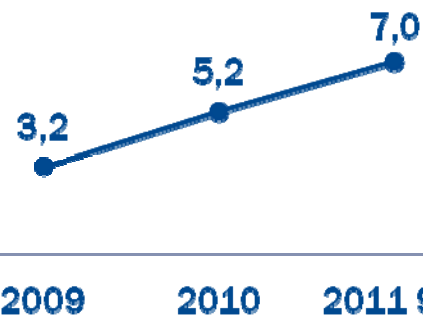
Customer Base

Mln lines



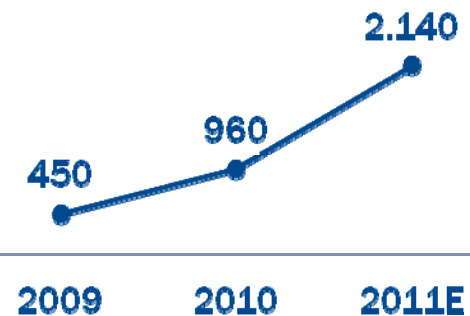
Voice Traffic

Bln minutes, monthly average



Data Traffic

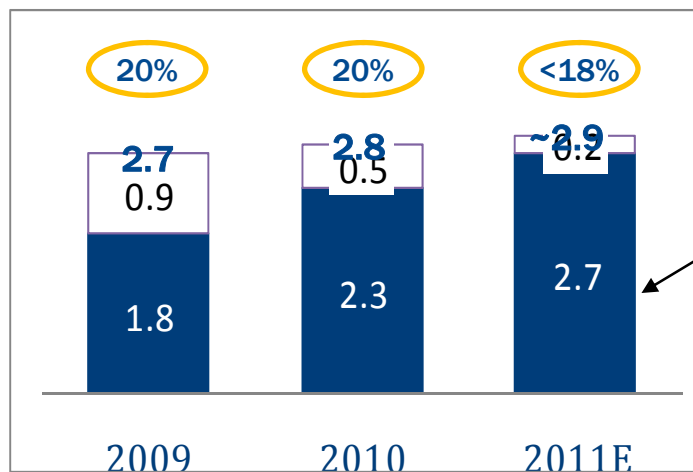
Monthly data traffic, TB (EoP)



Better CAPEX Allocation

R\$ Bln
CAPEX/
SALES

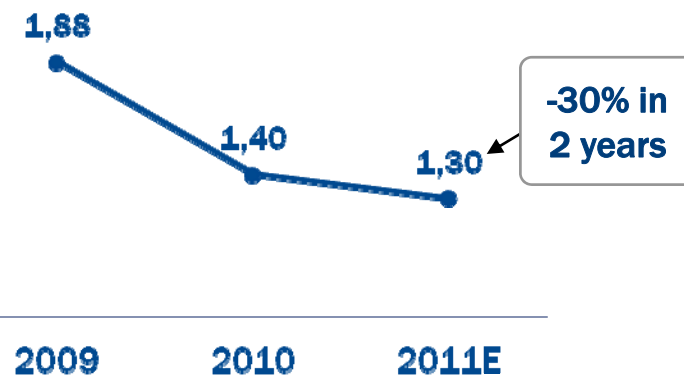
Total
Handsets
Subsidy
Network/
Others



+50% in
long life
CAPEX
(vs. '09)

Improved OPEX Efficiency

Network OPEX, R\$ cents/min. of traffic

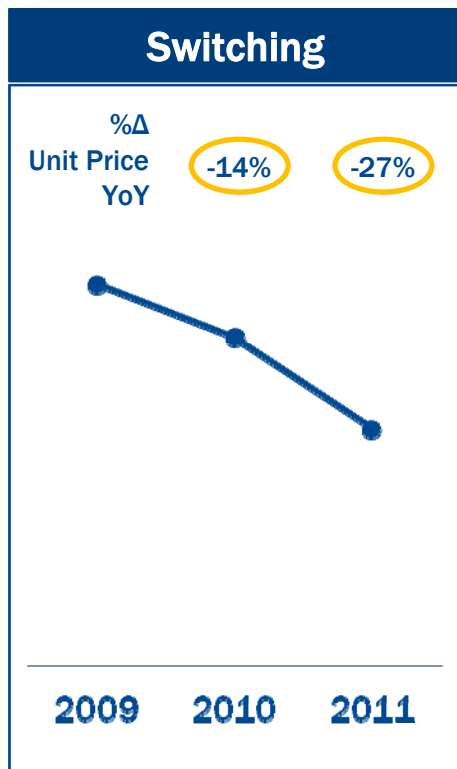


-30% in
2 years

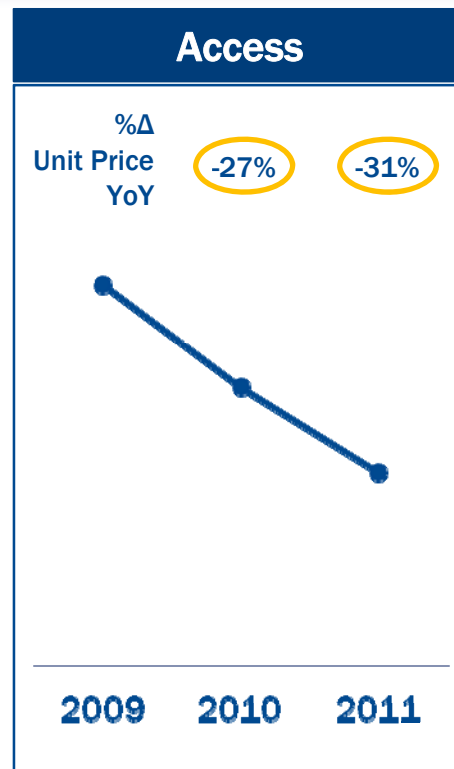
Achievements 2009-11: Efficiency in Network Procurement



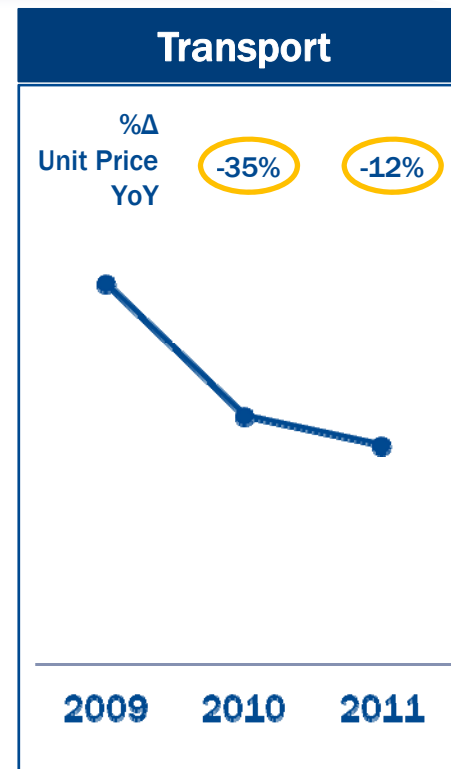
Efficiency in Network Procurement enabled by
Smart/improved technological choices



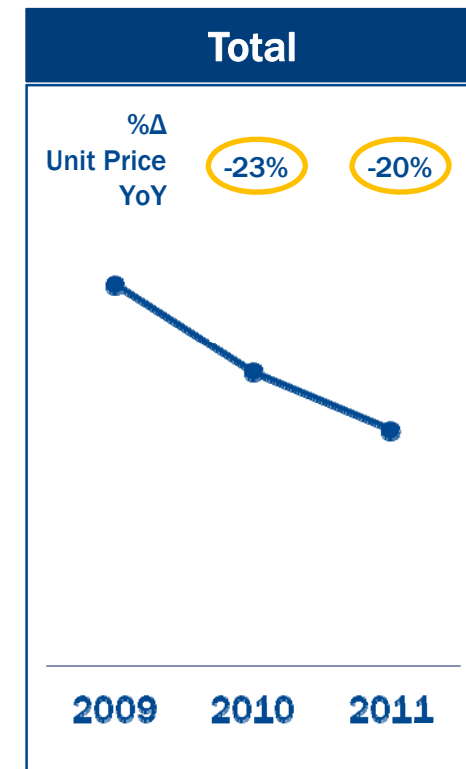
- R\$150 Mln



- R\$500 Mln

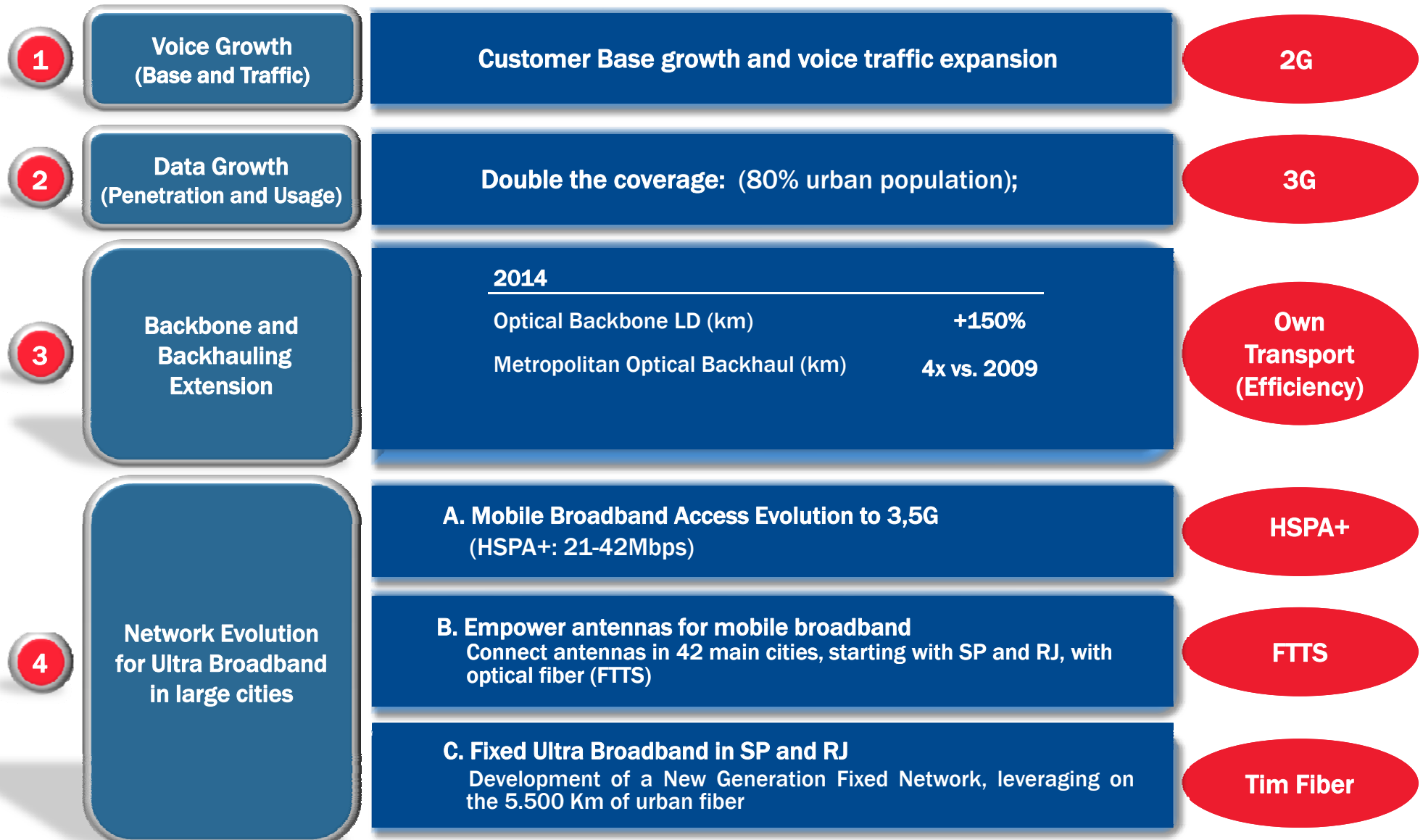


- R\$207 Mln



- R\$1.1 Bln
in 2 years

Network Plan: Main Challenges

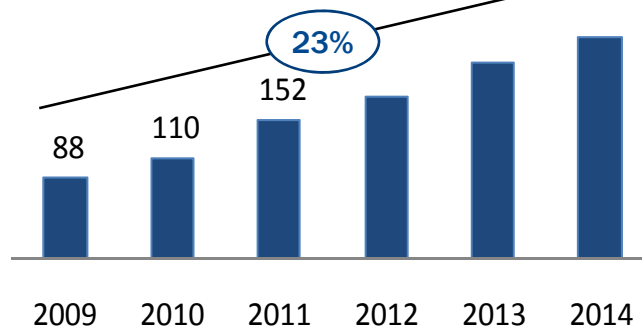


* Estimated value for ~20k microwaves installed

Network
Development

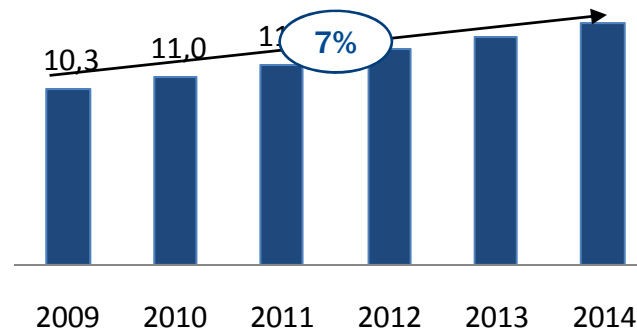
TRX base

'000 TRX



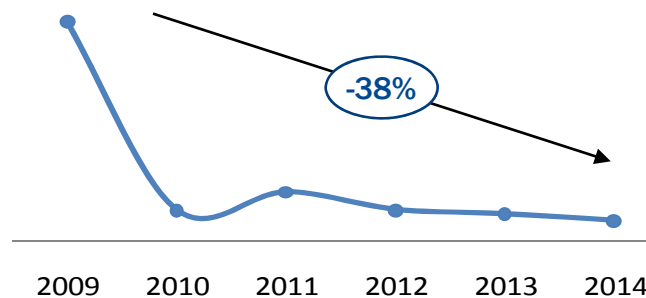
BTS base

'000 BTS

...with
Efficiency

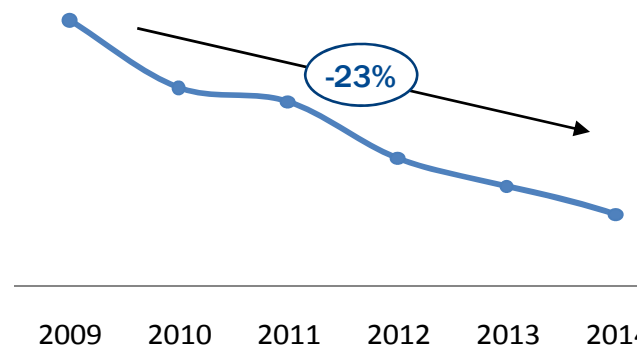
Capex Accesso 2G/incremental traffic

R\$/minute

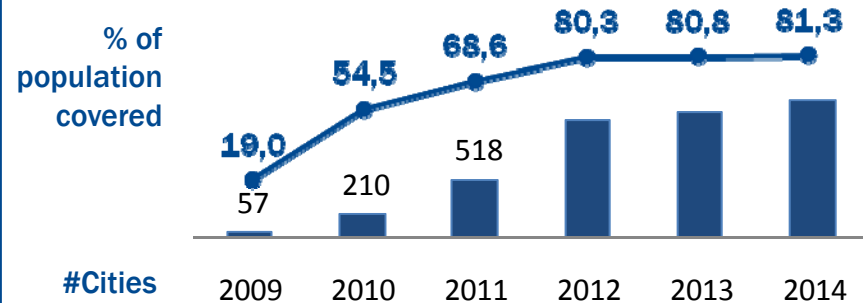


Opex/Voice Traffic

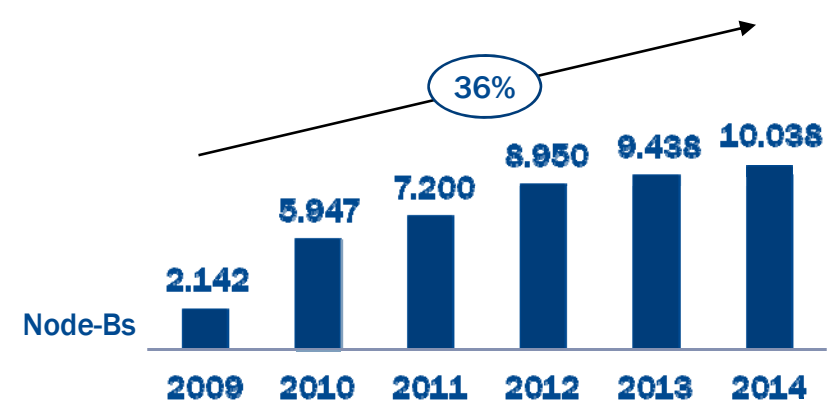
R\$ cents/minute



3G Coverage Development



Node-B base



Efficiency

- 2G and 3G antenna sharing with **100% reuse of existing infrastructure**
- Strong **price reduction of 3G electronics (Node-B)**
- **Pace of Access development in line with proprietary transmission**
- Sites with **leased lines: from 70% to 15% of total sites**

Optical Backhauling and Microwave

- ▶ Early adoption of IP Radios as Microwave evolutionary technology
- ▶ Leased lines cost control through microwave substitution (OPEX Reduction)
- ▶ Support to the connectivity of new sites without fiber (OPEX Avoidance)

