New Fixed Access Technologies: TMax® Solution

WiMAX meeting other ...MAX

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2006
18C Turnover
80 MC Profits
2000 Employees

SGC Telecom

Auto
Finance
Real Estate
Energy

PORTUGAL
BRAZIL
SPAIN
USA

SGC TELECOM
The challenging infrastructure world

**expect?**
- Large web players - You tube, Joost,....
- Voice and TV revenues under attack.....
- Data margins increasingly difficult to manage: P2P, Video,...
- Web Advertising as the new revenue model?

**expand?**
- Faster networks: deployment speed
- Info inclusion needs
- M&A activity: Cash is available; Consolidation still brings benefits; Organic growth takes time...

**expend?**
- Connectivity capacity and costs
- Convergence trends: IP/NGN, Fixed-Mobile, multiplatform..
- Hypes?: FTTH, WIMAX, ULL...
- 3P moving to 4P
The challenging infrastructure world

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Local Loop is critical

What type of infrastructure?
- Negative Value of xDSL IPTV (3,7 K€ / 10 years – Forrester)
- Tough Economics for HFC and FTTH expansion
- Low (?) profitability for new UMTS / 3G services
Way to the future?
Speed + Cost + Capacity
wireless fiber local loop vision

- Available frequencies > 24GHz – 30GHz
- Digital Triple Play
- Standard access platforms
- Cost per home passed < 100 €

Showcase deployments
- 2005 – 2007
  - AR Telecom – Portugal
  - ACOM - Brazil

Technology leadership
- 1998 - 2004
  - TTT – Espanha
  - Cable AML - EUA

Global presence
- 2008 -2010
Topics

- TMAX® Platform
- AR Telecom showcase
High capacity base stations (up to 40 x standard FWA)

- Repeaters + Clusters increase coverage to > 90%
- Multi standard access platforms - DVB-T, DOCSIS 1.1, Packetcable...
- Multi carrier & multi modulation - OFDM, 64 QAM, QPSK

Typical Configuration for 2*175MHz license:

- Video - Up to 72 digital TV channels (6 COFDM 64QAM carriers)
- Data Downstream - 1,1 Gbps (42 64QAM carriers) per BTS
- Data upstream - 0,5 Gbps (109 QPSK carriers) per BTS

- ODU - Out Door Unit transceivers to blocks serving adjacent buildings - 50/100 homes
- New coaxial riser in each building
- Costumers cable installation reusable
Limited deployment risk

High offer capacity*

- 72 TV DVB channels  
  (broadcast)
  +
- Intensive VoD usage
  +
- High broadband capacity
  ✓ 1-20 Mbps (DOCSIS)
  ✓ Symmetric services
  ✓ Low latency
  +
- Video Conferencing

Attractive CAPEX profile

- BTS with low cost per covered household
  - CAPEX ~ 300 m€ with
    coverage of ~15,000
    households
  - break-even reached with
    5% penetration (~750
    clients)
- Cost of passing homes and
  sales is directly related with
  client acquisition – “pay as
  you go” profile

(*) - 2*175MHz Portuguese 28GHz Licence. Larger license increases capacity.
TMAX® and HFC

Same Platforms
- Data Services: Docsis or Eurodocsis
- Voice Services: MGCP (PacketCable) or SIP
- TV Services: DVB-C, DVB-T or DVB-S

Increased market presence
- Fast footprint expansion
- Nearby areas being attacked by another operator
- Serving areas that were earlier economically not viable.

Compatible and complementar Infrastructure
- CATV operator will be able to maintain contractors, materials and suppliers.
- Providing “on-demand” business class services that are not viable via HFC, like dedicated data/voice circuits, ATM or SDH circuits or corporate videoconferencing.
TMAX® and Mobile

Minimize Capex/Opex

- Optimize infrastructure use:
  - Sites / backbone / MAN sharing
  - Common voice / data / video platforms
- Single solutions for BSS and OSS

Rapid Growth and lower Churn

- Explore existing client base
- Increase client share of wallet
- Reduce overall churn

New services paradigm

- Profit from 4Pconvergence
- Integrate mobile / fixed video conference
- Explore new instant messaging / unified services
- Explore DVB-T plus DVB-H future opportunities
High density of roof top transceivers creates adequate site locations for fixed or mobile Wimax “hotspots”
- Wimax (+DTH) in low density areas and TMAX in urban areas
- Single solutions for BSS and OSS

Enable triple play offer with full region coverage
- Explore existing client base
- Reduce overall churn

Same access platform: DVB-T
- Enable tripleplay services
- Enables independent return path
- Expand bandwidth usage
Expanding a fast and competitive business model

Business model
- Digital triple play broadband service offer
- TMAX® Platform
  - Fast deployment
  - Low costs per homes passed
  - Wireless advantages
- 100% Standard based CPE
- Frequencies available worldwide

Market Opportunities
- Western countries multiplatform expansion needs
- Central Europe
  - Growth
  - Stability
- BRIC explosion
- Developing countries

Fully market tested - Platform, Operations and Systems with multimarket centralized OSS and BSS
Topics

- TMAX® Platform
- AR Telecom showcase
Retail offer

- Up to 72 digital TV channels
- Up to 20 Mbps data access
- Voice services
- TV Videoconference
- Triple play packs starting at 10€ per month

Reference Offer

- 30 channels + 2Mbps + Voice + Videoconference on TV
- 35€ month
Penetration figures

Penetration – Clients per Homes Passed

- Month 1: 7%
- Month 2: 11%
- Month 3: 17%
- Year 1: 23%
QoS / Customer Survey

- **Clean sales process**
  - Sell Process and Sales Team:
    - Dissatisfied: 1.2%
    - Satisfied: 54.9%
    - Very Satisfied: 26.8%
    - Don’t know / Don’t answer: 17.1%

- **Fast and comprehensive installation / activation**
  - Installation date / Fulfilment of the schedule:
    - Dissatisfied: 1.2%
    - Satisfied: 54.9%
    - Very Satisfied: 29.3%
    - Don’t know / Don’t answer: 14.6%

- **Friendly and effective support**
  - Time for resolving your problem:
    - Dissatisfied: 10.4%
    - Satisfied: 82.3%
    - Very Satisfied: 3.1%
    - Don’t know / Don’t answer: 4.2%
THE POWER OF INNOVATION