



DVB-H over Satellite

*Herbert Mittermayr, VP Marketing & Sales
Alcatel Mobile Broadband*



Mass Market Mobile TV - The Next Big Thing



IPTV

Wireline evolution



*Mobile TV today
is 3G*



Mobile TV

Mobile evolution



- With Unlimited coverage*
- With Unlimited audience*
- With Unlimited content*
- With Unlimited usage*
- With Interactivity*

Combining the best of the Mobile and TV worlds

Agenda



Page

▶ Business Drivers and Key Customer Issues

Alcatel Value Proposition

Conclusion

Alcatel believes Mobile TV is the next Big Thing

Is happening NOW

- Korea: 1M+ customers in 10 months
- Orange France: 500k+ 3G active users in 12 months
- 2010 forecasts: over 110M subs worldwide(*)

Customers are **paying** already

- Despite limited access
- Despite generally high pricing
- Despite limited mobile specific content

TV is a **well know** service ...

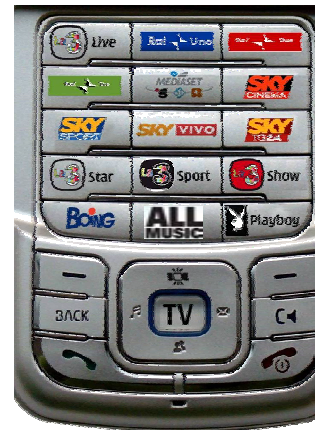
- No disruption
- No customer education necessary

Mobile TV is also **personal** and **interactive**

Advertisers are looking closely this **new media**

- High value of one to one relation between buyers and sellers

Key end user benefits: **privacy** and **ubiquity**



(*) Mobile broadcast subs: Informa, Strategy Analytics

Agenda



Page

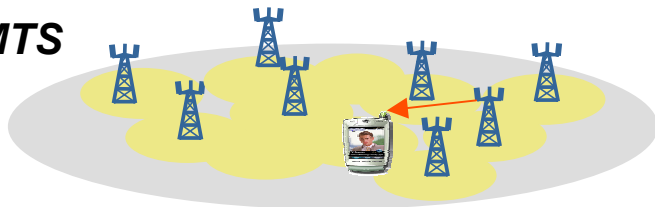
Business Drivers and Key Customer Issues

▶ Alcatel Value Proposition

Conclusion

Broadcast Technologies: Candidate Access Solutions

UMTS

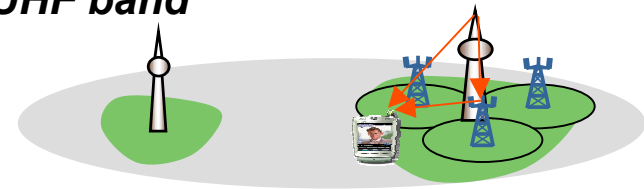


Mobile-based only

- Unicast with UMTS
- Multicast/Broadcast with MBMS
- evolution with WiMAX/3G LTE

Main issue: Network saturation

DVB-H in UHF band

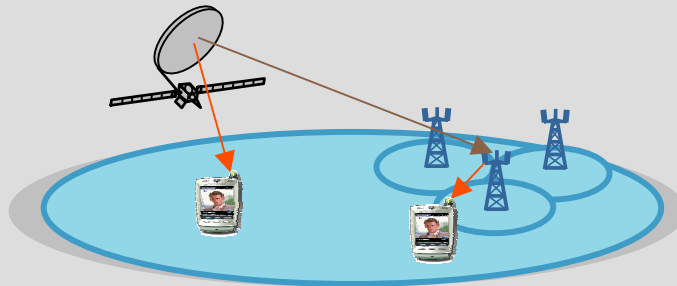


Terrestrial broadcast based

- Overlay network in broadcast band (DVB-H or T-DMB)

Main issues: Coverage & spectrum availability

DVB-H in S-Band

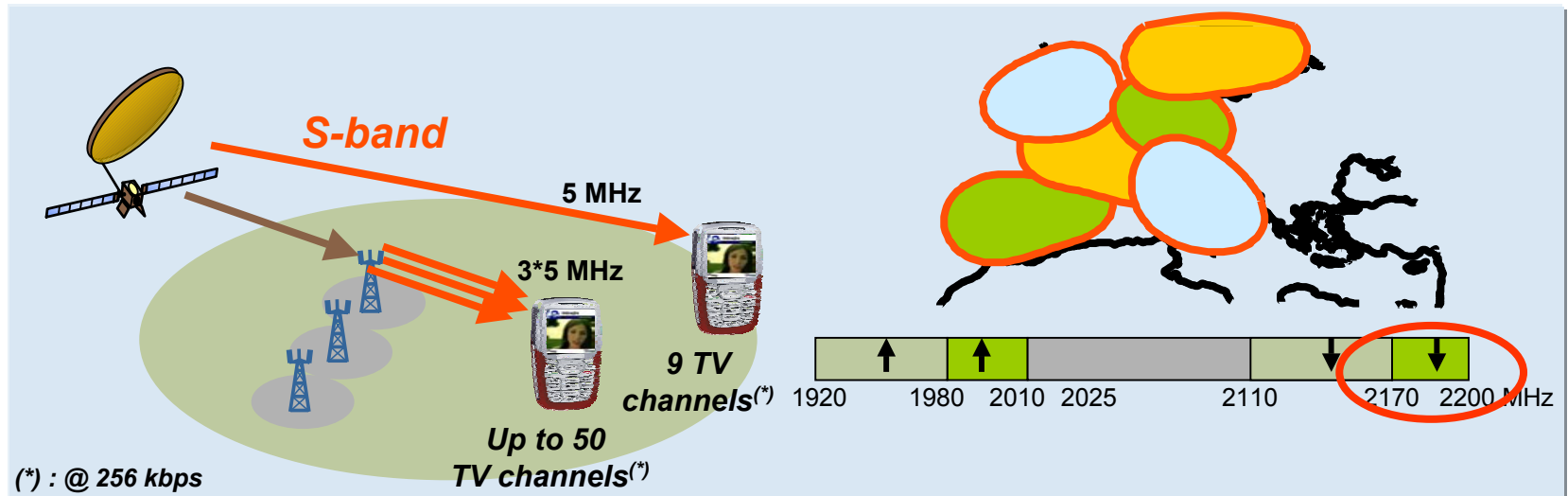


Low power terrestrial transmitters enhanced with satellite

- DVB-H using of S-band
- Re-use of mobile sites for low-power transmitter

DVB-H on a Harmonized Spectrum Available Continental Wide

- DVB-H based
- Uses S-band, adjacent to UMTS
- High power geo satellite for wide area coverage
- One beam per country, several beam per satellite
- Low power repeaters in urban areas offer deep indoor coverage



Alcatel's Solution Overview

Key Success Factors

■ SPECTRUM

- Fast and secure access to spectrum / harmonized framework

■ COVERAGE

- Complete coverage for service availability and continuity

■ NETWORK INTEGRATION

- Easy integration in existing sites

■ BUSINESS

- Lower CAPEX

■ STANDARD & TERMINALS

- Adaptation and reuse of DVB-H technology

Differentiators: SPECTRUM

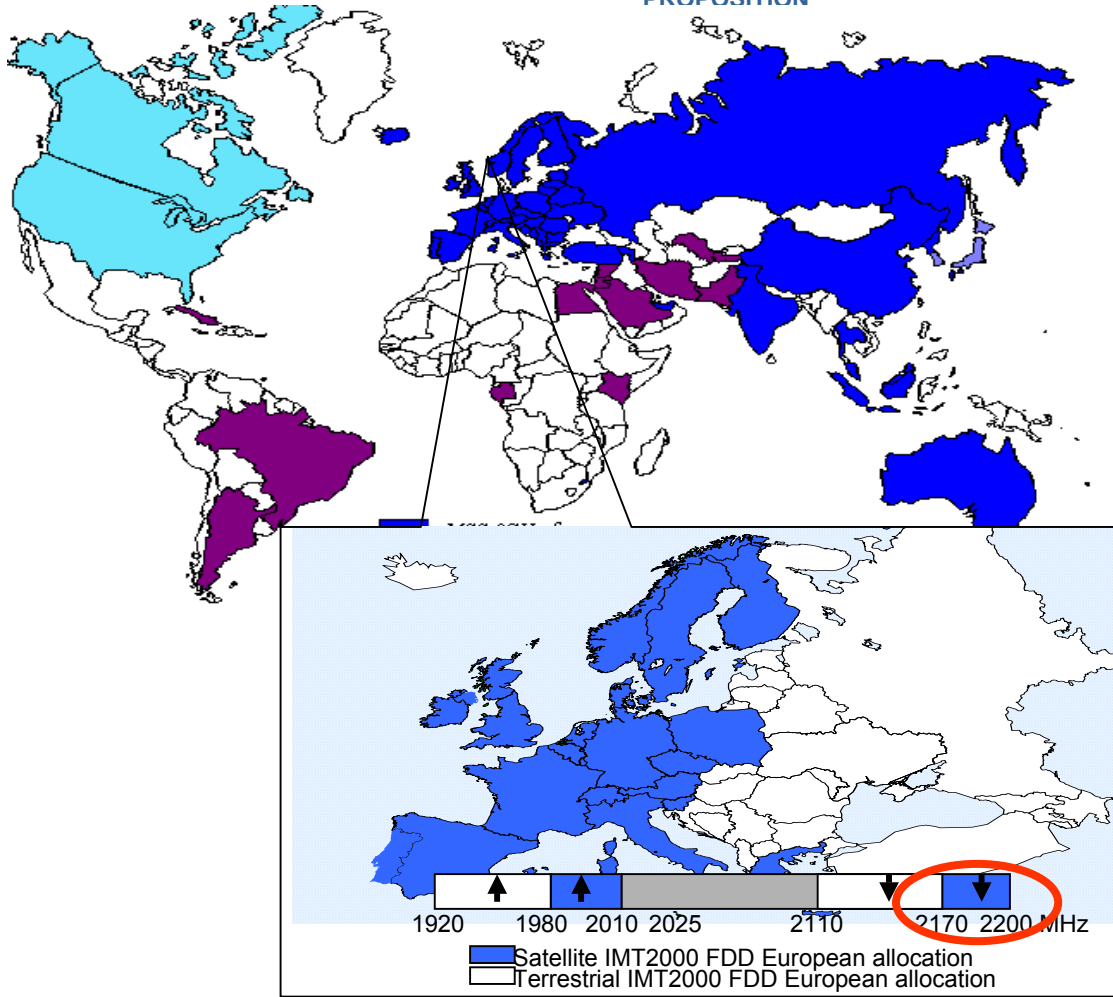
Fast and secure access to spectrum / harmonized framework

BUSINESS DRIVERS AND KEY CUSTOMER ISSUES

ALCATEL VALUE PROPOSITION

CONCLUSION

Page



Full Continental coverage

- Major countries with Satellite and terrestrial coverage
- Small countries completed with terrestrial local content

Handset economy of scale

Seamless Mobile TV roaming

Consolidated framework for access and use of spectrum

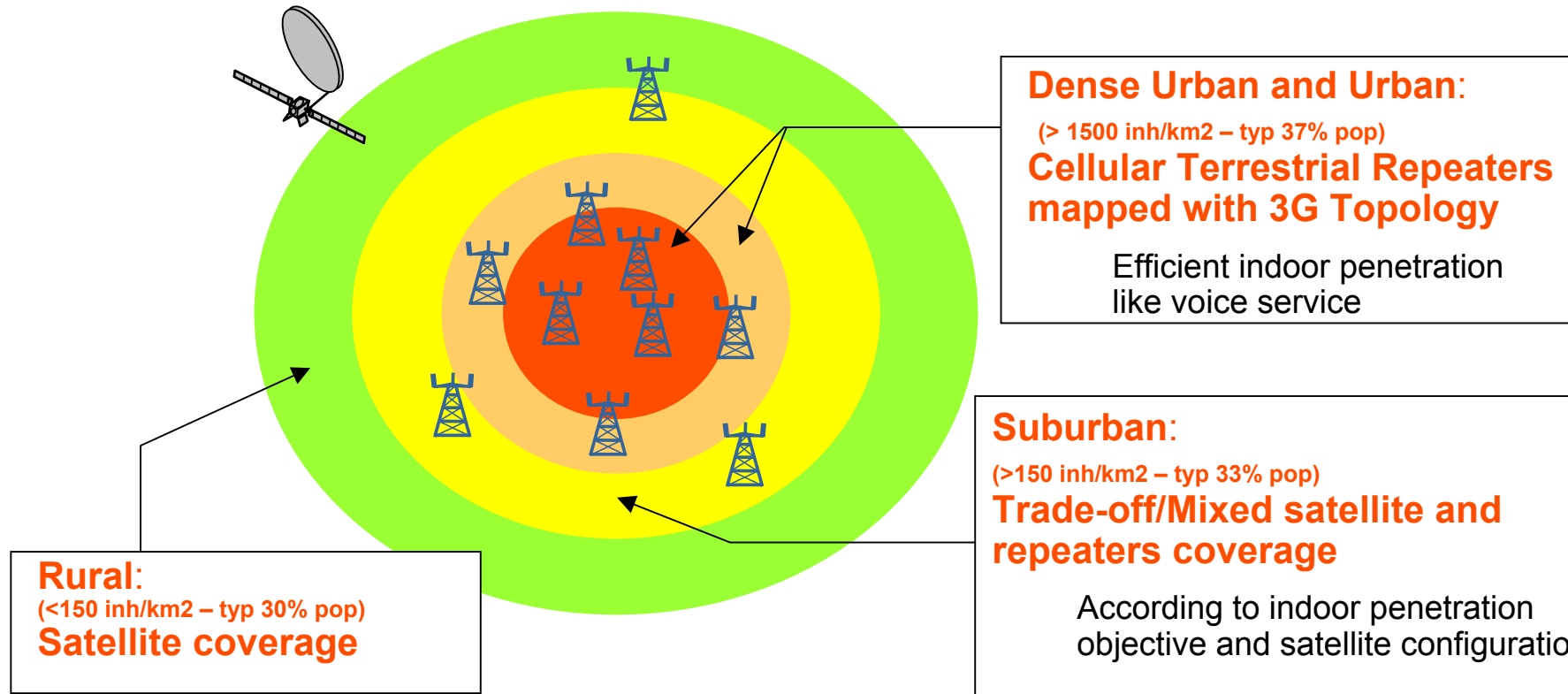
At national level, Single Frequency Network

- No complex planning and related hand-over

→ DVB-H on S-band secures harmonized deployment

Differentiators: COVERAGE

Complete coverage for service availability and continuity



→ High quality of service: differentiation, better potential ARPU
→ 100% population covered: larger customer base

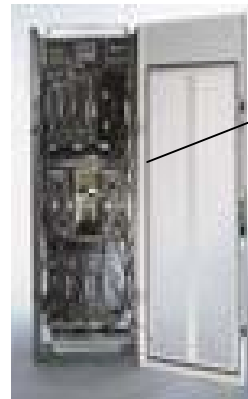
Differentiators: NETWORK INTEGRATION

3G friendly solution

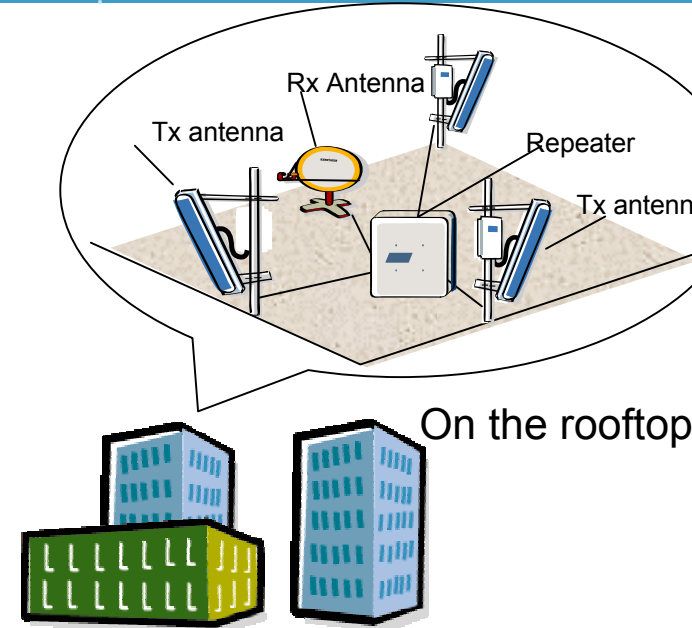
Reuse of existing 3G sites

Reuse of 3G antennas

Reuse of existing Alcatel cabinets or low cost stand-alone solution



nodeB with Extra board



On the rooftop

- Additional board in existing rack
- Alcatel Evolium with SDR (software defined radio) allows easy upgrade

→ Limited CAPEX per repeater
→ Reduced installation cost

Differentiators: BUSINESS

lower CAPEX for deployment of DVB-H in S-band

Assuptions *)

- Similar services with all technologies
- TV channels at 256 kbps
- 90 % indoor coverage, 50% population coverage
- In UHF, 1 or 2 carriers are required (2 x 8MHz)
- In S-band, 2 or 3 carriers are used (3 x 5 MHz, 1 transmitter per sector)

CAPEX(*) per channel (M€)	DVB-H in UHF Low Power (29 channels)	DVB-H in S- Band Low Power (45 channels)	SAVINGS WITH S-BAND
France	9.6	2.4	75%
Germany	9.4	2.3	76%
Italy	11.8	2.6	78%

Differentiators: STANDARD & TERMINALS

Adaptation and reuse of DVB-H technology

DVB-H chipset

- Partnership with leading suppliers
- DibCom, Philips

Antenna system

- Easy implementation due to in 3G frequency
- Extra antenna gain through diversity

Limited extra cost/handset

- Cost equivalent to DVB-H /3G Handsets



DVB-Forum - meeting on tm/cm in Geneva on Jun7/8

- Commercial requirements and results of study mission agreed
- New ad-hoc group established
- Standardization to be established by Q4/2006

→ Future proof technology (DVB-H)

→ Partnership with key chipsets and terminal vendors

What's happening in Europe

■ Europe, April 25th, 2006:

Alcatel and its partners welcome the support granted by the French Agency for Industrial Innovation (All) to the "Unlimited Mobile TV" project

- Project worth 98M over 4 years

■ B21C (Broadcast for 21 century) project in CELTIC - EU wide R&D program

- Partners [selection]: Nokia, vf, Telefonica, Hispasat, DiBcom

■ Viviane Reding, EU Commissioner for Information Society and Media

- repeatedly underlining that European countries cannot consider the frequency spectrum issues on a fragmented basis. advocates a true pan-European approach and promotes use of satellite capacities.

■ Mar 2006: Eutelsat, European satellite operator

- confirms its interest in hybrid systems in S-Band



Agenda



Page 1

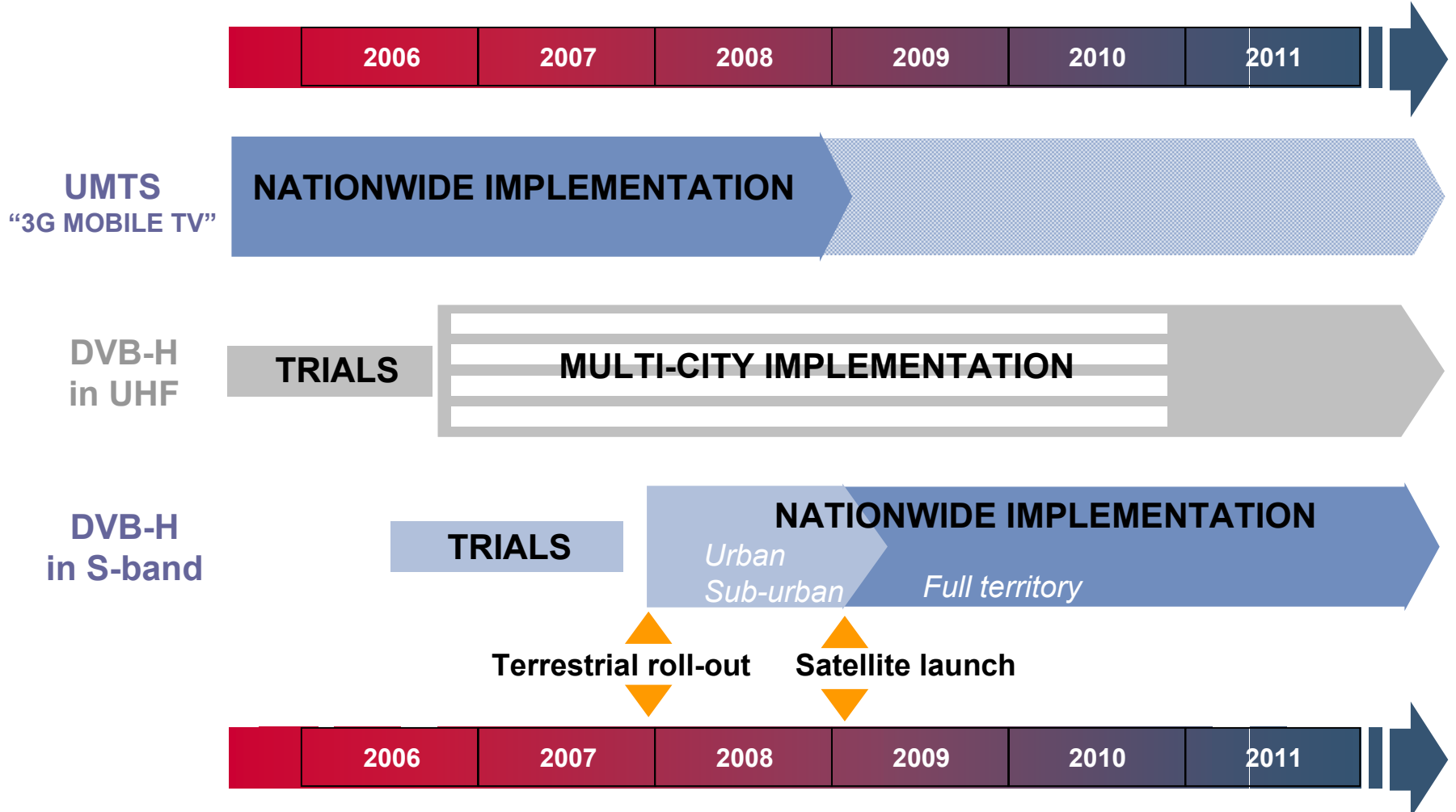
Business Drivers and Key Customer Issues

Alcatel Value Proposition

▶ **Conclusion**

Schedule

Fast track to mass market



B R O A D E N Y O U R L I F E

www.alcatel.com/mobile
mobile.tv@alcatel.com

Medienwoche Berlin Sept06



All rights reserved © 2006, Alca