

Digital Satellite Radio For Europe



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Digital Satellite Radio in the US

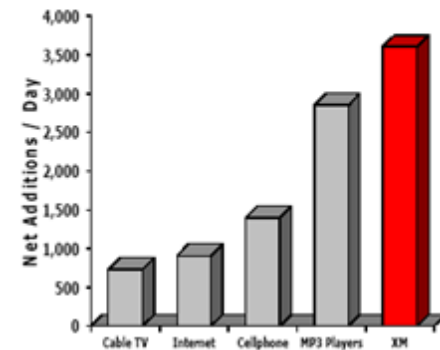
In the US the hybrid terrestrial/satellite Radio is a reality since 2002 :



- XM and Sirius broadcast respectively 170 and 125 national programs
- 5 years after service introduction they should reach 15 millions subscribers

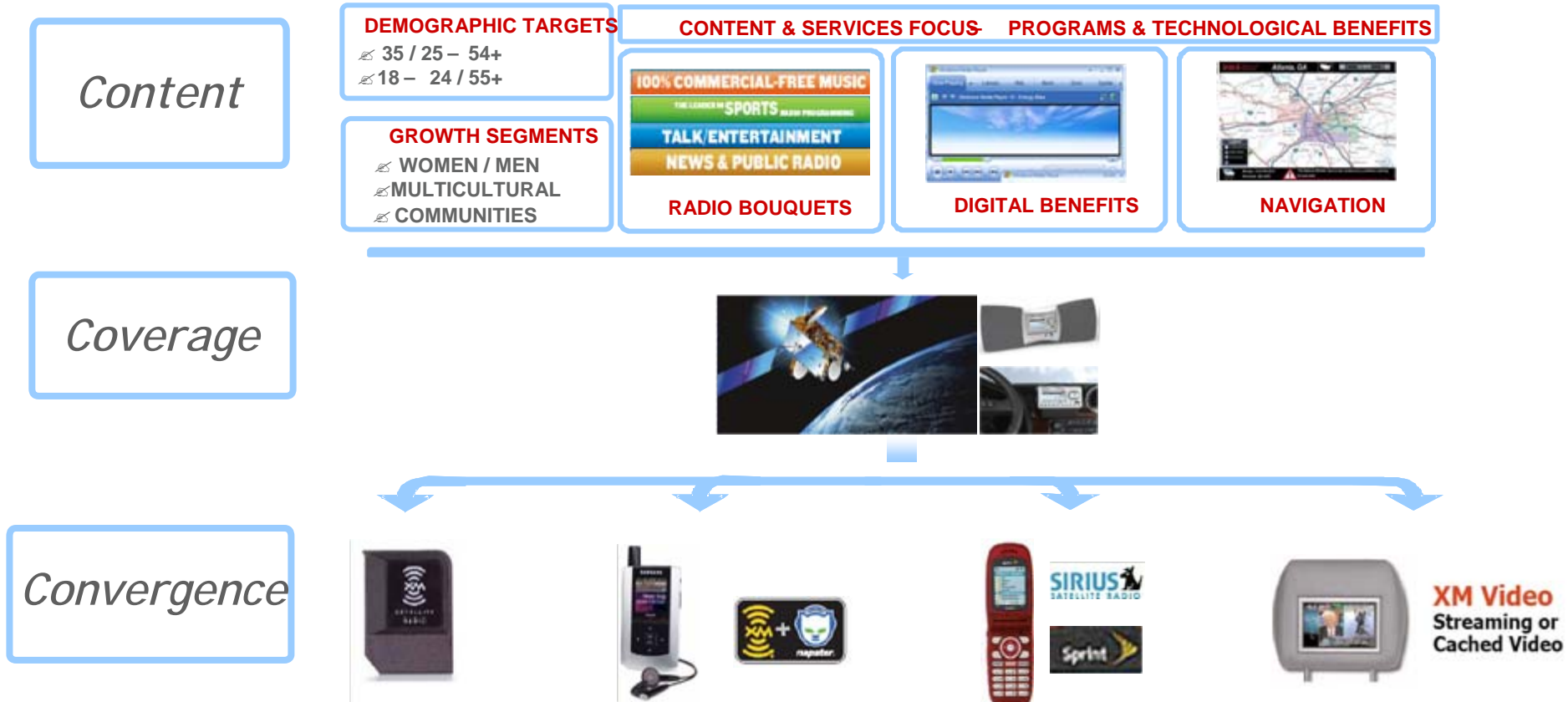
Traditional radiobroadcasters have answered with a technology (IBOC) that does not allow for an increase in the offer (number of stations) and coverage, resulting in low terminal penetration

One of the fastest growing consumer electronics products



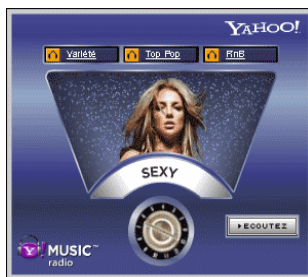
Hybrid satellite/terrestrial digital technology to enable mass market

US DARS operators key to success : content & coverage & convergence



The radio industry today in Europe

- ✓ Everywhere the audience of traditional radio with the young generation is shrinking
- ✓ Analogue revenues, mainly based on advertising, are mature
- ✓ Consumption and technologies are changing:
 - An audience getting used to highly diversified offers and services, content personalisation, diversified terminals... :
 - ✓ IP Radio is becoming a true alternative to traditional radio consumption, especially with the young generation (multitude of webradios, personalised radios, podcasts, etc...)
 - ✓ Mobile Telecom operators are offering radio bouquets and on demand music on mobile terminals as part of their Mobile TV offerings
 - ↪ Internet and TV are getting mobile on multiple devices, including handsets



Digital Satellite Radio for Europe

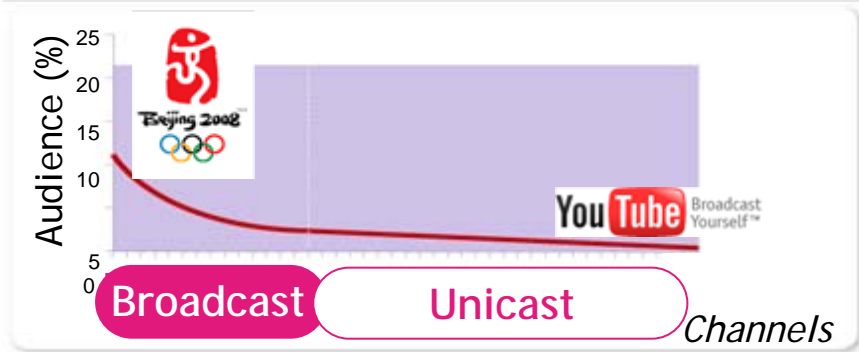
Keys of success:

1. Target strong potential mass market(s)
2. Get access to spectrum
3. Solve the technology challenges
4. Build a credible technical eco-system

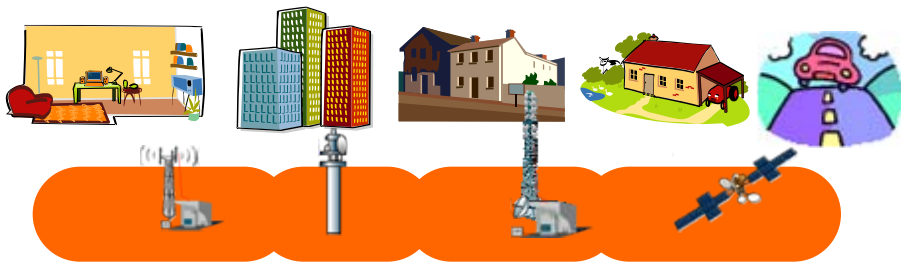
What does it mean today for Digital Satellite Radio ?

1. Mobile broadcast for Mass Market means ... transformation!

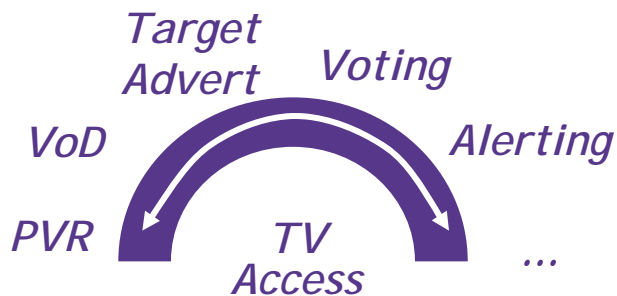
Mobile Broadcast



Efficient Coverage



Service Integration



Mobile Broadcast markets: TV and Radio reaching handsets

Over 220 operators have already launched mobile video and audio services, ~110 Live TV/Radio (+40 in 12 months)...

3G



FRANCE (Orange sources)
 3.6M subs with Mobile TV ready sets
 500k active users (Dec 06)
 Average 120' per month (Dec 06)
 6 to 12€/month offers



KOREA (TU Media sources)

Launch May 05,
 1.2M subs in Feb 07
 Average: 63' per day
 Monthly subscription:
 \$10 basic + \$4 option + \$2 for VOD



Broadcast



USA (OVUM sources)
 Started Nov 03
 2M subs in February 07
 Retail (ATT 06) monthly fee \$19.99

3G



Broadcast

ITALY (Tre sources)
 Started June 06
 450k subscribers (March 07)
 ~10€/month (various packages)



No	Name of the Channels
1	Alto Dhabi Sports
2	Alto Dhabi Tv
3	Al Arabiya
4	Al Jazeera
5	Al Jazeera International
6	SBC World (English)
7	CNBC Arabia
8	Dubai Sports
9	Emirates TV
10	MBC 1
11	SABA Dubai

3G



UNITED ARAB EMIRATES (Etisalat sources)
 Started Feb 07
 100k subscribers in 2 months
 ~7€/month (various packages)

Broadcast

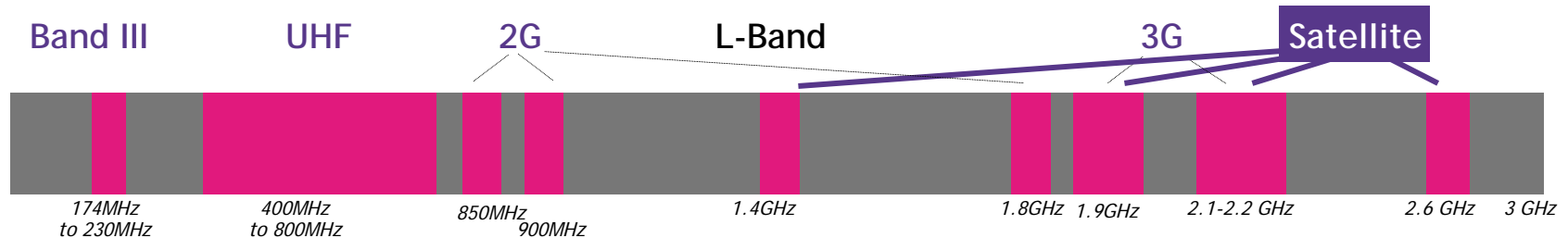


JAPAN

Launch March 06
 May 07 On the next 12 new handset types by SoftBank, 7 include MTV
 July 07: 7.3M phones (i.e. 6% mobile penetration)



2. Access to spectrum for Mobile Broadcast



TERRESTRIAL SPECTRUM

Issues before analog switch-off ...

- (very) limited availability
- Uncertain & complex transition period

... and no guaranteed availability after

- Techno neutrality trend, Greedy HD TV,...

Expensive

- US: 2006 AWS auction > \$150 M / MHz
2007 (Q4) UHF auction > \$450M / MHz (est.)
- Mobile Telecom spectrum acquisition cost (2G, 3G)

SATELLITE SPECTRUM

Still significant opportunities in Europe

- In L-Band, 2.2GHz

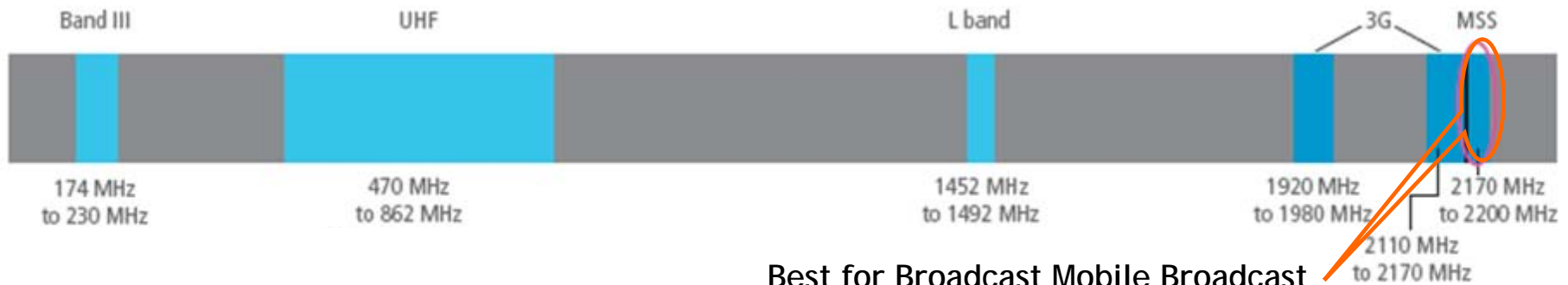
Satellite specific: no auction

Not fragmented, continental wide allocation

Hybrid operation (CGC) to complement satellite in dense urban areas

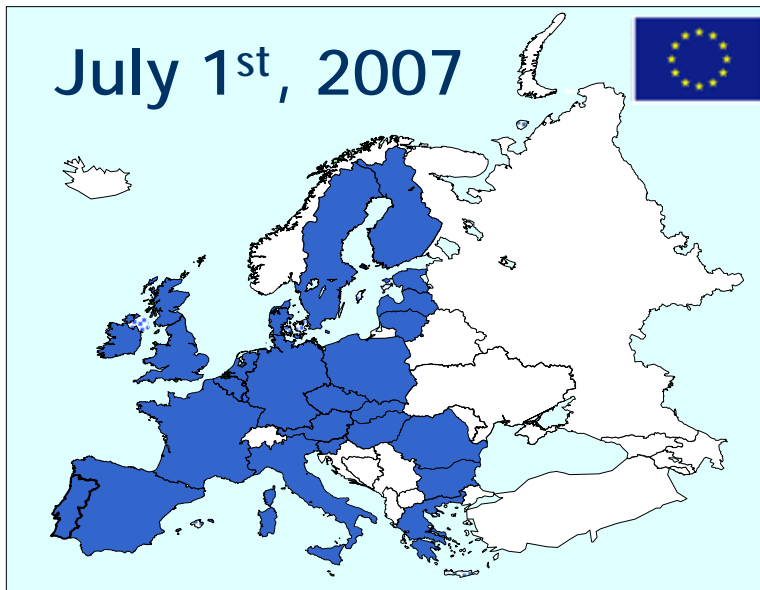
Access to spectrum: a strategic advantage for
Satellite (Hybrid) based projects

European Regulatory Framework in place for S-Band



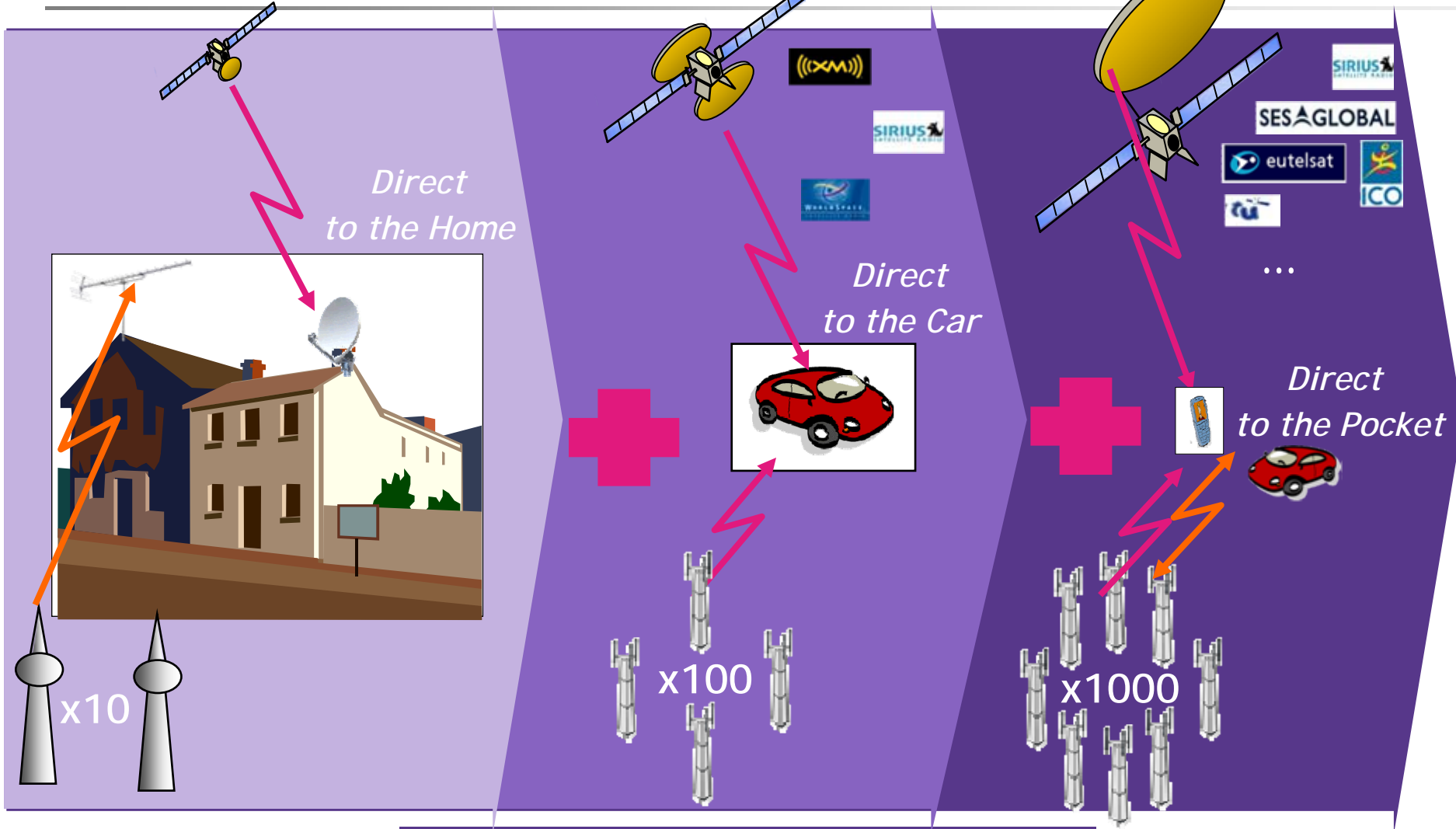
Best for Broadcast Mobile Broadcast

- 30MHz available in the S-Band
- Adjacent to 3G/UMTS downlink



- Priority to Mobile Satellite Services (MSS)
- Hybrid satellite/terrestrial systems allowed
- Member states shall make the band available for MSS as of July 1st, 07

3. Broadcast turning mobile ... thanks to hybrid solutions



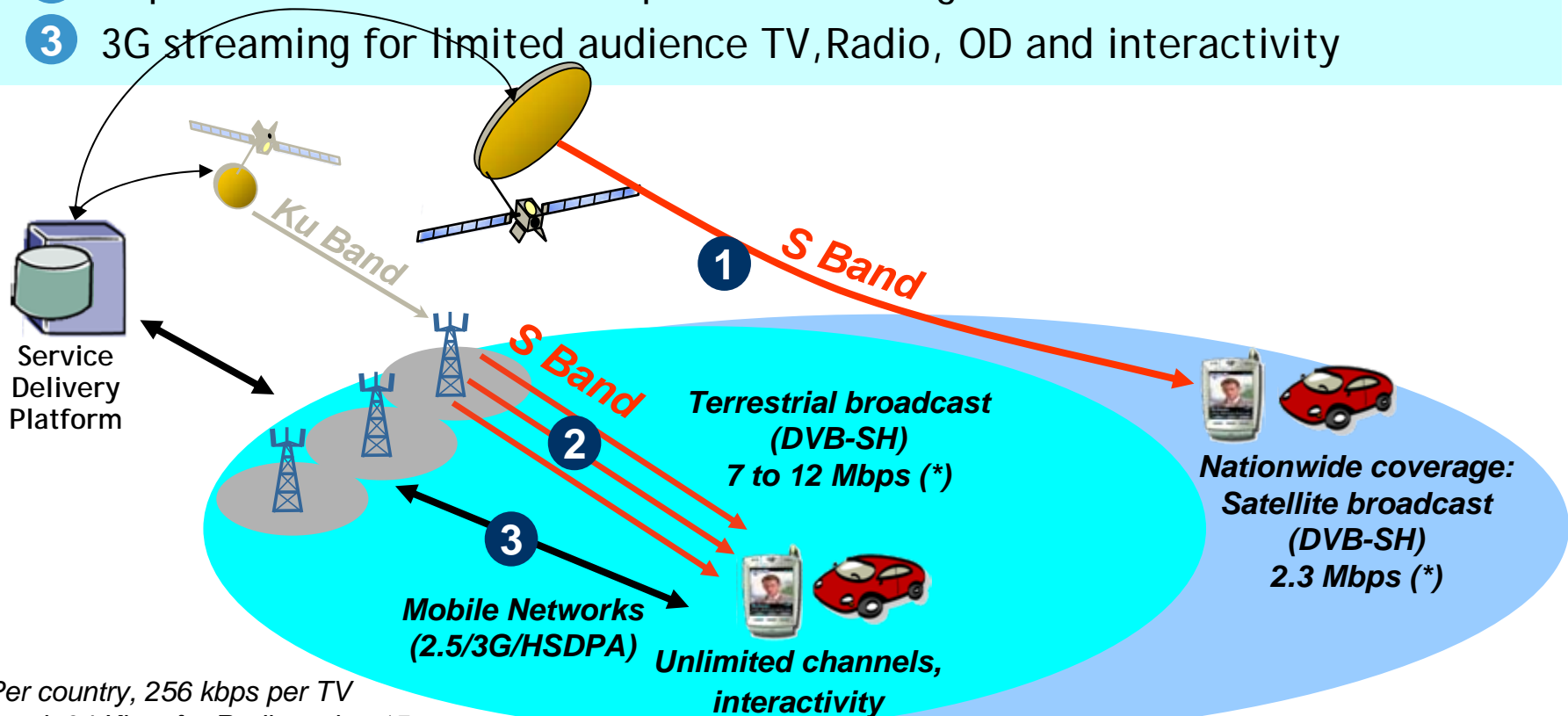
At stake: Consumer Mass Market

Alcatel-Lucent Mobile Broadcast in Europe

DVB-SH = evolution from DVB-H
30MHz adjacent to 3G and available



- 1 Satellite for 100% country coverage
- 2 Repeaters for urban and deep indoor coverage
- 3 3G streaming for limited audience TV, Radio, OD and interactivity



(*) Per country, 256 kbps per TV channel, 64 Kbps for Radio, using 15 MHz out of 30MHz unused

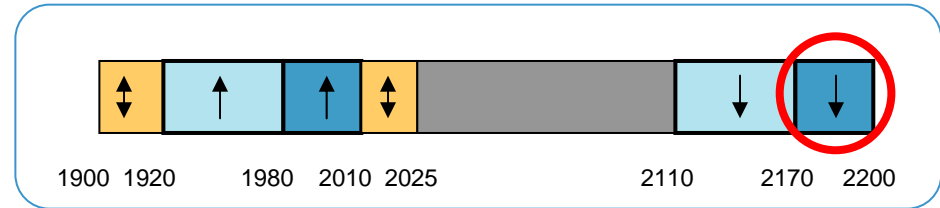
Network integration: Easy upgrade of existing networks (3G and GSM)

Reuse of existing sites

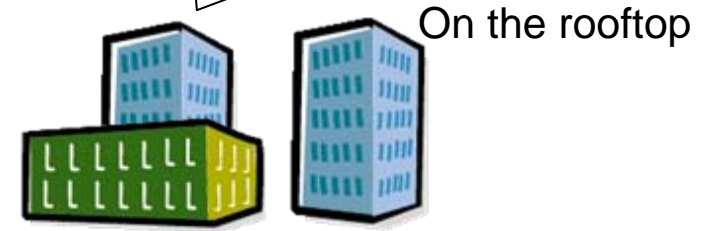
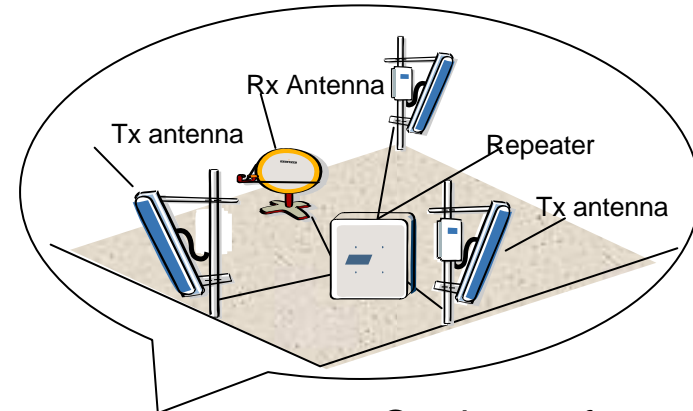
Reuse of antennas

Reuse of existing cabinets

Limited site renegotiation



- Additional rack in existing cabinet
- Adding a combiner to feed 2 radio signals in one (existing) cable



Limited CAPEX per repeater
Reduced installation cost

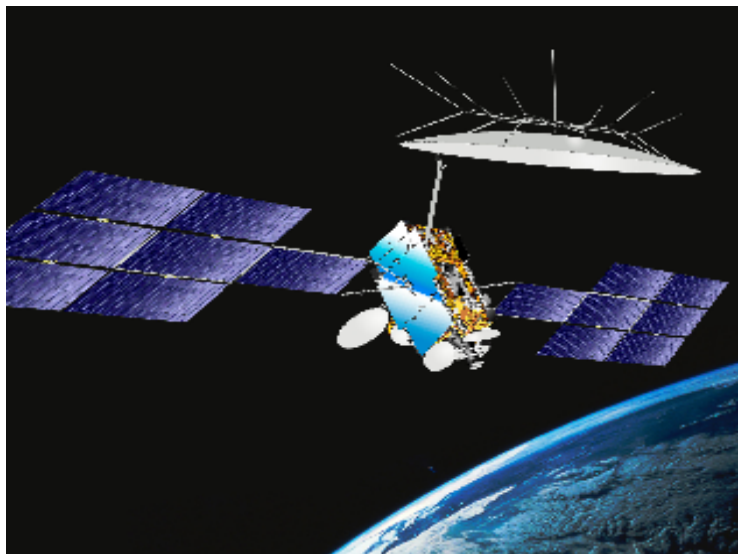
European satellite is ordered and being manufactured



Press release

Eutelsat confirms to Alcatel Alenia Space the S-band mission on the W2A satellite

Paris, 30 October 2006 - Eutelsat Communications (Euronext Paris : ETL), one of the world's leading satellite operators, and Alcatel (Paris: CGEP.PA and NYSE: ALA) today announced the decision to embark an S-Band payload on the W2A satellite for which a contract was awarded earlier this year.



W2A S-Band Coverages



Eutelsat Confidential



4. Need for credible technical eco-system

A mass market opportunity but:

- Need for open standard: trust, choice, low cost
- Need for network integration: interactivity, service convergence, low cost deployment

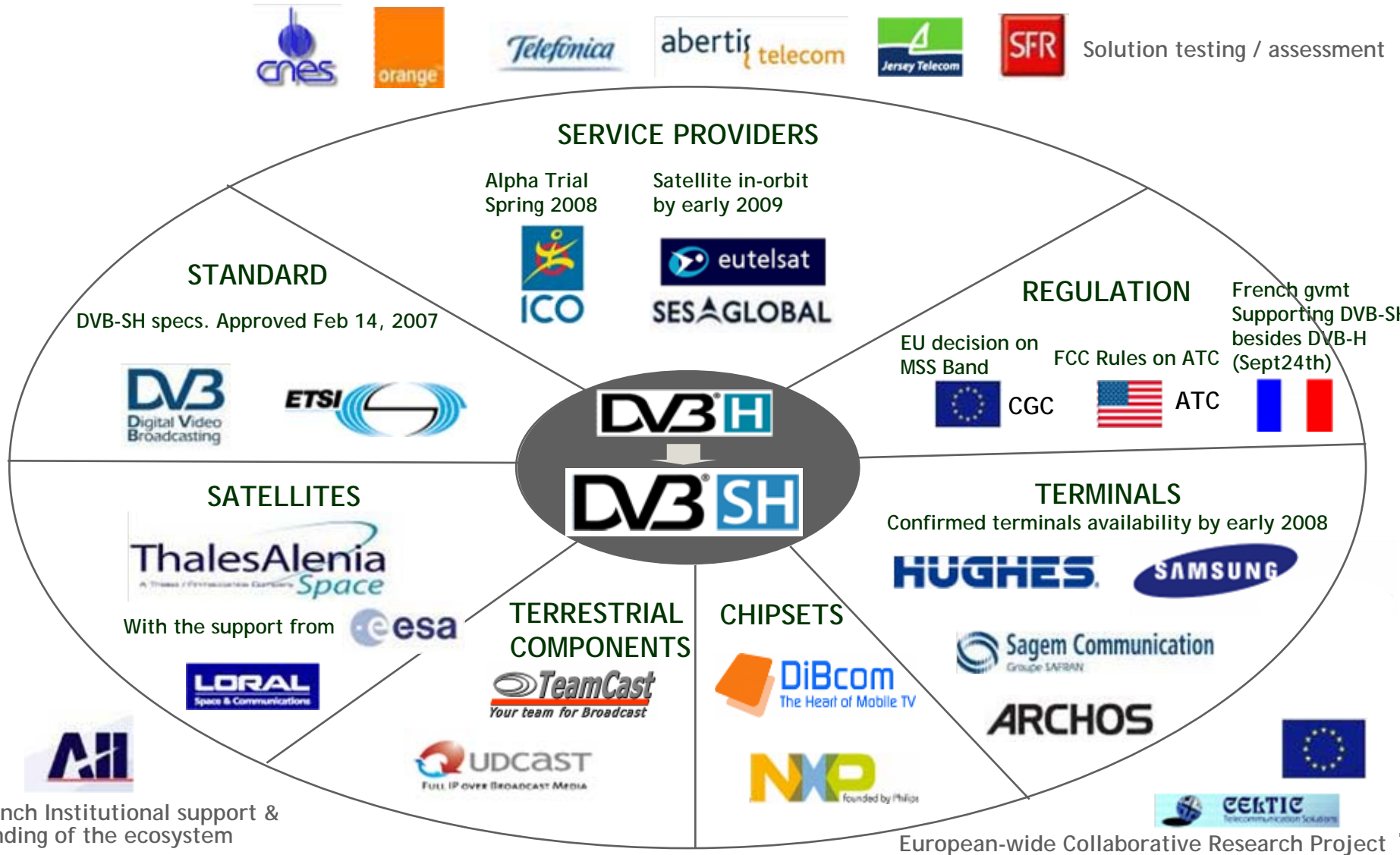
DVB-SH: First truly open hybrid mobile broadcast standard

- Optimized for all Satellite spectrum options (up to 3GHz)
- Key spectrum saving with satellite/terrestrial SFN
- DVB-H proximity benefits
 - Limited move for existing vendors
 - Possible complement of existing DVB-H services
 - Convergent chipsets
- Already in field trial



DVB-SH based eco-system to enable mass market

DVB-SH technical eco-system ...



Multiple vendors DVB-H/DV-B SH terminals and chipsets



CHIPSETS

- DVB-H/SH
- UHF to S-Band



HANDSETS

- Antenna diversity

ARCHOS

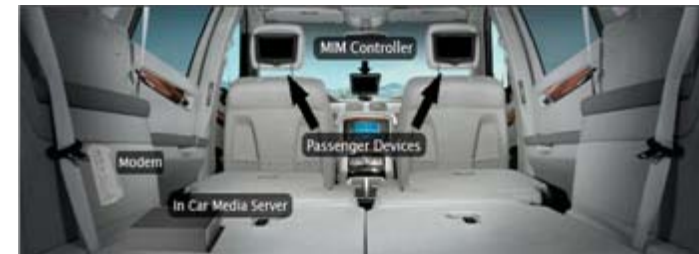


PORTABLE

- Antenna diversity



HUGHES



IN CAR

- Antenna diversity

Conclusion- the future of Digital Satellite Radio in Europe

Coverage

- ✓ nation wide
- ✓ but allowing local content inclusion

Convergence

- ✓ with other services, especially Mobile TV
- ✓ on handsets and multiple devices

Mobility

- ✓ on multiple devices, from handsets to car receivers

Interactivity

- ✓ for personalization and new consumption

To reach mass market(s)

Conclusion



... and Alcatel-Lucent is here to help you power it on!