Satellite communications and television: Middle East and world market perspectives

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- Established 1984
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- 14 analysts and researchers in Paris and Montreal
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- Provides strategic advice and market research on all space and satellite markets
- Advises investors, satellite operators and service providers, manufacturers and governments on satellite markets and business plans; performs due diligence reviews, revenue forecasts and feasibility studies
- Publishes the annual *World Satellite Communications and Broadcasting Markets Survey* and other research
- Organizes the annual *World Satellite Business Week*, focused on the financing of satellite systems; next edition in Paris on 6-9 September 2010
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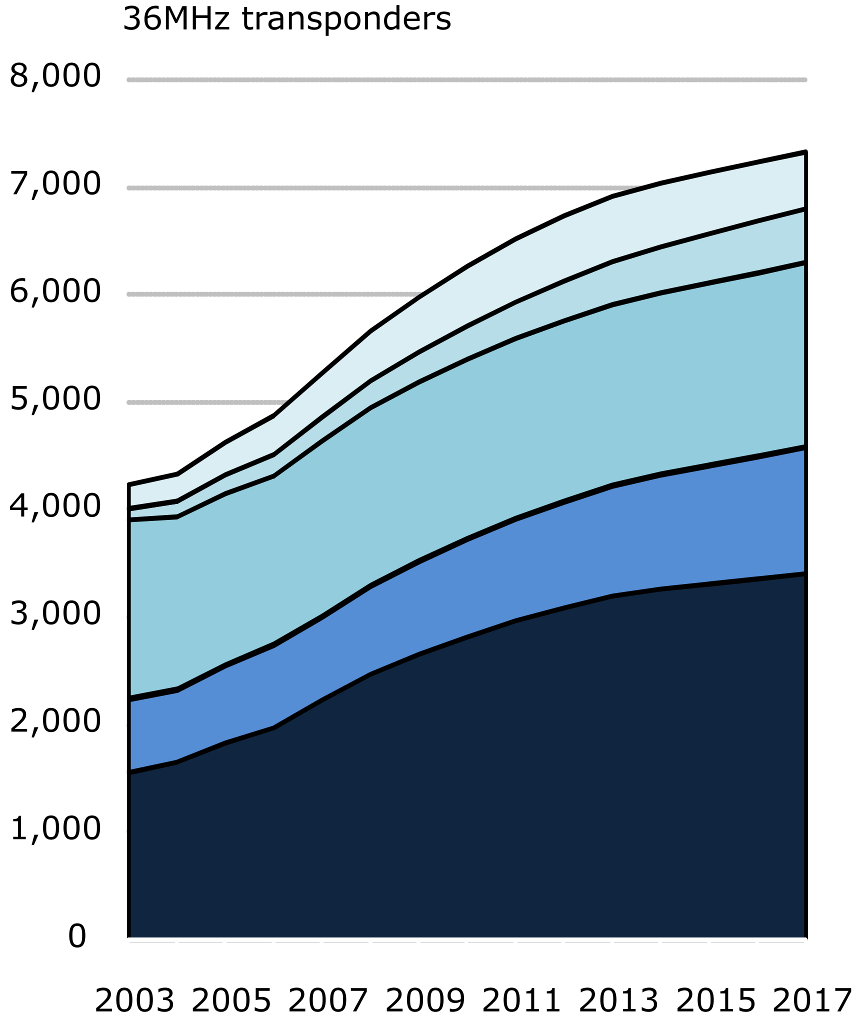
Global trends: Demand



Euroconsult, *Satellite Communications and Broadcasting Markets Survey*, 2008

Enterprise networks and broadband: Support over 2.5m VSATs including ~500k consumer terminals; driven by lower prices, market awareness, better solutions (*spotbeam capacity not shown*)

Military communications: Benefit from UAVs, welfare programs, improved security

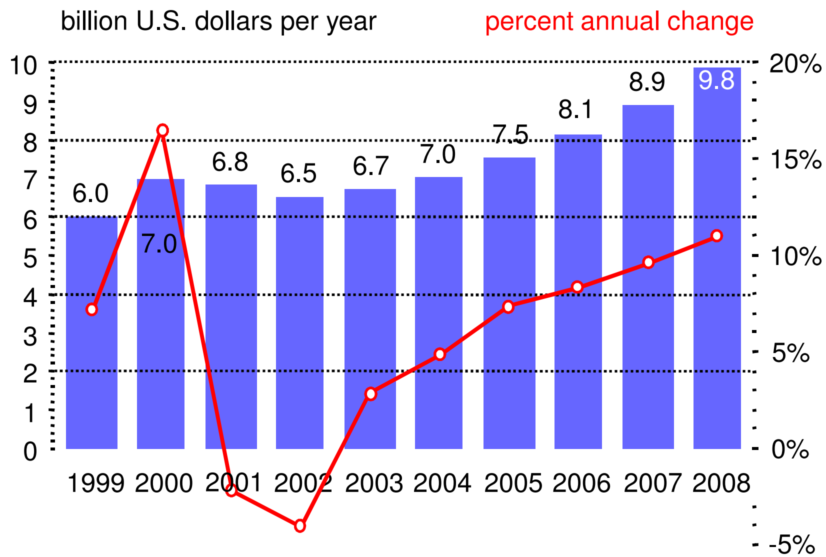
Telecom backhaul: Driven by strong cellular and Internet traffic growth, online video, gaps in terrestrial networks

Video contribution: ~12,000 feeds
- Cheaper SNG, more live content

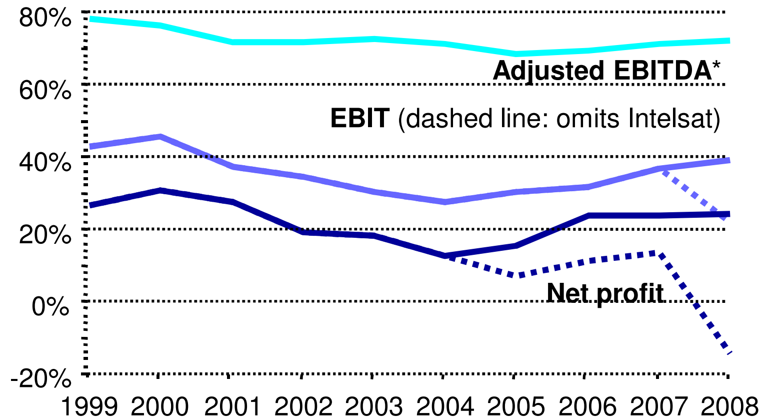
Television: >21,000 channels worldwid
- Driven by pay-television, HDTV, digital compression and localization
- Telcos and FTA broadcasters now joining the action with IPTV complements and free platforms

Global trends: Revenue and margins

Transponder lease revenue, 1999-2008



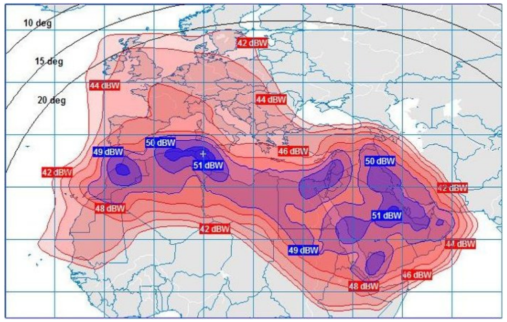
Average margins of operators, 1999-2008

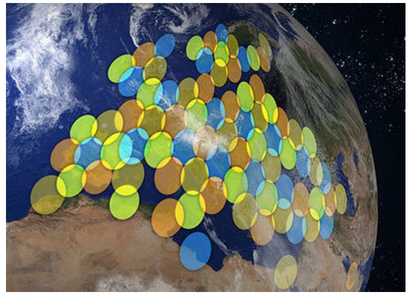


* Omits non-cash and unusual items
(dashed line: includes Intelsat from 2005 and Telesat from 2008)

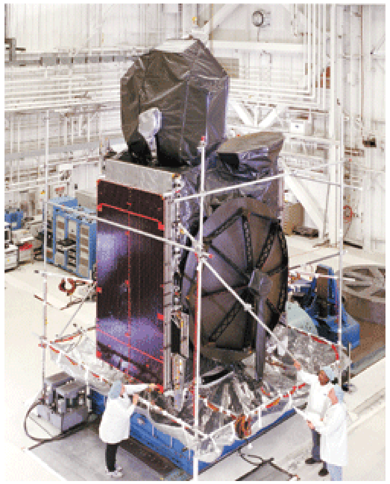
- ~$9.5bn in lease revenue, 70% EBITDA, 5-7% annual growth, 71% fill rate
- Accelerating growth since 2003
- Strong performance defended by high entry barriers, viz. spectrum and initial outlays
- >$100bn value-added sector downstream of satellites

19 new satellites for the Middle East by 2013

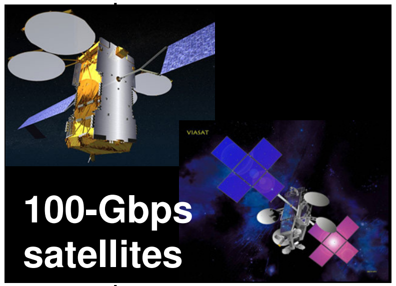




Better/more flexible coverage



Larger/more powerful spacecraft



DVB S2: +30%

Carrier in Carrier: +50%

MPEG 4: +15-50%

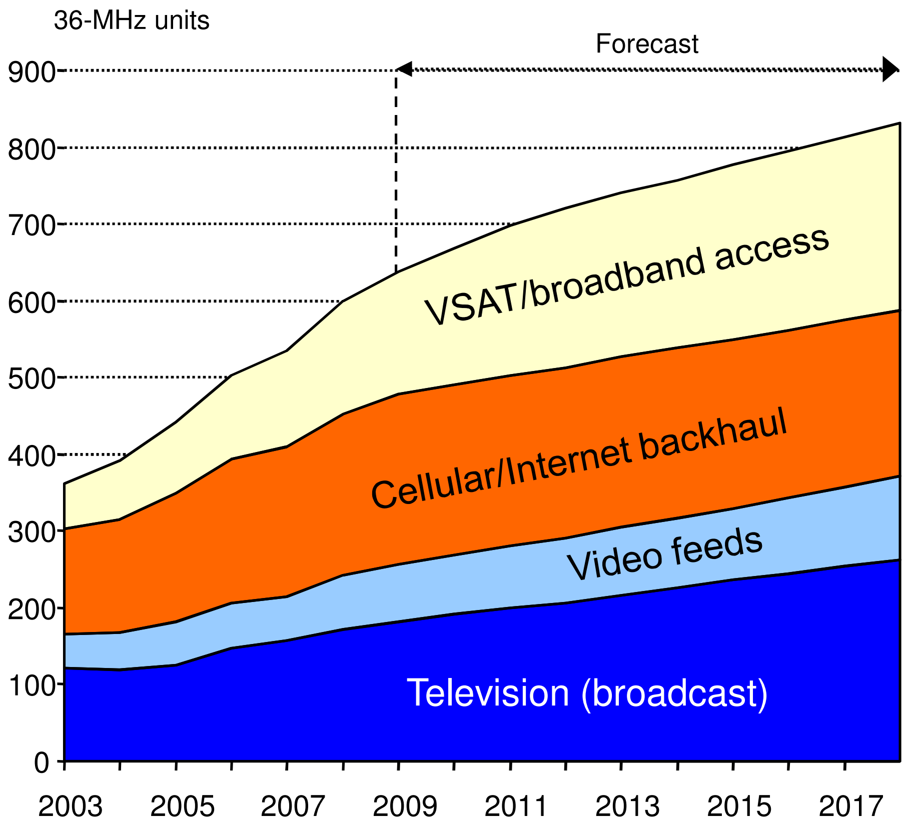
IP networking: +50%

StatMux: +10%

More efficient signal processing

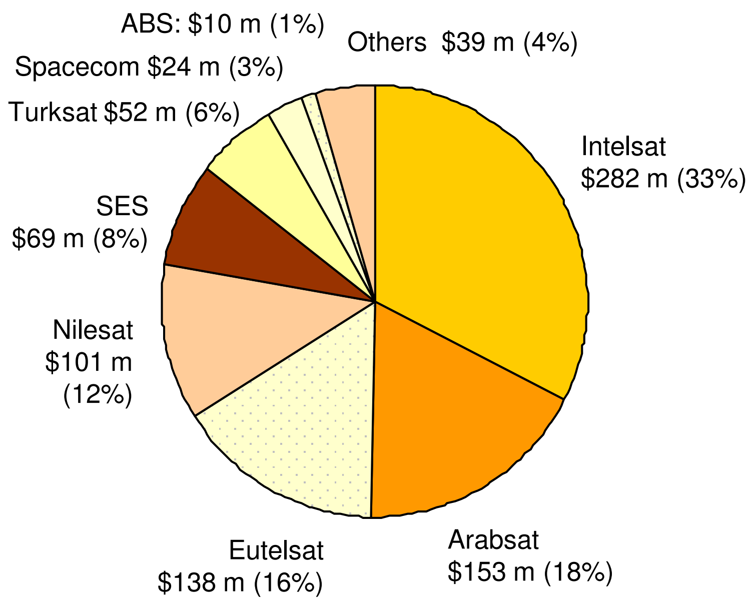
Middle East: Market structure

Transponder usage



source: Euroconsult, *Satellite Communications and Broadcasting Markets Survey*, 2008

Lease revenue
Total: $862 million



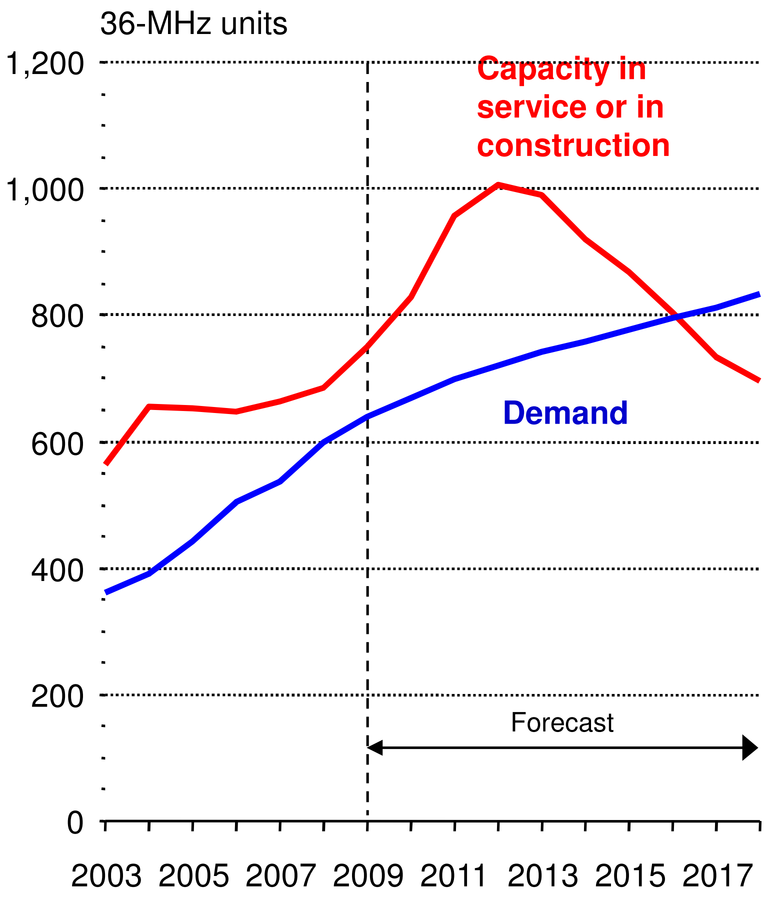
Middle East: Television

- ~75m television homes; >90% satellite penetration in all major markets (except Iran), and still rising
- ~1,100 television signals (~500 unique channels) on satellite; 76% increase since late 2007; two strong video neighborhoods at 7°W and 26°E...
  - ... plus 20 transponders of Farsi channels at 62°E and 105.5°E
- 165 transponders at YE 2008, often at very high compression rates
- Cable television irrelevant except in UAE, Qatar and Lebanon
- Very resilient advertising market
  - PARC says TV advertising grew 43% to $2.5bn in 2009
  - Arab Advisors says rates increased 25% since 2007
  - The FTA market's economics remain opaque and dubious
- Pay-television now accelerating but still some way from takeoff
  - ~3m subscribers to ART, Orbit/Showtime and Al-Jazeera
  - Sports rights now driving the market
  - Price pressure increases from piracy and the Dreambox
  - HDTV marginal; content scarce, broadcasters skeptical
  - Very little localization
  - More initiatives coming: YahLive, Abu Dhabi TV, Echostar... but differentiation strategies still unclear

Middle East: Telecommunications

- ~300 transponders at YE 2008
- About two-thirds support a single customer in Iraq, who plans to exit by late 2011 and may return up to 80 transponders in 2009
- Moderate VSAT market growth to ~50,000 sites
    - Oil/gas, security monitoring, ATM networks and a few Education/Interior ministry networks drive the market
- Cellular/Internet backhaul rapidly shifting to new fiber or microwave
    - Important exceptions exist (e.g. Pakistan)
    - More broadband traffic in second-tier cities and rural areas would make demand rebound
- Who will be the WildBlue of the Sands ?
    - YahClick and Tooway (and others ?) prepare to find out
    - Internet penetration is finally catching up to the world average of ~25%
    - Major carriers push WiMAX and HSPA and build up awareness and expectations
    - Broadband grows at 30-40% per year, but still only ~8m subscribers, prices ~2× European levels, on lower incomes, less local content, more regulatory barriers
    - Many satellite solutions at $500+ per month, but cheaper ones have been frustrated by heavy regulation, low quality, poor distribution and market fragmentation

Middle East: Future prospects



source: Euroconsult, *Satellite Communications and Broadcasting Markets Survey*, 2008

- In mid-2008, 93% of the region's 28,735 MHz of operational Ku-band capacity was utilized; C-band fill rate not as well known but also >90%
- Prices have been stable since 2008 and average $4,300 per MHz/month ($1.8m per 36 MHz/year)
- Capacity remains very short due to limited supply and strong demand in the Middle East, Africa and Central Asia
    - Prices are historically high nearly everywhere (except in North America and East Asia)
    - Spectrum is scarce and hard to coordinate
- Improved supply is likely to remove bottlenecks in the next 2-3 years and opportunities will abound:
    - Landline networks are unlikely to meet expectations
    - Consumer broadband could reorganize the market
    - Substantial efficiency gains remain possible
    - The television market shows signs of waking up
    - Satellite operators are interested, attentive to market demand and adept at meeting competition
    - Another crunch coming in 2014 ?

Global trends: Future satellite applications

- Most of the market still dominated by classic broadcasting and backhaul
- Many innovations have not caught well
  - Remember Teledesic ? Geostar ? Ellipso ? StarBand ? Push VOD ? IP-Prime ?
  - Some future visions never go away: crosslinks, OBP, Ka-band, NGSO-FSS
- But innovation does happen
  - BSkyB was a revolution
  - R&D levels and attention to demand shifts are high
  - Long maturation and economies of scale are essential
  - Large market shifts have been many: DWDM, the Internet bubble, broadband, emergent regions taking off
  - The satellite industry interacts with a wide range of fast-moving, innovative user communities
  - Investors and lenders are reasonably supportive
- What's next ?
  - Machine-to-machine
  - Higher modulation schemes
  - Military and commercial COTM
  - Large-scale Ka-band, including in rainy countries
  - Convergence with satellite imaging
  - 3DTV ? In-orbit servicing ?