



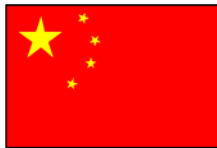
BITKOM International HD summit, Berlin
14th October, 2008

HDTV Supply Chain: A global and European perspective

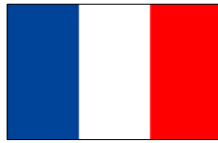
Andrew Murray
Senior Director
Display systems
iSuppli Corporation

- ▶ Introduction to iSuppli Corporation.
- ▶ Set Top Boxes
 - Cable
 - Satellite
 - IPTV
 - Terrestrial
- ▶ Blu-ray Disc Players
- ▶ Gaming consoles
- ▶ High Definition Content
- ▶ HDTV

- ▶ Offices located around the world...
 - Over 120 employees
 - Over 85 industry and segment analysts
 - Located wherever the electronics industry is prominent



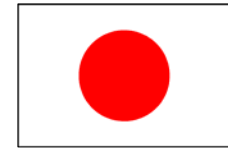
China
3 Locations



France



Germany



Japan
2 Locations



South Korea



Taiwan



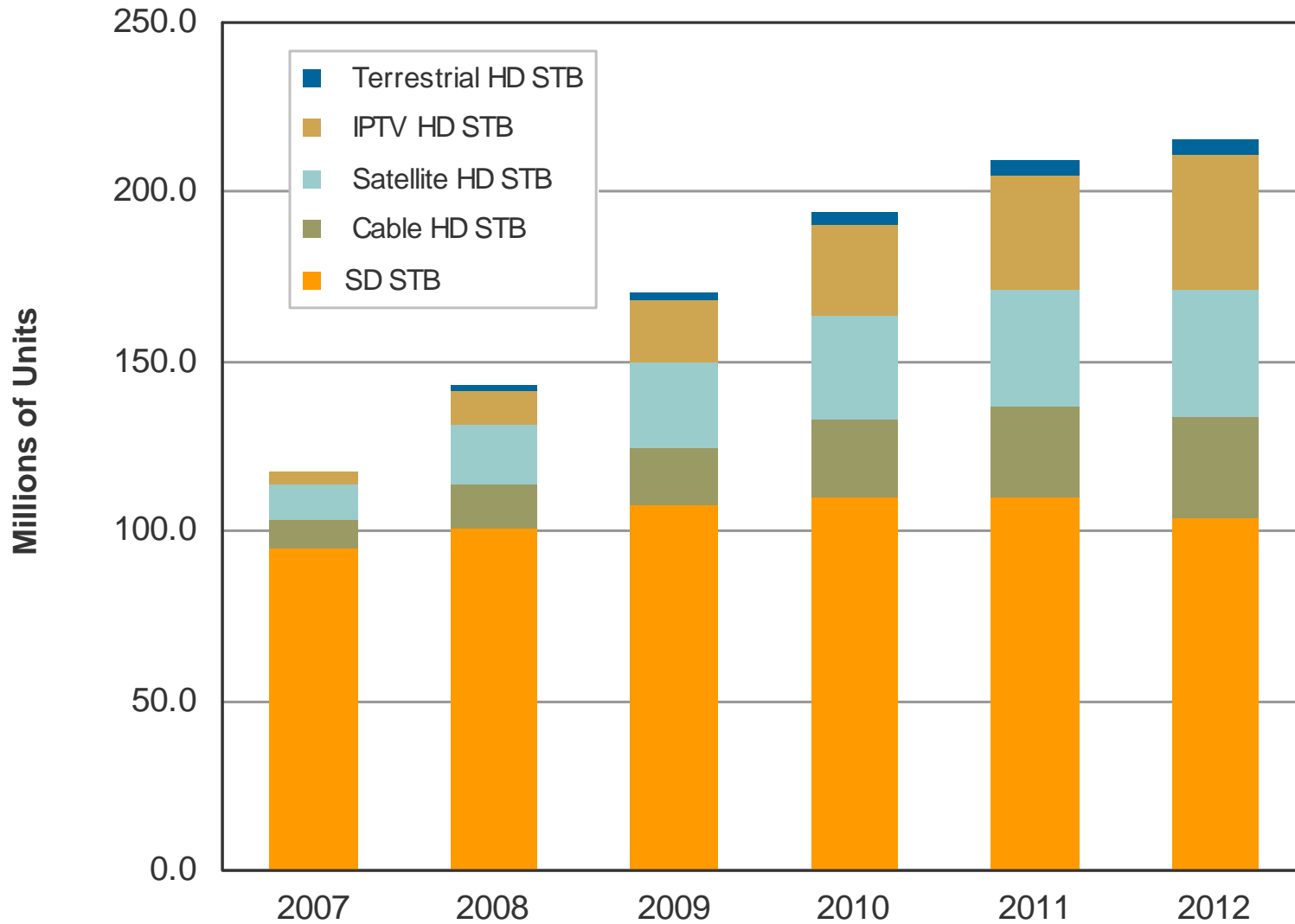
United Kingdom



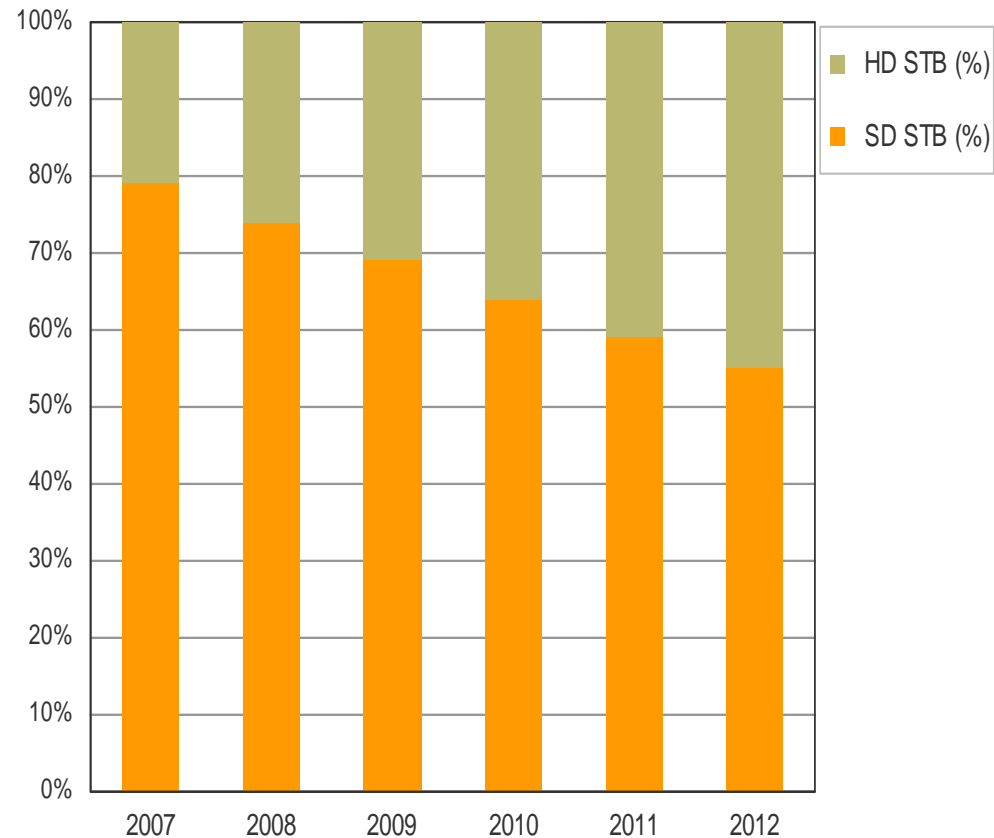
United States
3 Locations

- ▶ Large TFT-LCD Displays
 - Global LCD Supply-Demand
 - LCD Pricetrak
 - LCD Market Tracker
 - LCD Supply Chain Report
 - LCD Health Watch
 - Cost and Profitability Tracker
- ▶ Small/Medium Displays
 - Market Tracker
 - Topical Reports
- ▶ Mobile Handset Displays
 - Market Tracker
 - Teardown Slice
- ▶ Plasma Displays
 - Plasma Display Market Tracker
- ▶ Organic LED Displays
 - Market Tracker
- ▶ Emerging Display Technologies
 - Special Studies
- ▶ Flat Panel Display Cost Modeling
 - TFT-LCD, Mobile TFT, STN-LCD, PDP, OLED, Printable Emissive
- ▶ Television Systems
 - TV Systems Market Tracker
 - Topical Reports
 - EMEA TV Market Tracker
 - China TV Tracker
 - Flat Panel TV Pricetrak
- ▶ Desktop Computer Monitors
 - Worldwide Monitor Market Tracker
- ▶ Specialty Monitors
 - Market Tracker
 - Topical Reports
- ▶ Front Projectors
 - Projection Market Tracker
- ▶ Signage and Professional Displays
 - Market Tracker
 - Topical Reports
- ▶ Display Electronics
 - Display Driver IC Market Tracker
 - DTV Semiconductor Market Tracker

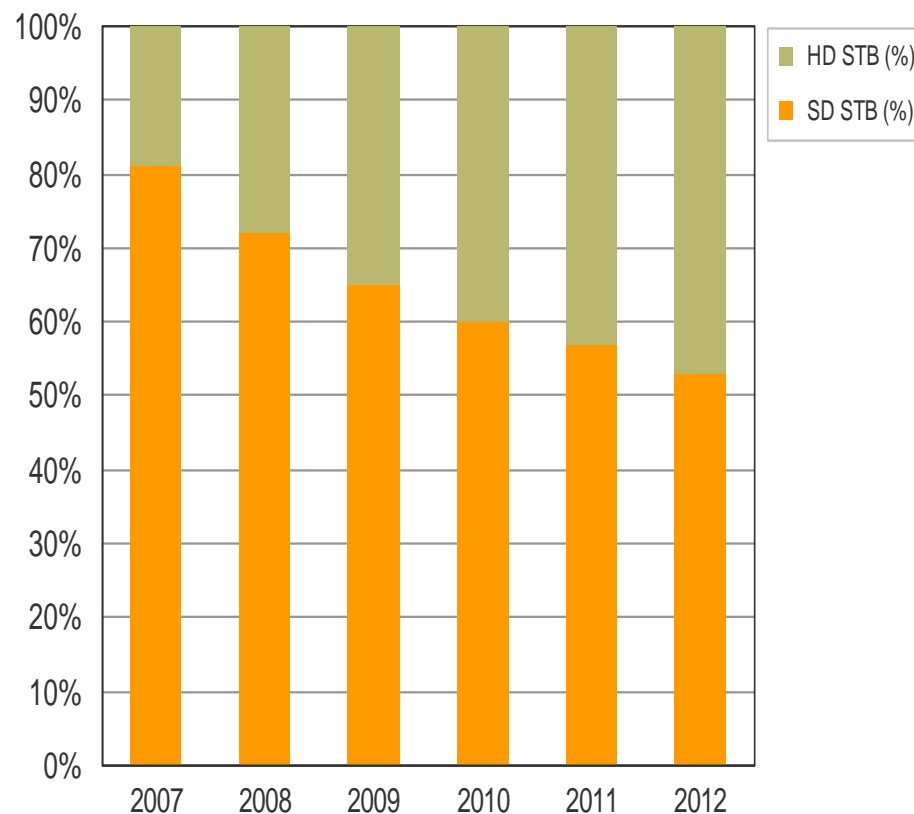
- ▶ Application Market Forecast Tool
 - WW, Regional, Quarterly, A-P
- ▶ Automotive Infotainment
 - Systems Market Tracker
 - Semiconductor Market Tracker
 - Topical Reports
- ▶ Compute Platforms
 - Market Tracker
 - Topical Reports
 - CSCA
- ▶ Consumer Platforms
 - Market Tracker
 - Topical Reports
 - Set-top Box Cost Model
- ▶ Storage
 - Market Tracker
 - Market Briefs
- ▶ Wired Communications
 - Market Tracker
 - Topical Reports
- ▶ Wireless Communications
 - Market Tracker
 - Topical Reports
 - Mobile Handset Cost Model
 - Design Forecast Tool
- ▶ Analog & Interface
 - Market Tracker
 - Competitive Analysis
- ▶ DRAM
 - Market Tracker
 - DRAM Dynamics
 - DRAM Module Market Tracker
- ▶ Data Flash
 - Market Tracker
 - Topical Reports
- ▶ Flash Market Share
 - Market Tracker
- ▶ NOR Flash/SRAM/MCP
 - Market Tracker
 - Market Briefs
- ▶ Power Management
 - Market Tracker
 - Topicals
- ▶ Semiconductor Design & IP
 - Core Silicon Market Tracker
 - Design Win
 - Design Infrastructure
 - Design Content
 - IC Price Evaluator
- ▶ Semiconductor Spend Analysis
 - OEM
 - ODM
- ▶ Regional Design Influence Tool
- ▶ China Research
 - Analytical Tools
 - Market Trackers
 - Topical Reports
- ▶ India Research
 - Market Tracker
 - Topical Reports
- ▶ Component Price Tracker
- ▶ Component Health Watch
- ▶ EMS & ODM
 - Market Tracker
 - Topical Reports
 - Monitor
 - GOMDA
- ▶ Semiconductor Mfg & Supply
 - Market Trackers
 - Silicon AMFT
- ▶ Semiconductor Inventory Tracker
- ▶ Teardown Analysis
- ▶ Competitive Landscape Tool
- ▶ Best Practices
 - For OEMs
 - For Semiconductor Suppliers



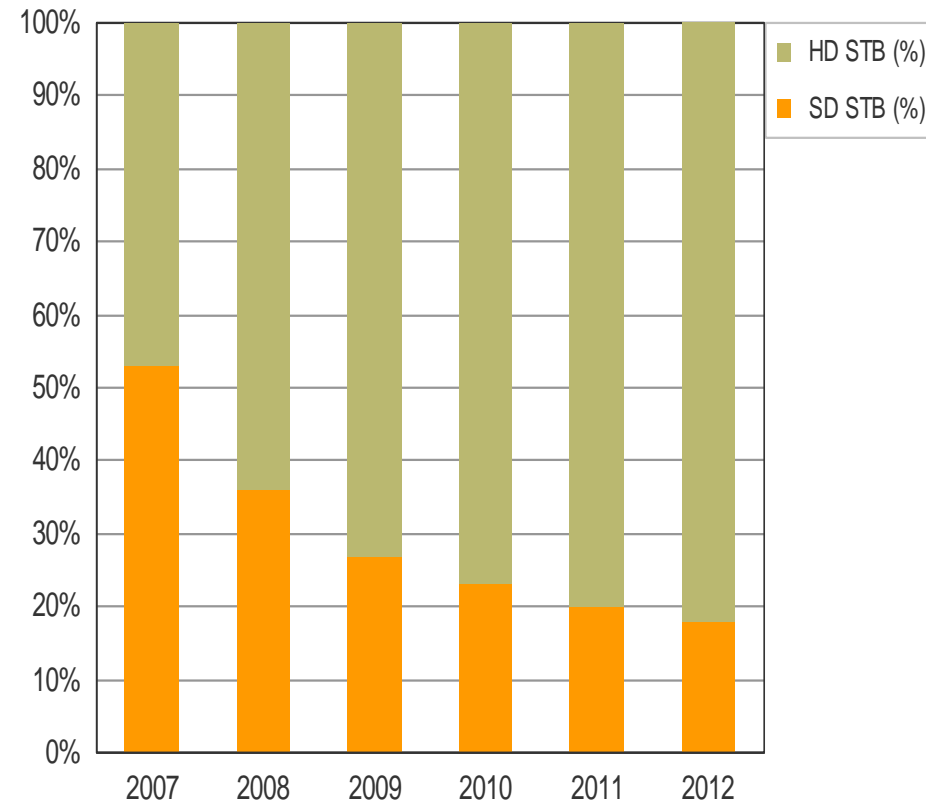
- ▶ Most mature segment of the global STB market
- ▶ Very strong growth in 2007, up 44%
- ▶ Growth driven by emerging regions
 - As emerging regions mature, growth will slow
 - Market saturation, increasing competition from IPTV
- ▶ Emerging competition from “boxless” set-top boxes
- ▶ Cable growth will slow and flatten within a few years
- ▶ This is a market for large and/or geographically-focused suppliers



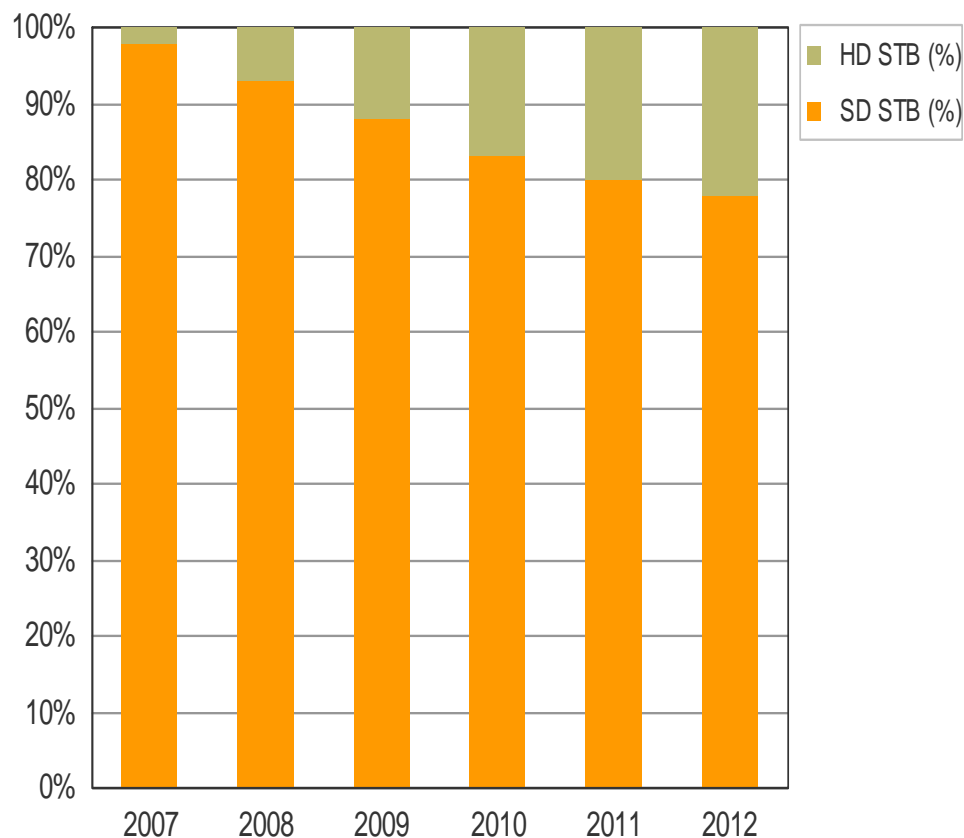
- ▶ Largest single segment of set-top boxes
 - almost one-half of shipments in 2007 were satellite boxes
- ▶ Infrastructure not as big an issue as with other architectures
 - Satellite launch is expensive, but addresses entire region at once
- ▶ Growth driven by upgrades to premium boxes
 - Highest availability of true HD content in the United States; new satellites and transition to advanced video codecs
 - Will enable continued double-digit growth for the next several years
- ▶ Vendors should focus on leading-edge boxes

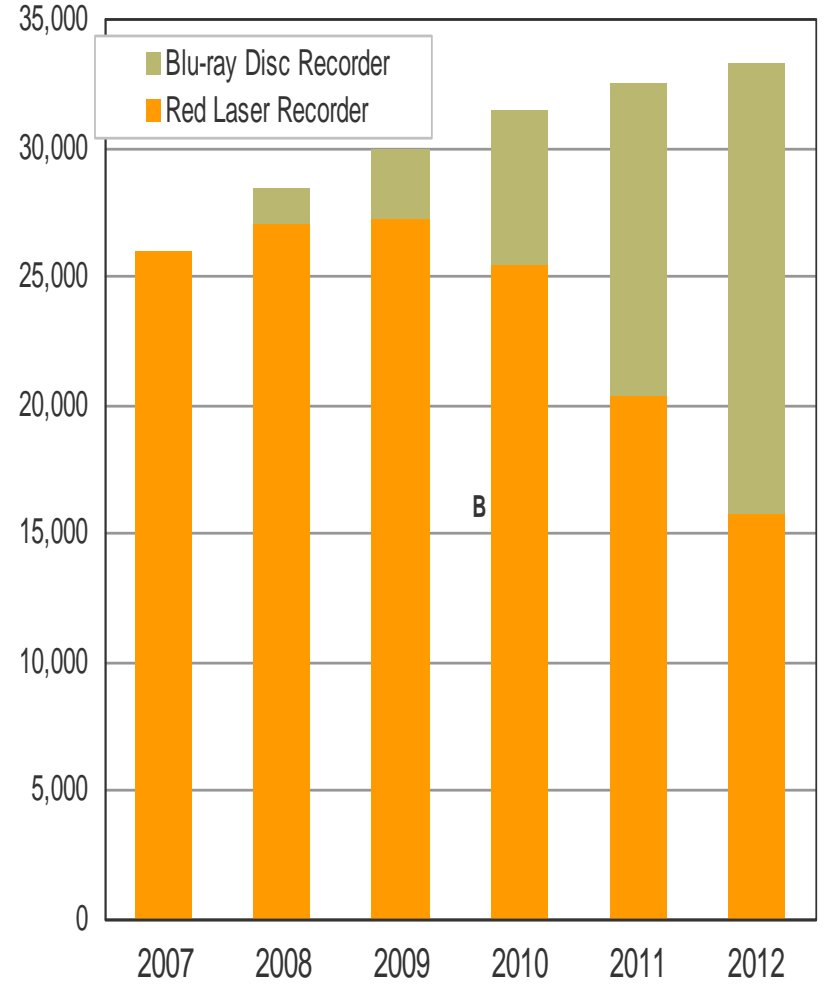
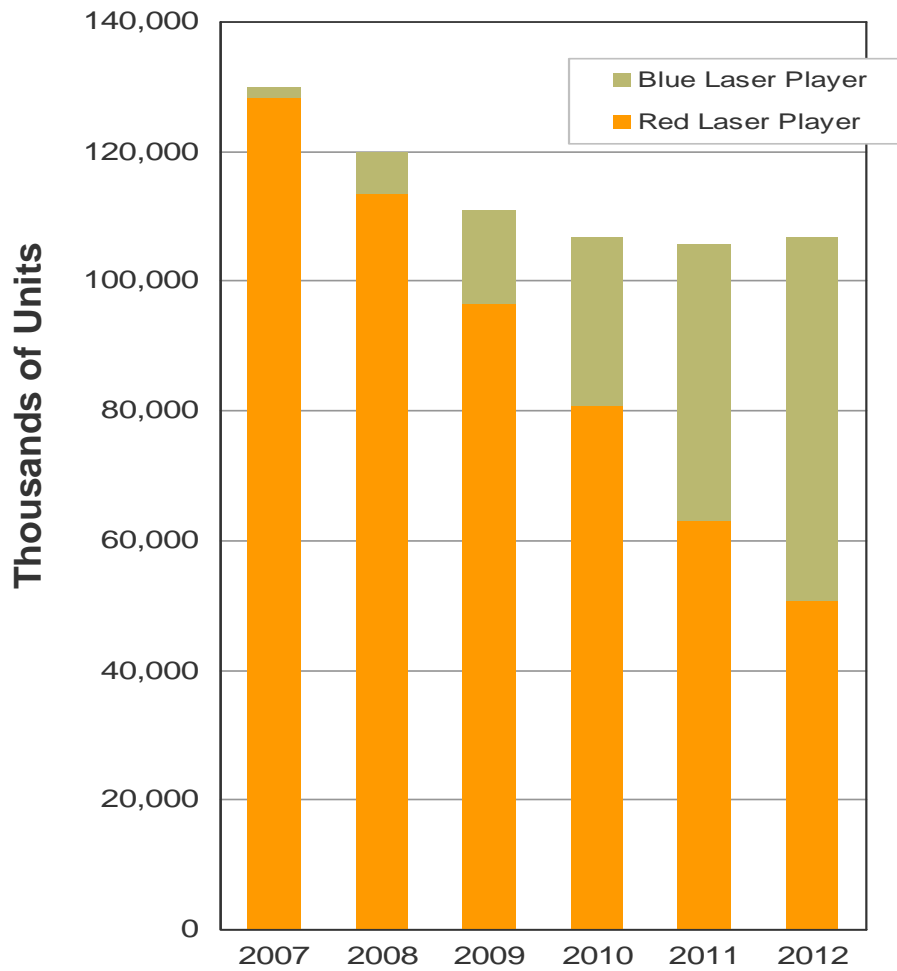


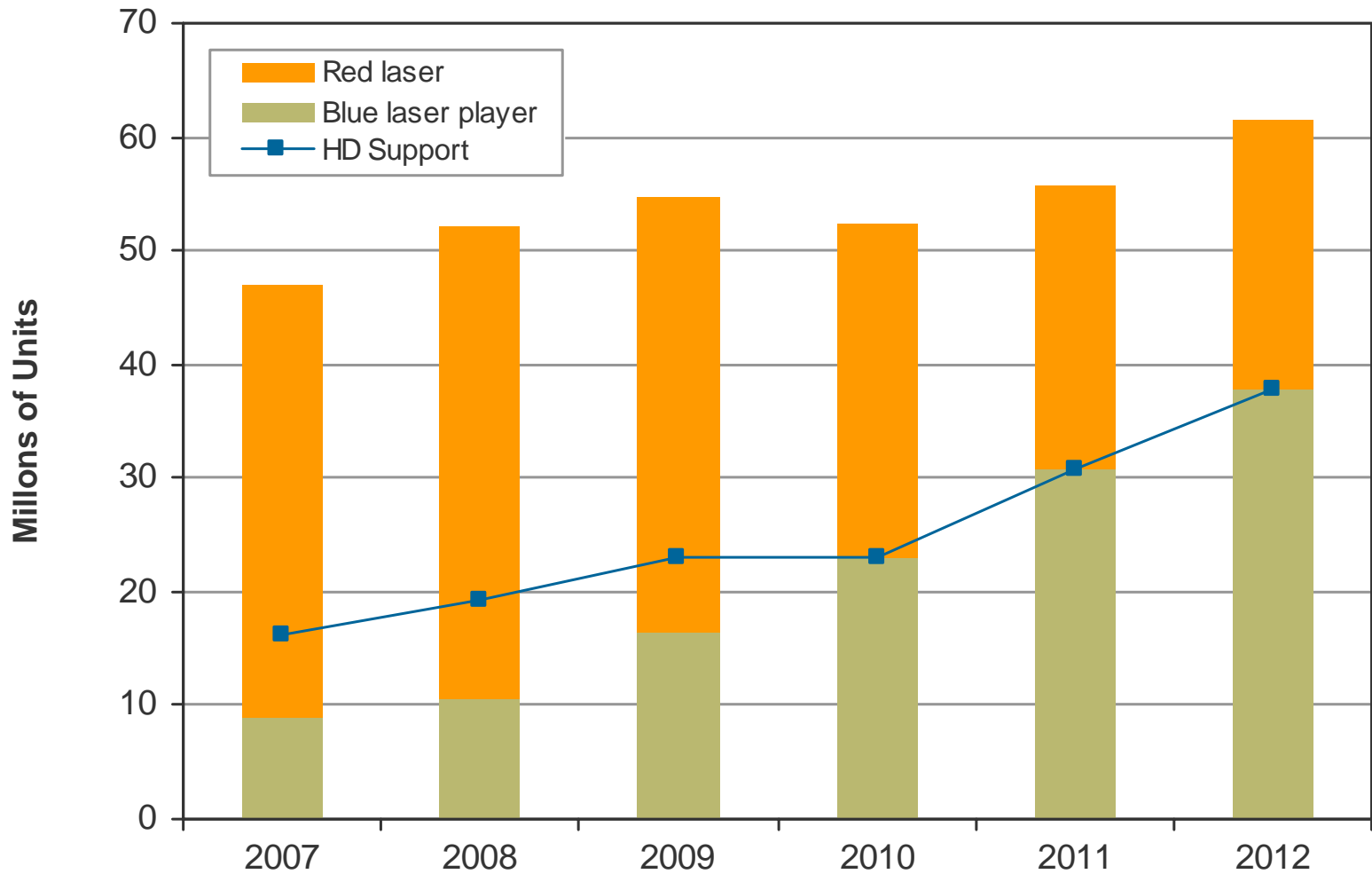
- ▶ Explosive growth in 2007 will continue through 2012 at least
 - Shipments almost tripled from 2006
 - Still the smallest segment of the market, however should surpass terrestrial this year
 - Unit growth will be the largest by 2010
- ▶ Telcos aggressively pushing triple-play (phone, internet, tv)
 - Cable vendors responding in kind
- ▶ Short term growth in first-world geographies
 - Infrastructure in place – basic HD/Internet service requires >20Mbps connection; additional HD channels and faster Internet access pushes that up to 50Mbps++
- ▶ Huge opportunity for all set-top box vendors
 - Dynamic nature of market, provider relationships enables smaller and start up vendors as well as tier-1/tier-2 suppliers



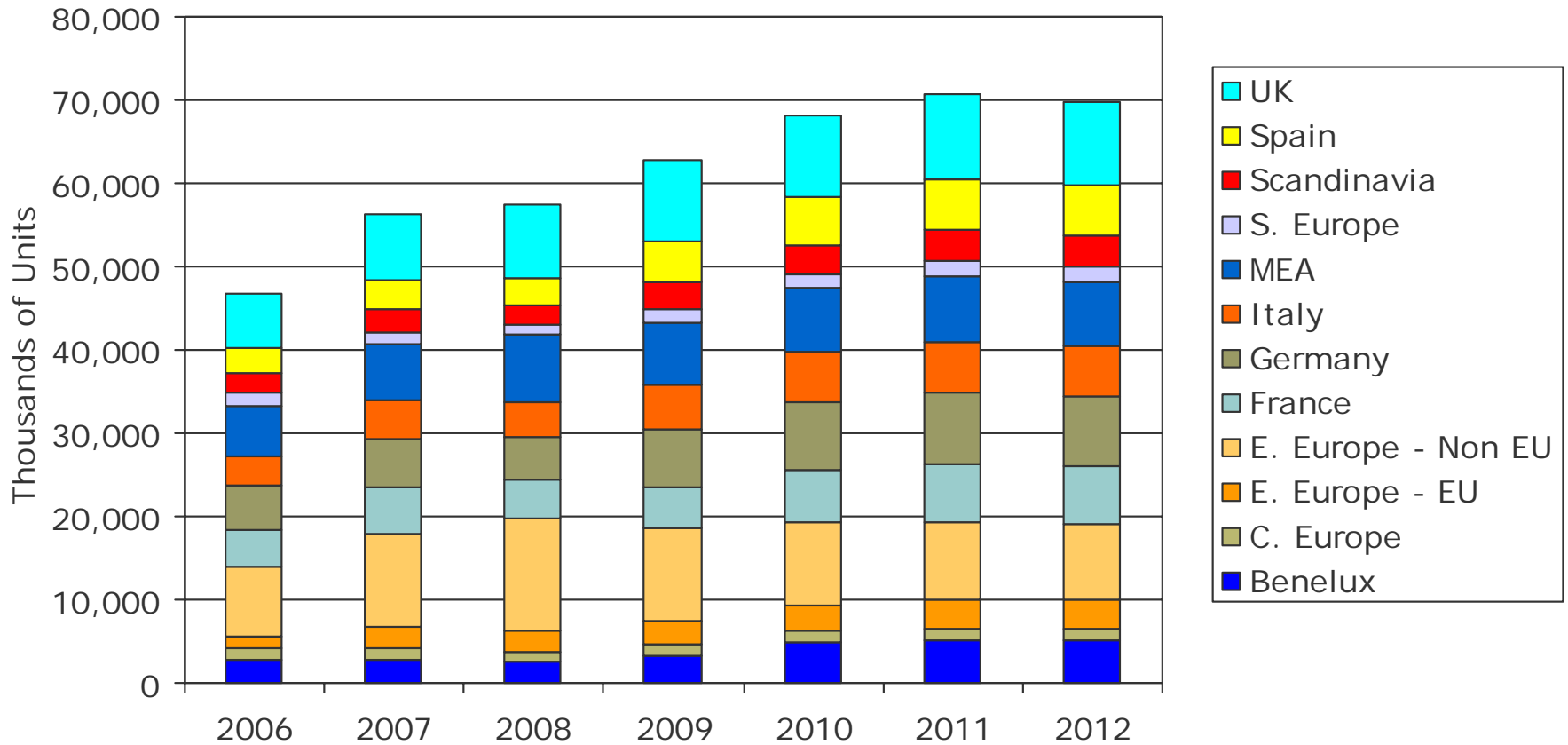
- ▶ Established market, but only select geographies
 - Mainly western/central Europe
- ▶ Represents ~10% of the market
 - Will be the smallest segment effective this year
- ▶ Increasing competition (mainly from Telcos); few green field markets
 - Move to HD makes alternative architectures attractive
 - Growth rate forecast to be single-digits near term, dropping to almost zero by 2010
- ▶ Opportunities limited, mainly a play for larger suppliers already in market

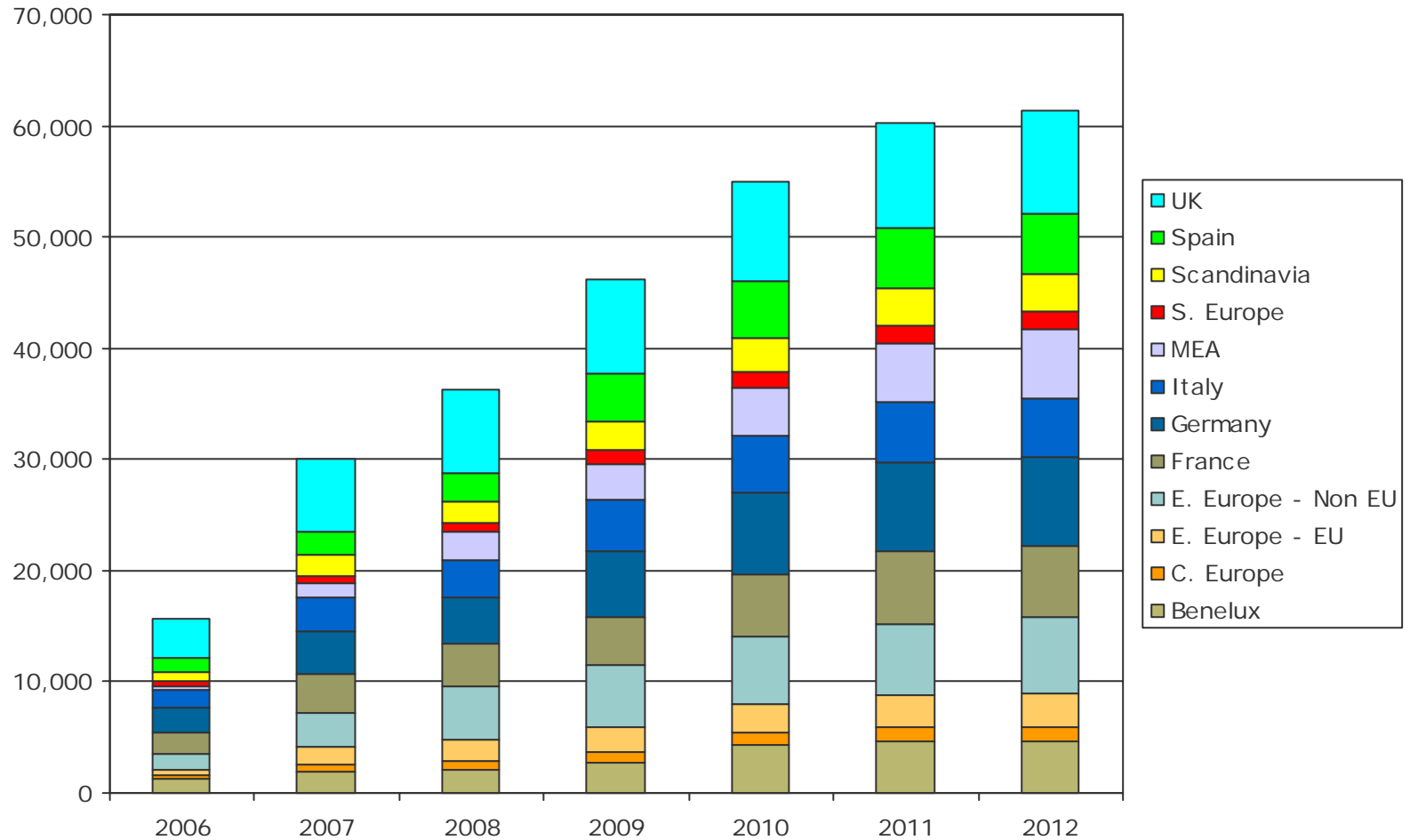


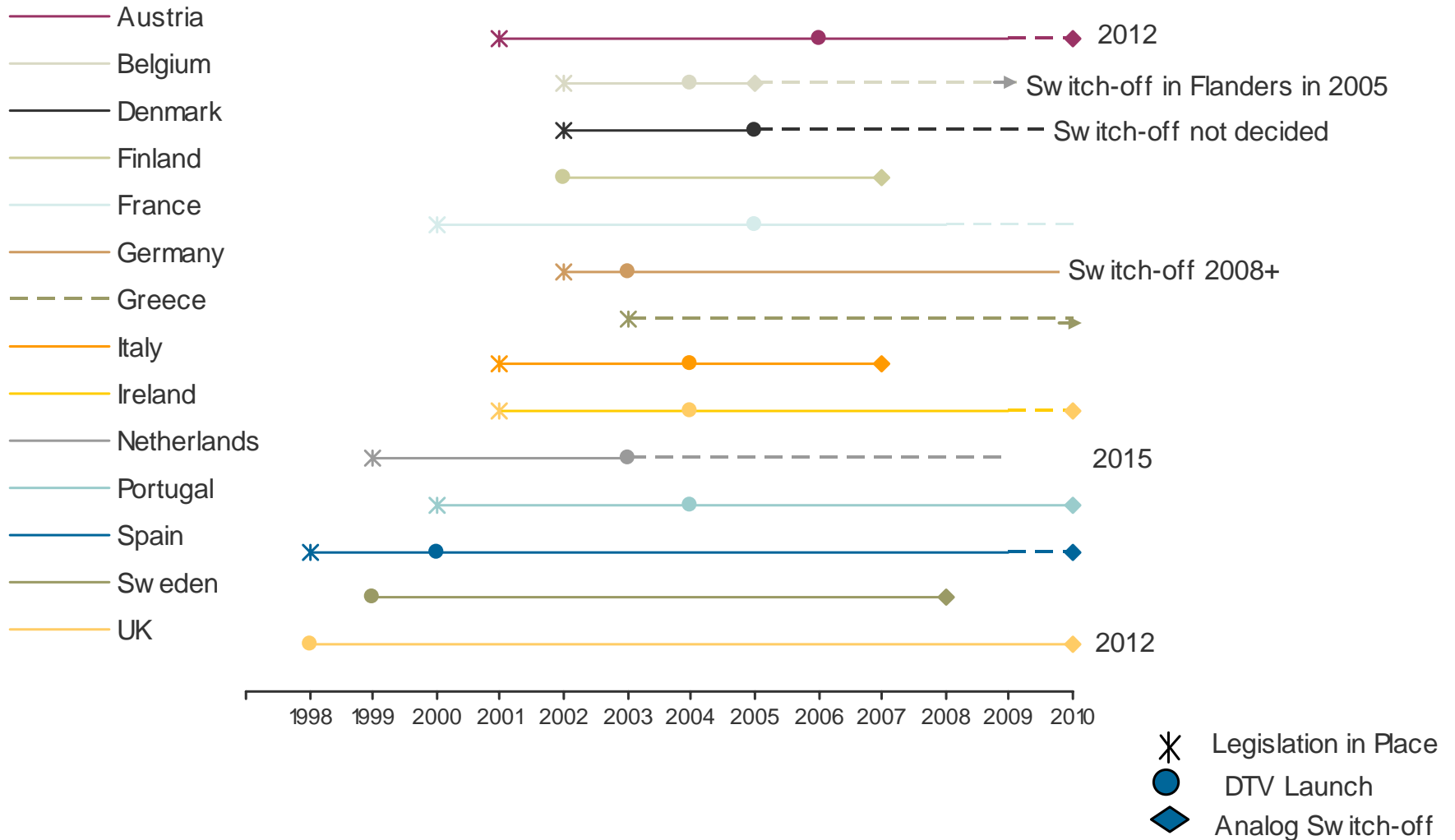


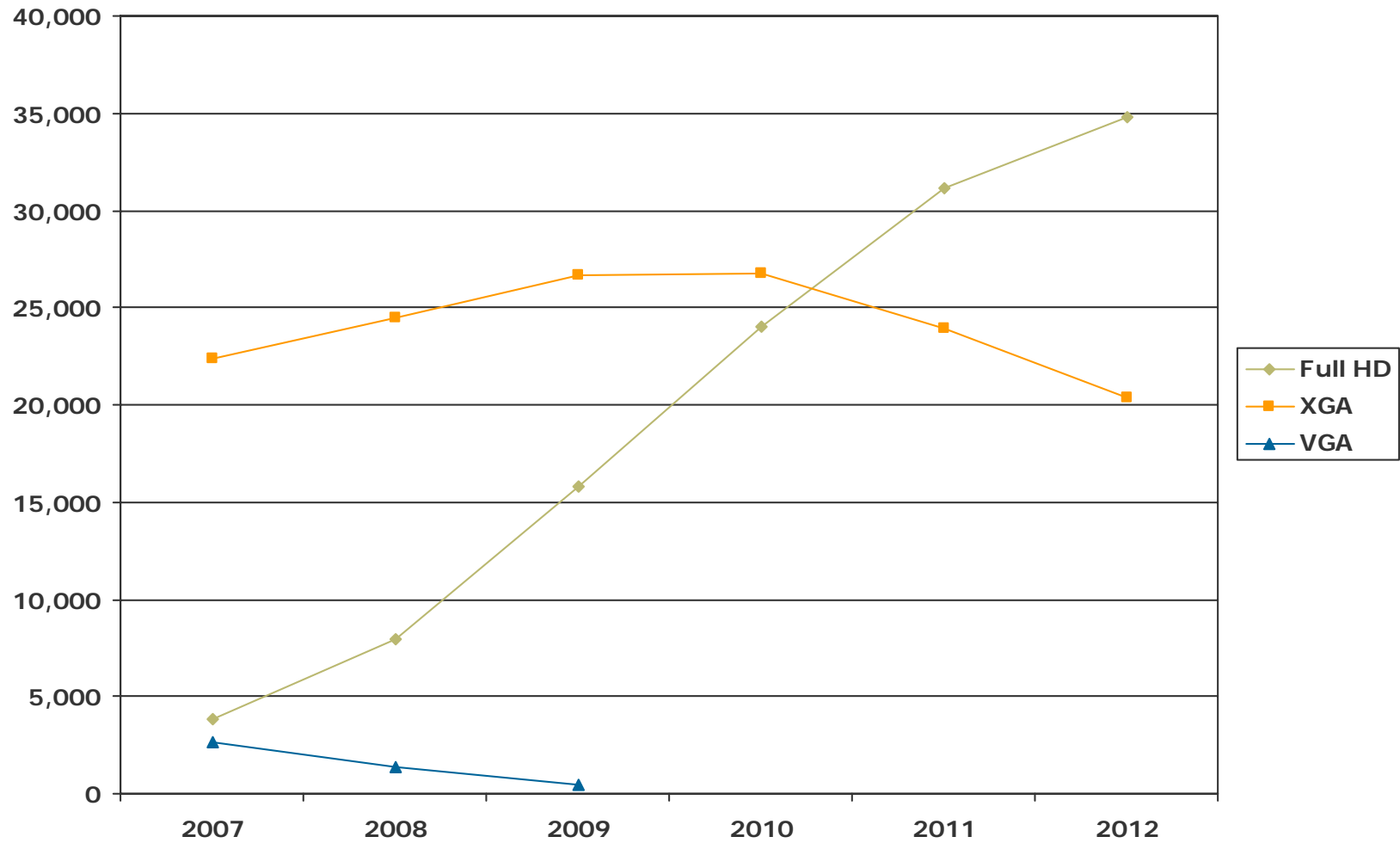


- ▶ TV programmes
 - Public sector broadcasting – BBC etc.
 - High cost to convert equipment, studios etc
 - Not clear what the ROI will be for such companies
 - Commercial & Satellite TV Companies
 - Takes time and money to convert to HD output
 - Can charge a premium so ROI is easier to calculate
- ▶ Blu-ray disc sales.
 - Blu-ray content availability and purchases are increasing dramatically. Blu-ray content will surpass SD content in 2011 and will grow to nearly 1bn disc sales in 2012
- ▶ Interesting partnerships will expand the supply of HD content
 - LG plans to provide Netflix movies to LG Blu-ray disc players
 - Microsoft is also teaming up with Netflix to provide movie downloads via the Xbox 360
 - Sony will be offering movie downloads via its PlayStation Network to PlayStation gaming consoles

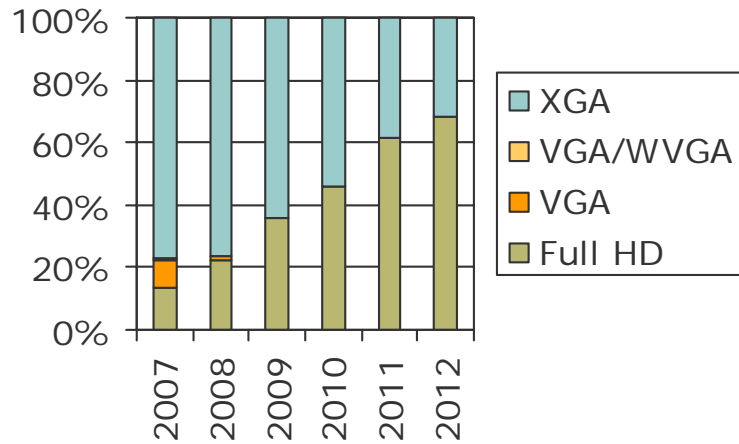




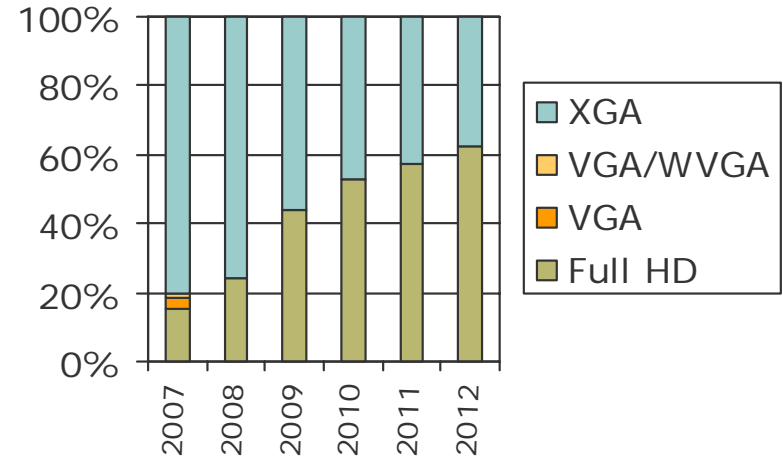




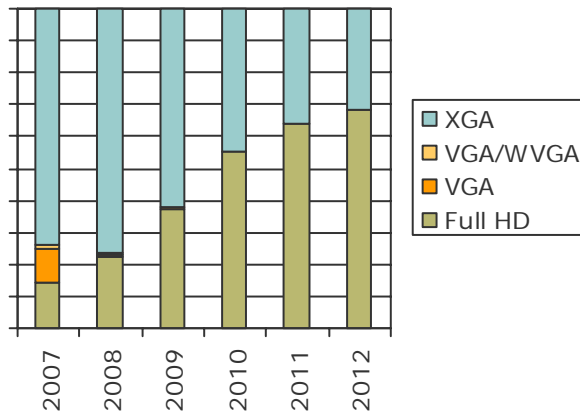
UK



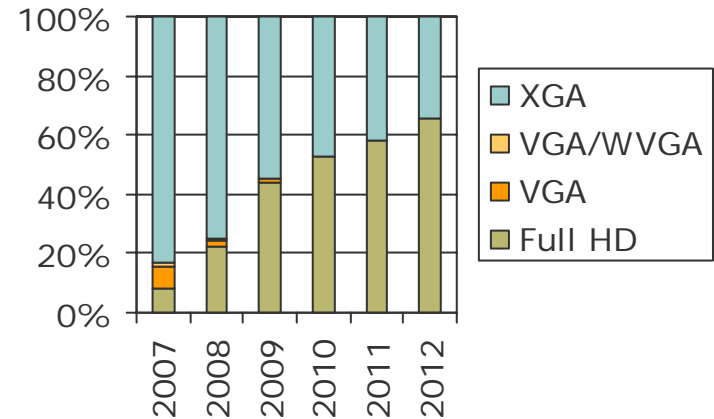
Germany



France



Italy



- ▶ Shift to HD is now accelerating
- ▶ The “Perfect Storm” for HD
 - Switch to Digital
 - HD content now becoming increasingly available
 - Broadband access growing
 - Decreasing prices enabling HD displays becoming more mainstream
- ▶ Set-top box cost adder is shrinking
 - HD A/V processing ~\$21; memory \$13
 - SD A/V processing ~\$11; memory \$6
- ▶ This is a one-time market transition
 - HD will be the majority by 2012
 - Quad-definition (2160 lines of resolution) only will make sense for very, very large displays – not a factor in the near or mid-terms
- ▶ For more information please contact:

amurray@isuppli.com or visit www.isuppli.com



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