Innovation Qualcomm ISTANBUL 2011

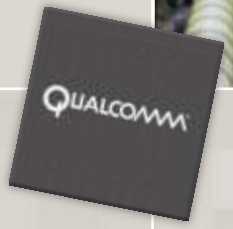
QUALCOMM

Enabling the Internet of Everything with 3G

INDUSTRY ANALYST SUMMIT EMEA

The Internet of Everything

The Next Era of Networking and Computing,
Where Everything Is Intelligently Connected



Multiple Radio Environment

WAN—LAN—PAN

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Interest Spanning a Number of Verticals

CONSUMER ELECTRONICS

TRANSPORTATION

UTILITIES

BUILDINGS

HEALTHCARE

TRACKING AND SECURITY

INDUSTRIAL AND MANUFACTURING

RETAIL

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Expanding Opportunities

New Revenue Opportunities

Alternative Business Models

Greater Operational Efficiencies

Reducing Costs

Improving Products and Services

Enhancing Customer Service

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Transforming the In-Car Experience

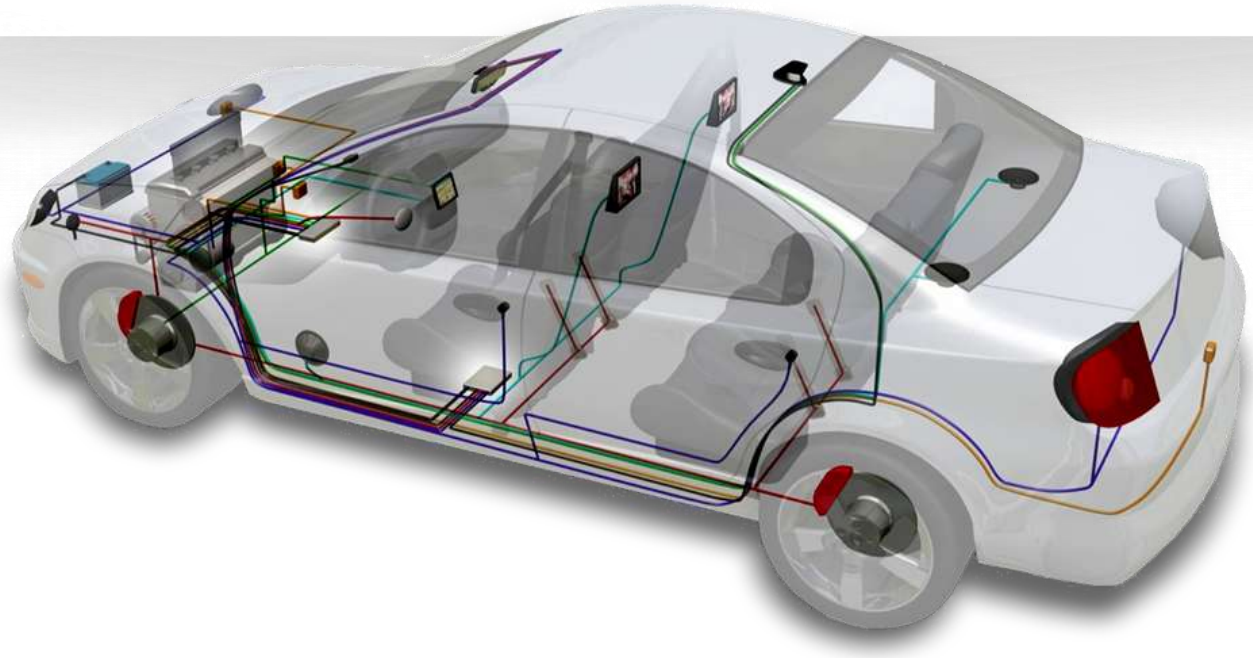
INFOTAINMENT SERVCIES

NAVIGATION SERVICES

SAFETY AND SECUTRITY

MOBILE HOTSPOT

REAR-SEAT ENTERTAINMENT



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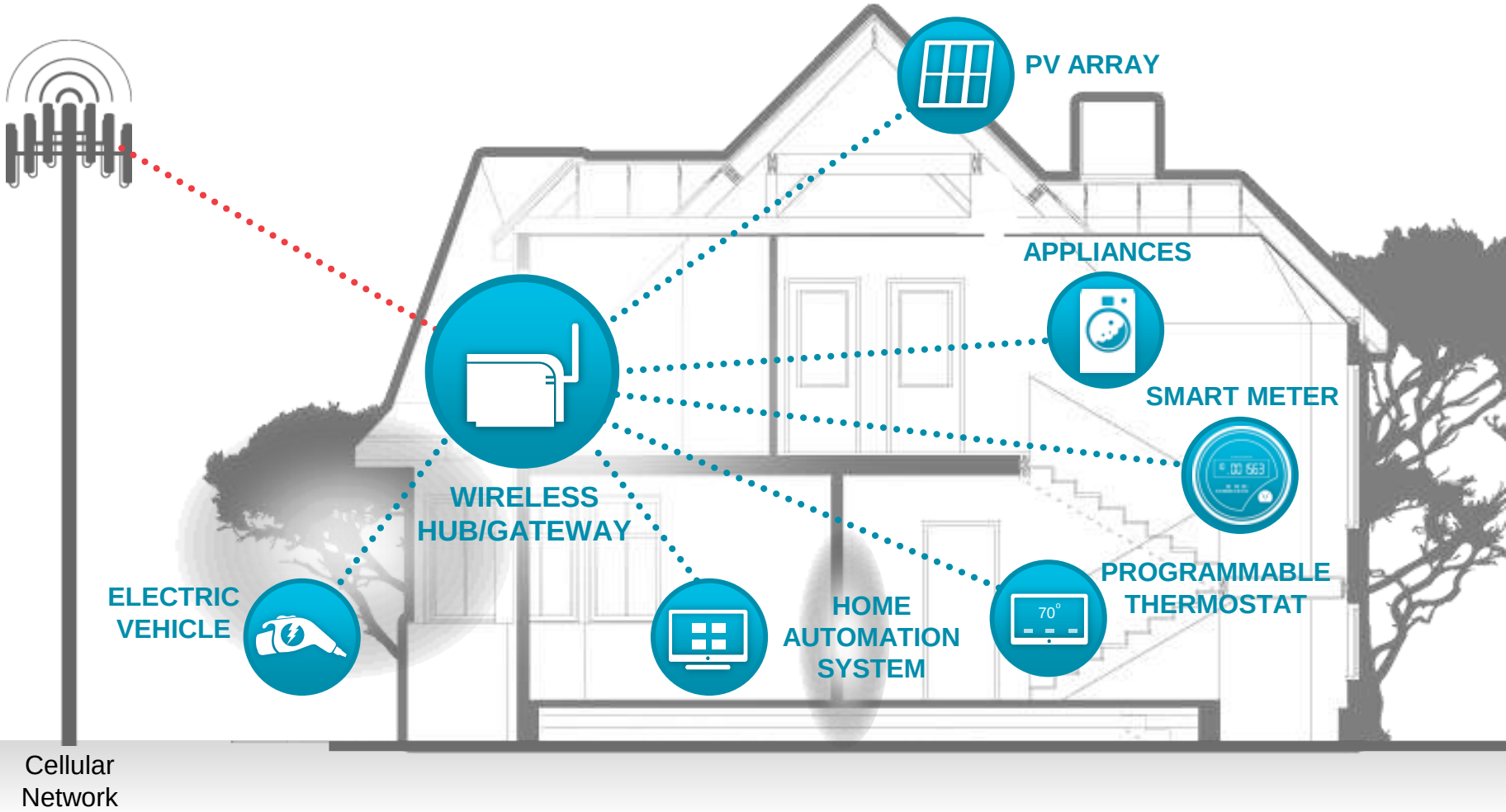
Enabling Home Energy Management



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Transforming Health and Medicine

WIRELESS IS PROFOUNDLY IMPACTING LIFE SCIENCES, MEDICINE AND CONSUMER HEALTH

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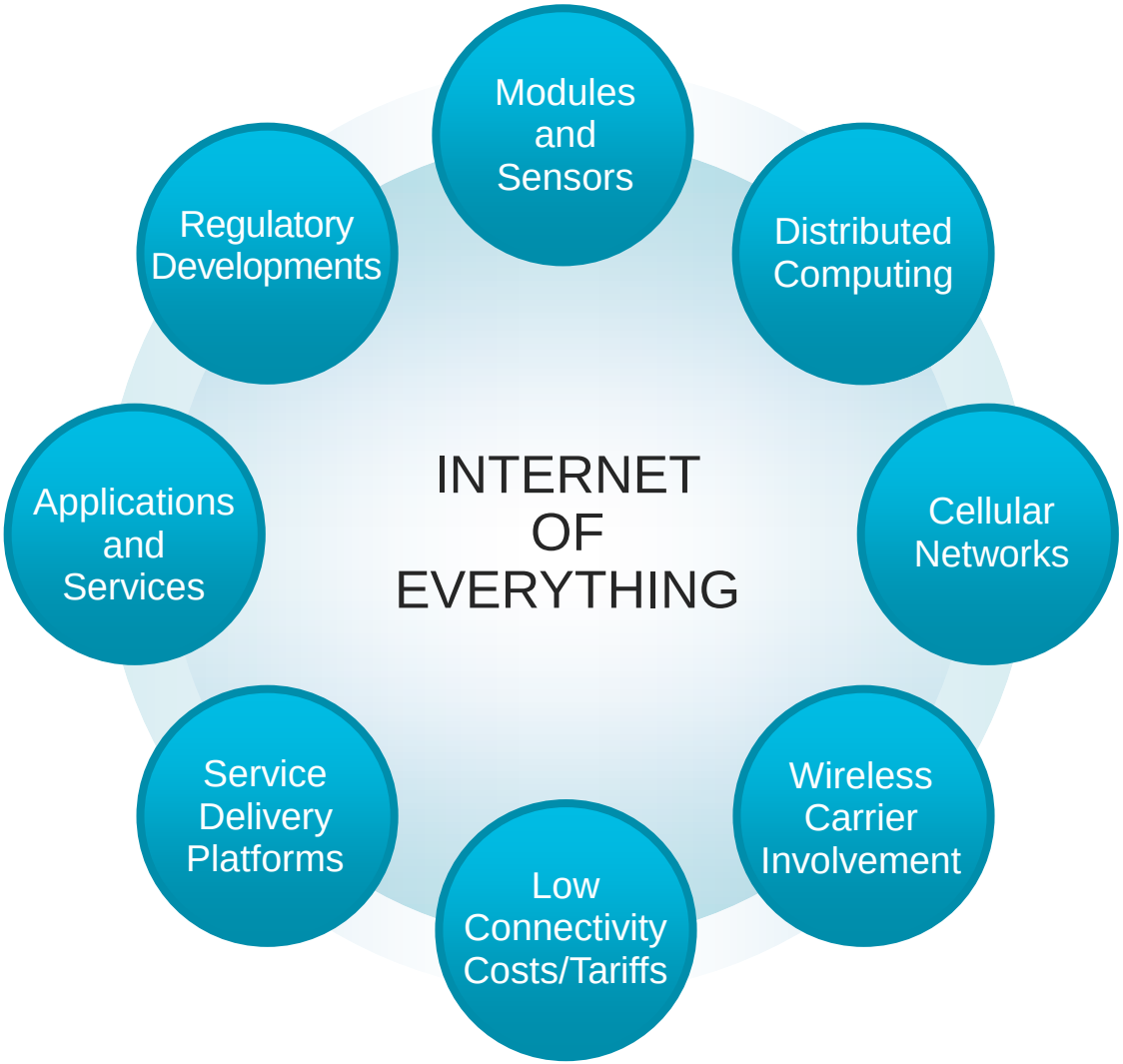
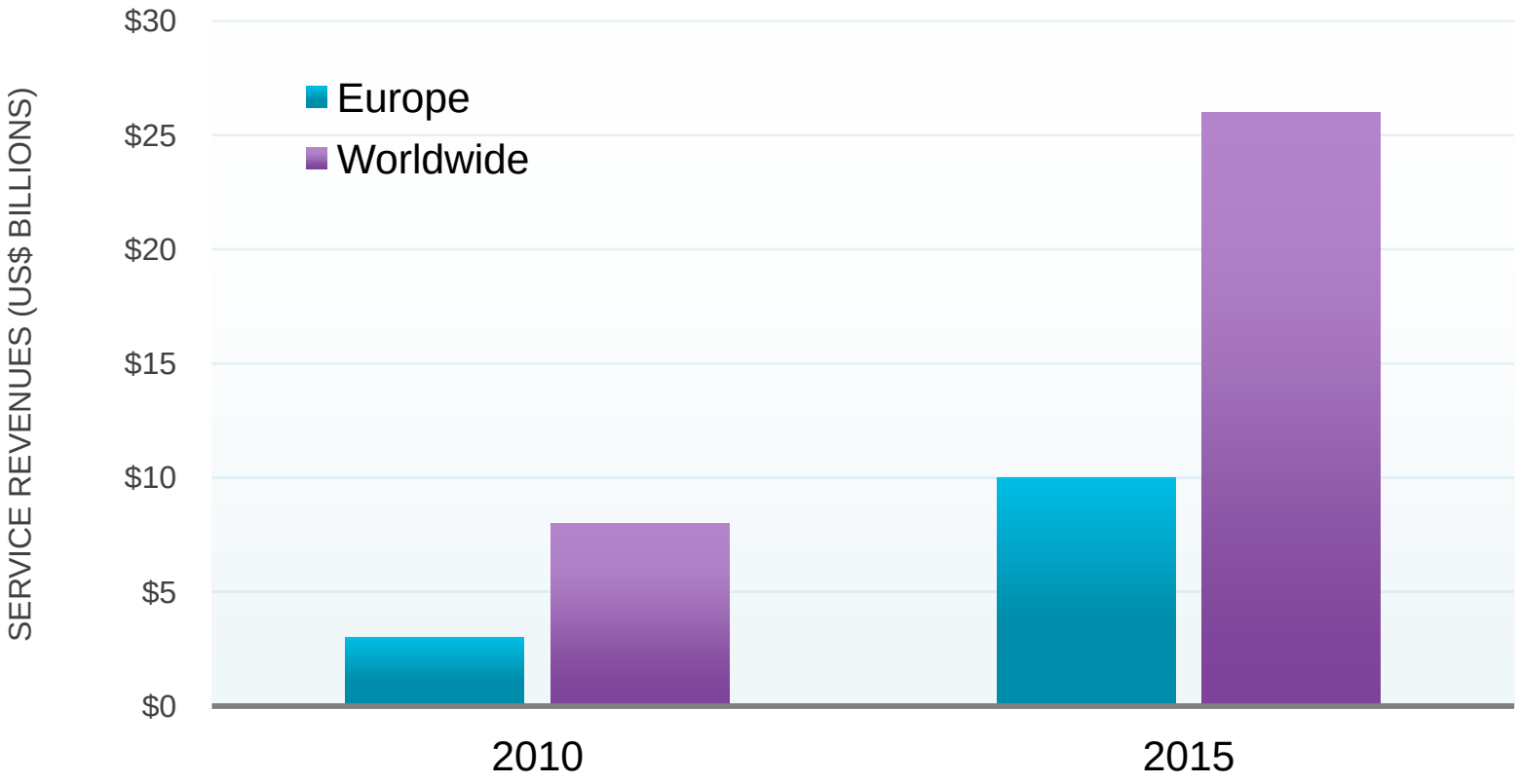
Industry Trends Are Aligning



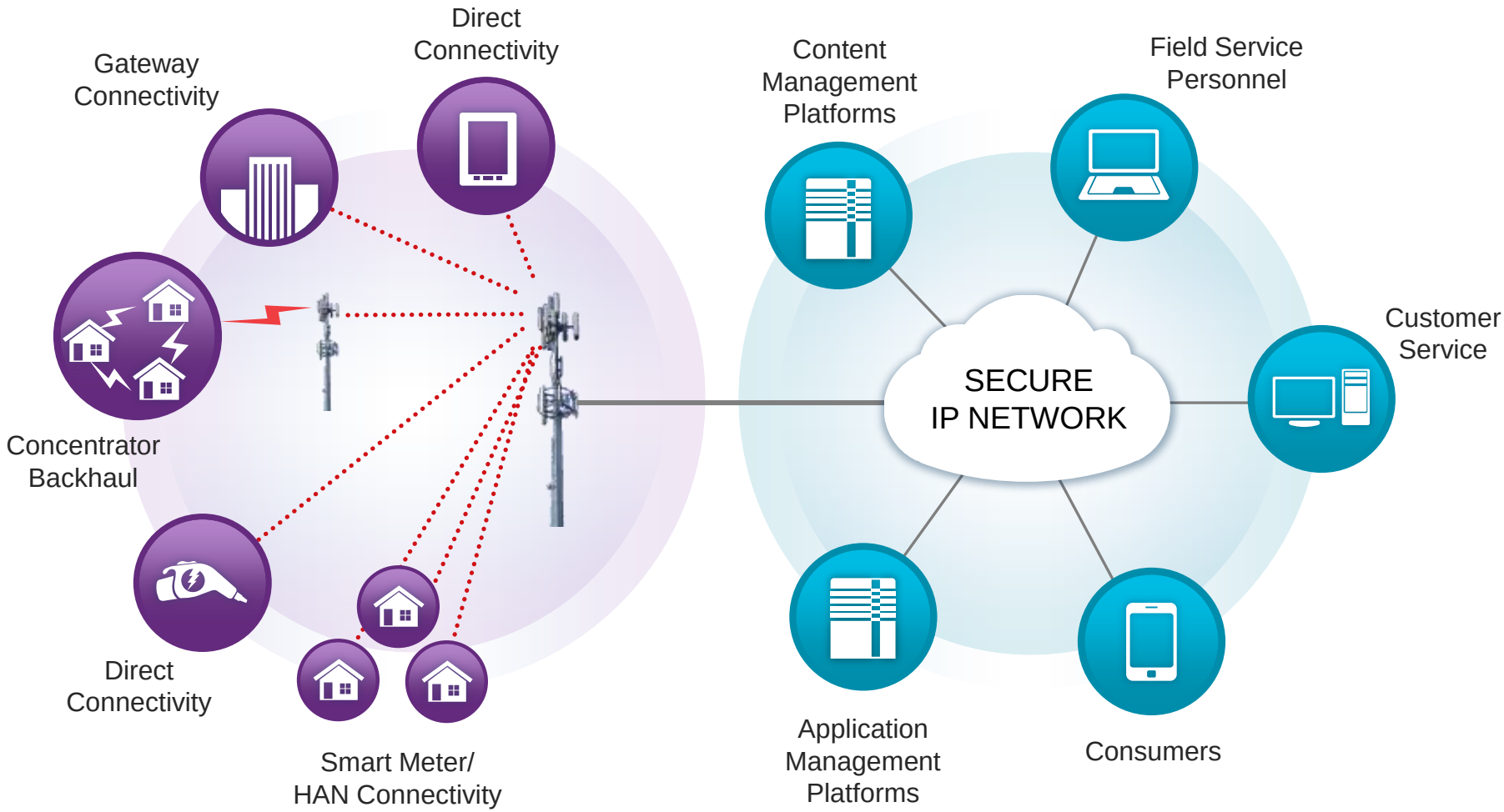
Strong Service Revenue Growth

EU SERVICE REVENUES REPRESENT 40% OF WORLDWIDE SERVICE REVENUES



Source: ABI, September 2010

Cellular's Role in the Internet of Everything



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Future Proofing with 3G

RAPIDLY DECLINING HARDWARE COSTS AND GREATER CAPABILITIES AND FLEXIBILITY ARE DRIVING USE

	2G	3G	LTE
COVERAGE	✓	✓	
MODULE COST	✓		
CONNECTIVITY COST	✓	✓	(TBD)
TOTAL COST OF OWNERSHIP (TCO)		✓	
LOW LATENCY		✓	✓
HIGH DATA RATES		✓	✓
NETWORK CAPACITY		✓	✓
LIFE CYCLE		✓	✓
INTEGRATED GPS		✓	✓
SECURITY		✓	✓
IP-BASED ARCHITECTURE		✓	✓

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Lower TCO with Mobile Broadband

	Module Cost as % of TCO
UTILITIES	6%
TRANSPORT	5%
PATIENT MONITORING	12%
INDUSTRIAL	2%
DOMESTIC SECURITY	6%
RETAIL	6%
CONSUMER/HOUSEHOLD	13%

Source: Analyst Mason, 2010

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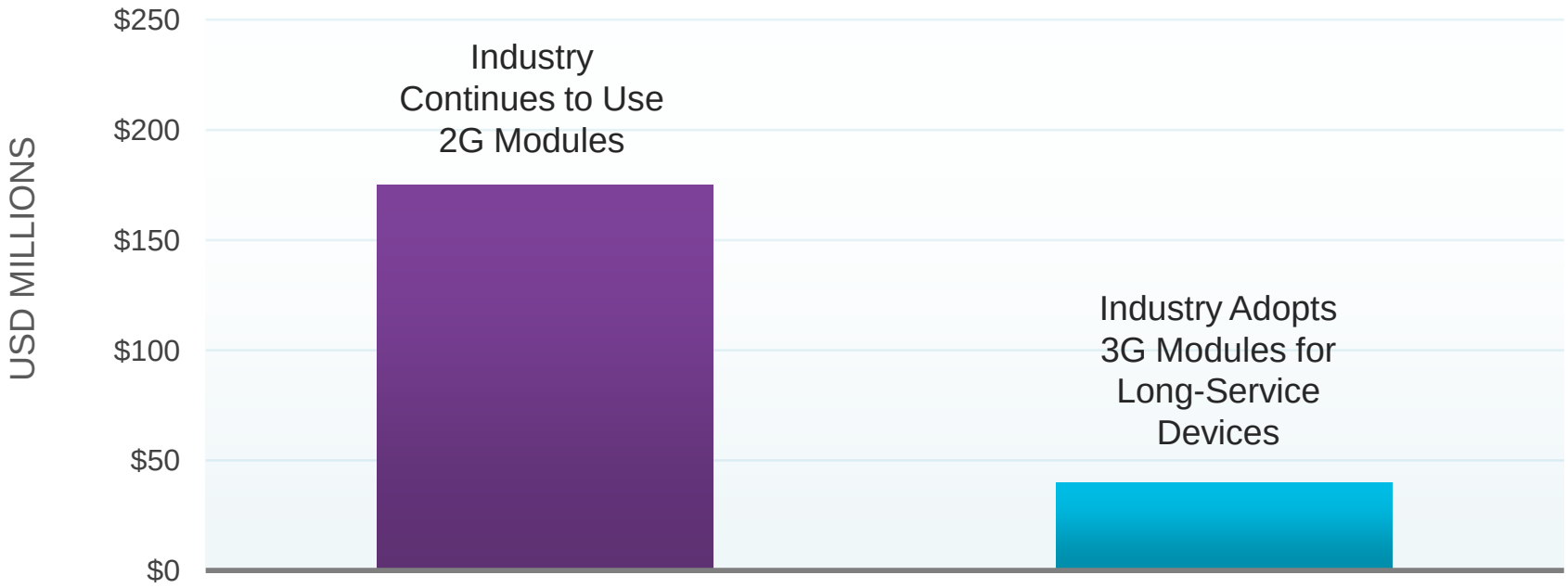
Today's Device Choices Could Limit Operator's Flexibility

COST OF REPLACING 2G MODULES FOR TYPICAL W. EUROPEAN OPERATOR* DECOMMISSIONING 2G NETWORK IN 2020

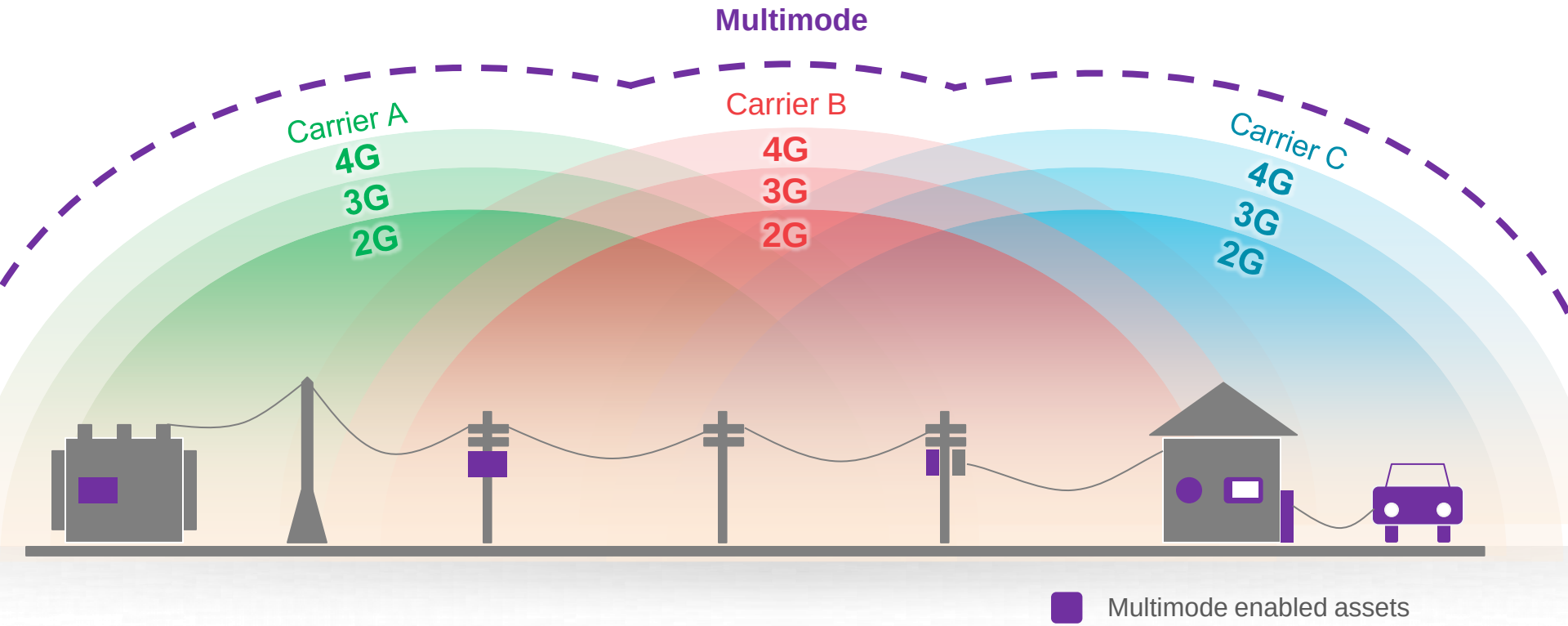


*Defined as having 10 million traditional subscribers. Source: Analyst Mason, 2010

Enabling Greater Flexibility with Multimode

ONE DEVICE, MULTIPLE CARRIERS AND NETWORK TECHNOLOGIES

- Enhance coverage and reliability by leveraging overlapping networks
- Fallback to previous generation technologies
- Improve asset lifespan



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Growing Emphasis on M2M

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Expanding Use of 3G Embedded Solutions

TomTom

amazonkindle

Audi

Gardner Denver

ecotality

GARMIN

OnStar

SIEMENS
Water Technologies

Mercedes-Benz

nook
by Barnes & Noble

Note: 3G includes CDMA2000 1X, EV-DO, WCDMA and HSPA technologies

New Device Categories and User Experiences

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M2M Heritage

Qualcomm has been a leading provider of commercial telematics services and solutions to the transportation industry for more than 20 years

Enabling the Internet of Everything Ecosystem

WIDE AREA NETWORK SOLUTIONS

- Cellular
  - Mobile Station Modems (MSM)
  - Single-Chip Solutions (QSC)
  - Mobile Data Modems (MDM)
  - Gobi Reference Design
  - Snapdragon (QSD)
- Passive Optical Network (PON)
  - 802.3ah

LOCAL AREA NETWORK SOLUTIONS

- WLAN
  - 802.11n
  - 802.11ac
- Powerline (PLC)
  - IEEE 1901
  - Homeplug certified
- Ethernet
  - 802.3az-2010

PERSONAL AREA AND P2P SOLUTIONS

- Bluetooth
- WiGig (802.11ad)
- Alljoyn
  - Ad-hoc P2P solution
- Skifta
  - Streaming from smartphones to DLNA-certified products
- Direct Connect
  - Wi-Fi Direct compliant

GPS

QUALCOMM HAS A BROAD ARRAY OF TECHNOLOGIES AND SOLUTIONS
THAT ARE HELPING TO DRIVE THE INTERNET OF EVERYTHING FORWARD

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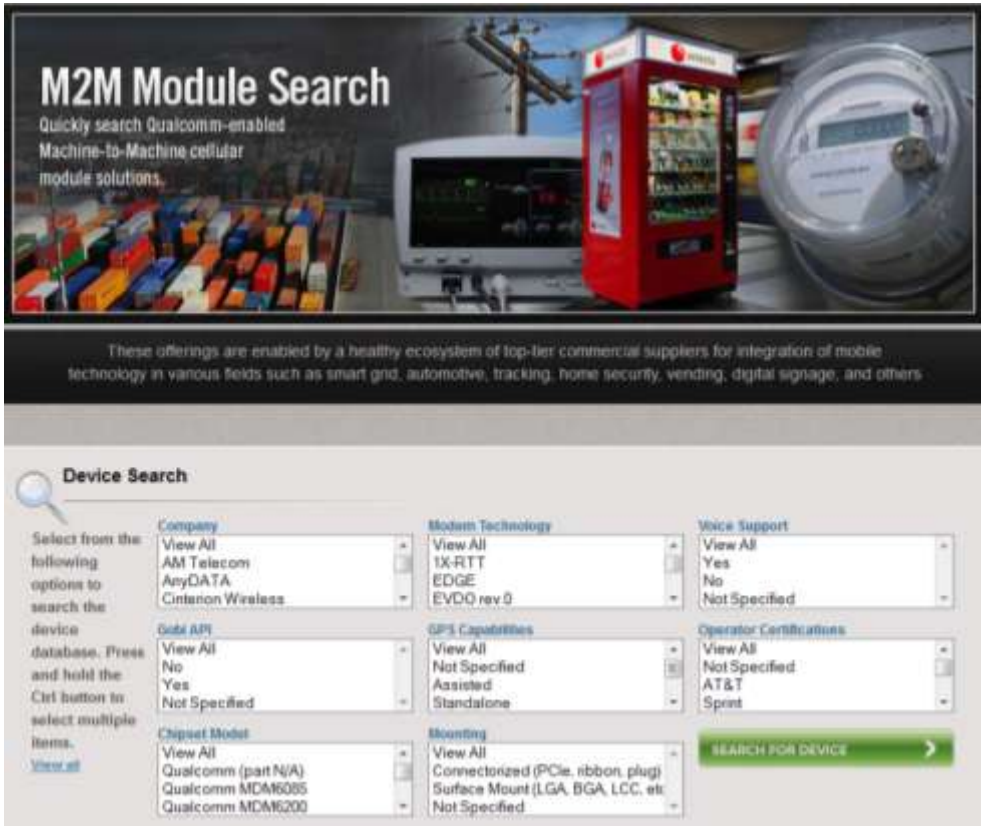
Qualcomm-Enabled M2M Module Database

- Searchable database of Qualcomm-enabled M2M modules
- Contains 70+ modules from more than 10 OEMs
- Includes specs and module vendors contact details



http://www.m2msearch.com/

Thank You