Structured Cabling: Foundation of NBASE-T

Webinar Speakers

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Agenda

NBASE-T Overview	Peter
About BSRIA	Lone
Structured Cabling	Lone
Convergence – IoT	Lone
Wrap-up & Discussion	Lone/Peter

NBASE-T Alliance

- NBASE-T Alliance (www.nbaset.org/)
  - Vendor alliance for 2.5G/5G BASE-T
- Who are we?
  - Member companies representing all areas of network infrastructure including components, silicon, systems, cabling, testing equipment
- What are we doing?
  - Educate the market about multiple NBASE-T applications, enable widespread deployment, facilitate interoperability and build the market

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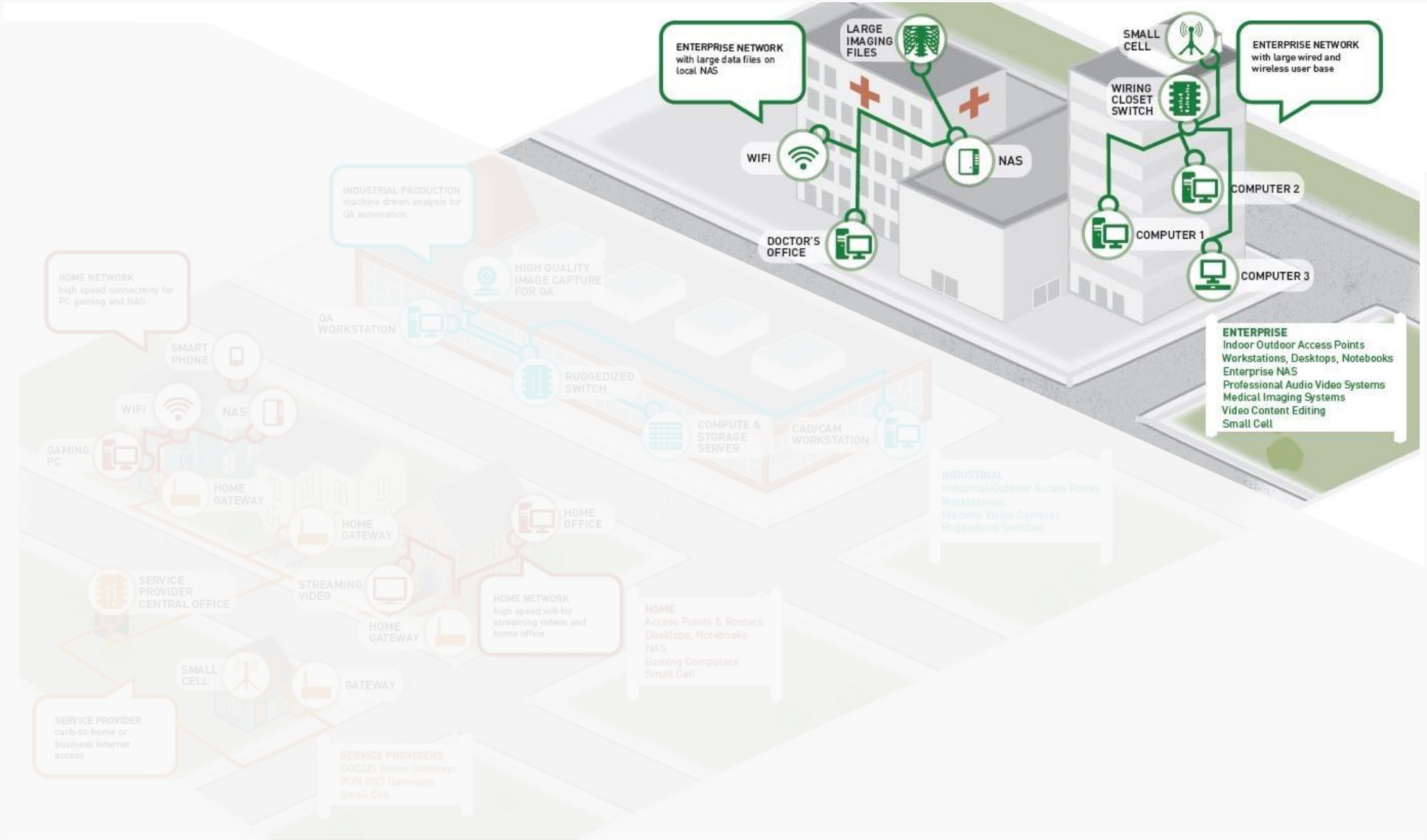
NBASE-T Application Areas



Enterprise:
- Switch
- Wireless AP
- Desktop
- Storage
- Small Cell

Industrial:
- Switch
- Wireless AP
- Workstation
- Storage
- Compute
- Machine Vision

Home:
- Switch
- Wireless AP
- Storage Server
- Home Gateway
- Streaming Media

Service Provider:
- Small Cell
- Home Gateway

http://www.nbaset.org/wp-content/uploads/2017/05/ApplicationsGraphic_051517.pdf

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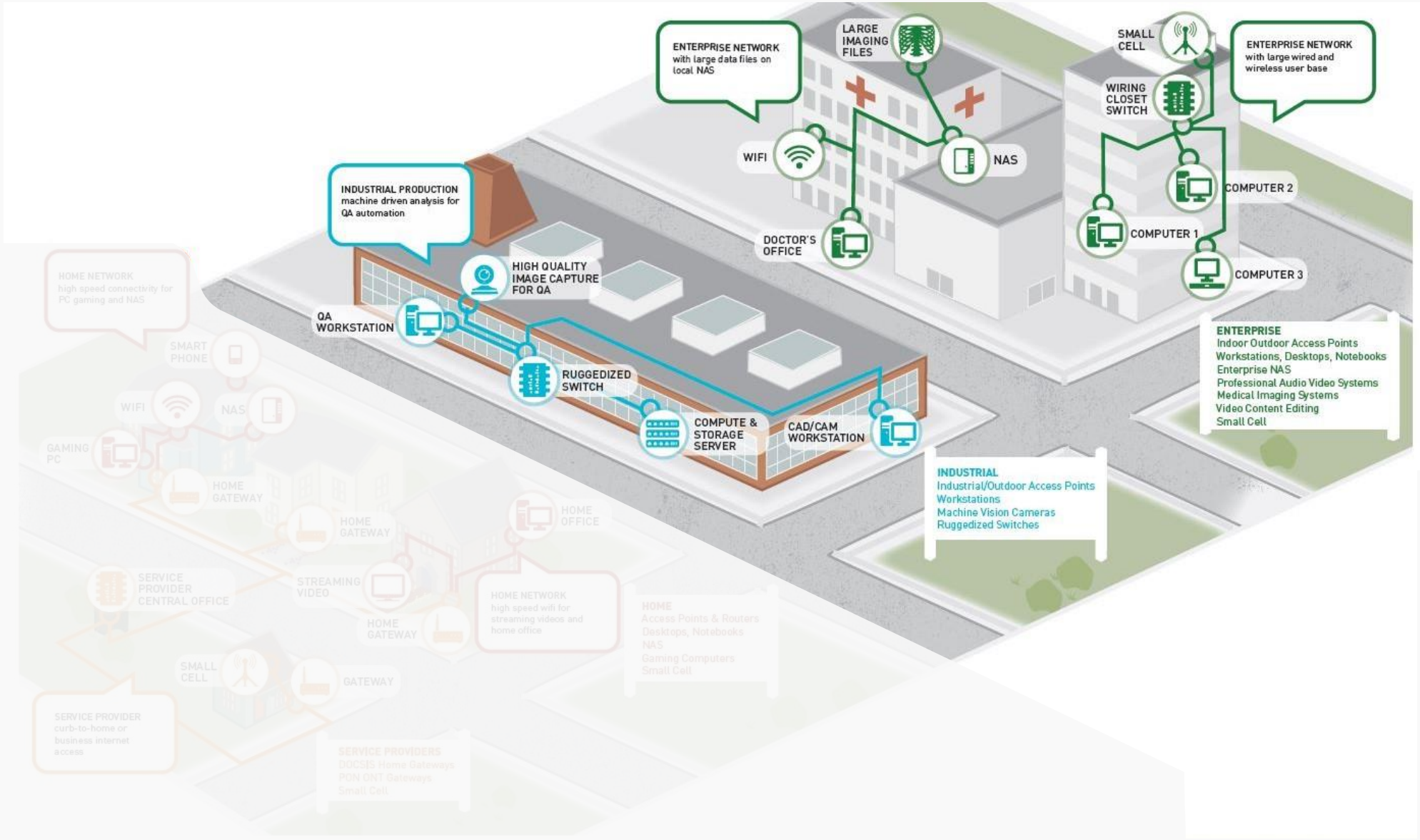
NBASE-T Application Areas



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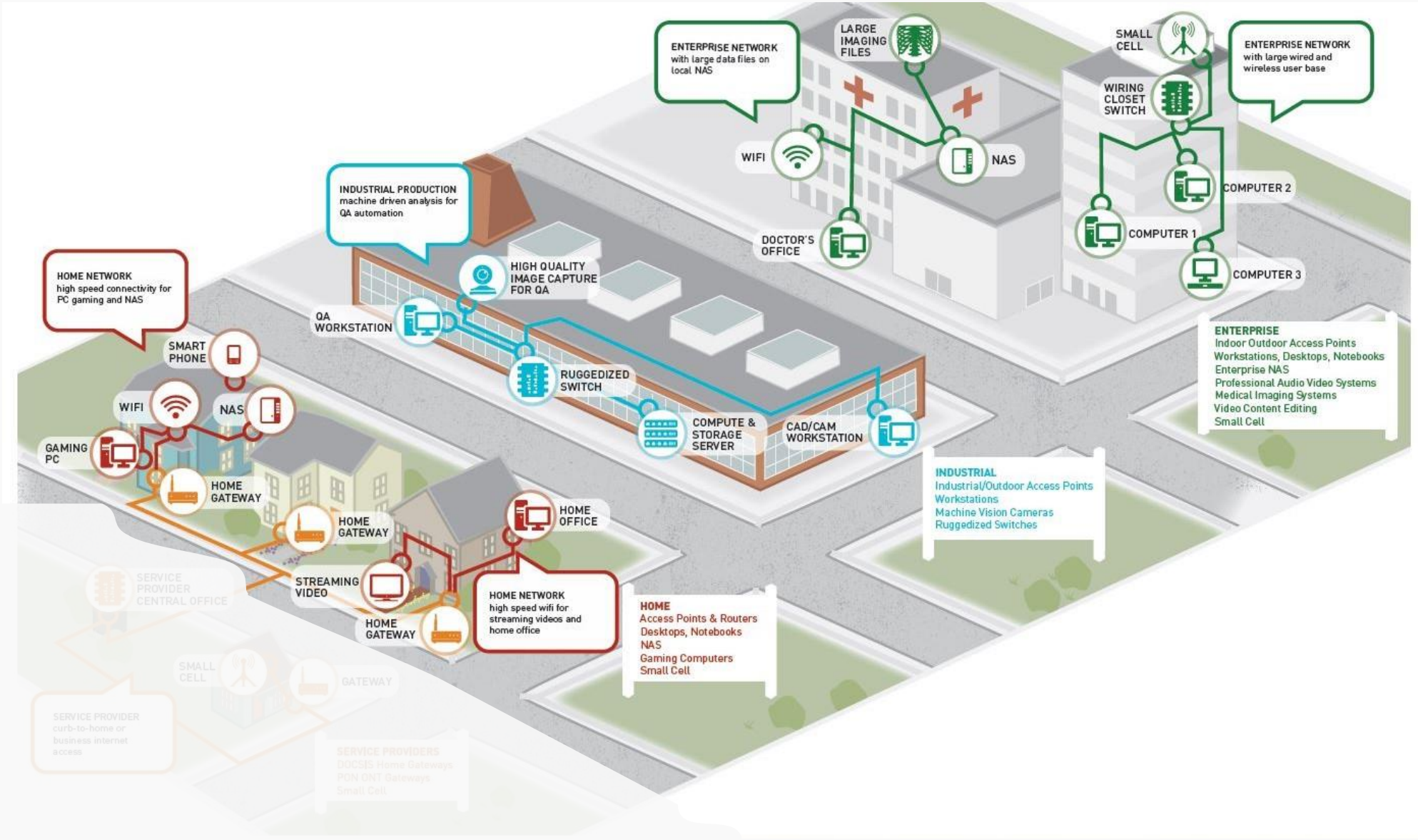

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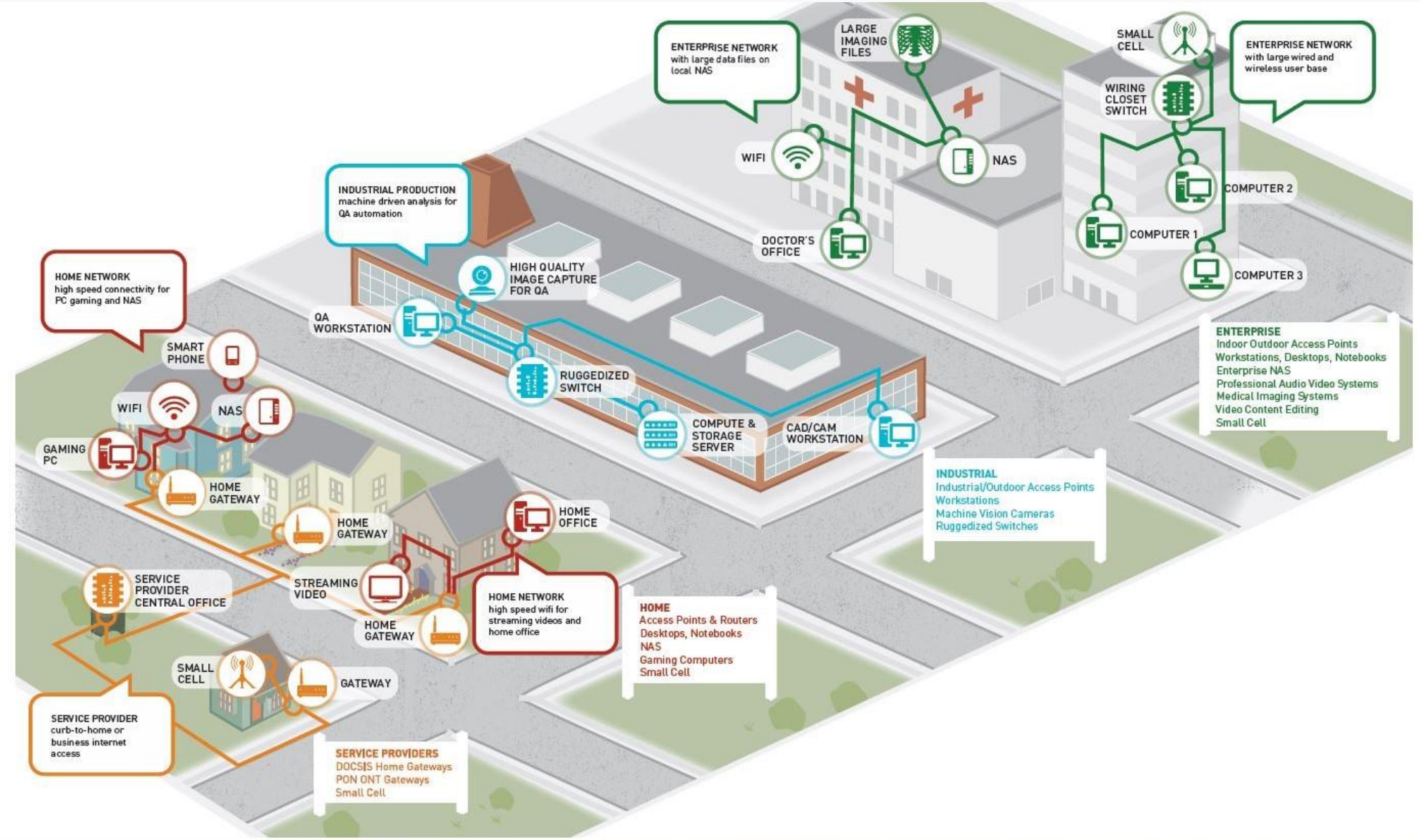

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Companies with NBASE-T Product

NBASE-T Alliance Member Companies

Component	System Level Product
Aquantia	Aquantia
Aruba HPE	Aruba HPE
Bel Magnetic Solutions	Cisco
Cisco	Microsemi
GLGNet	Netgear
Intel	Pleora Technologies
KinnexA	Tehuti Networks
Marvell	Teledyne e2v
NXP	

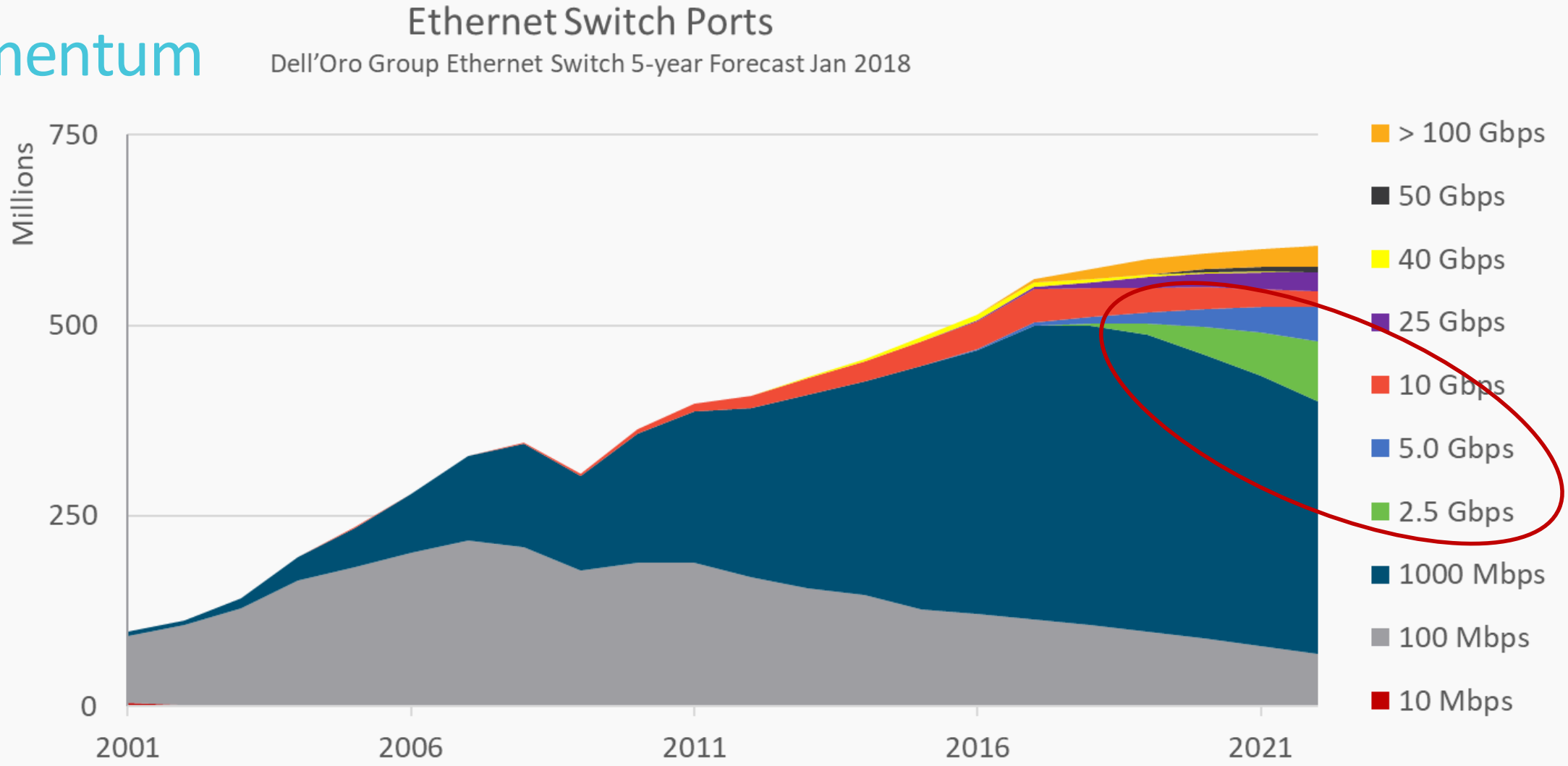
Test Equipment
Aukua Systems
Spirent
Tektronix
Xena Networks

Non-Member Companies

Component	System Level Product
Akitio	Accton
Dell	Apple
Gigabyte	ASRock
Promise Technology	ASUS
QNAP	Brocade
Sonnet	Buffalo
	Dell
	Dell EMC
	Lenovo
	MSI
	Promise Technology
	Sonicwall
	Startec
	Supermicro

https://www.nbaset.org/technology/nbaset-products/

NBASE-T Momentum



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Value of NBASE-T Technology

Leverages more than 1.3+ billion Cat5e/Cat6 outlets and more than 70 billion meters of Cat5e/Cat6 cables that make up greater than 90% of the current installed base

Enables network evolution by providing up to 10x faster speed without pulling cables or requiring building construction

Supports high-speed links to next generation WiFi access points and high-data rate client PC and workstation systems

About BSRIA

About BSRIA

BSRIA – Leading source of building services information & knowledge
WMI – Strategic marketing support for the Built Environment industries

BSRIA - Building Services Research & Information Association

- Consultancy, Test, Intelligence and Research
- Promotes best practice in building
- Est. 1955, 800+ members
- Non-profit association

WMI – Worldwide Market Intelligence

- Over 30 years of World Market Intelligence
- Independent, authoritative studies
- Unrivalled technical expertise
- Research in 90+ countries

Building Services Research & Information Association

IT Cabling, BACS & Associated Technologies:

- **Structured cabling country reports**
- **World Overview (37 countries)**
- **Convergence – IoT (2017 & 2019**
- **Smart – PoE lighting (Dec. 2018)**
- **Passive Optical LAN (March. 2018)**
- **BACS, Field devices, sensor**

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Structured Cabling

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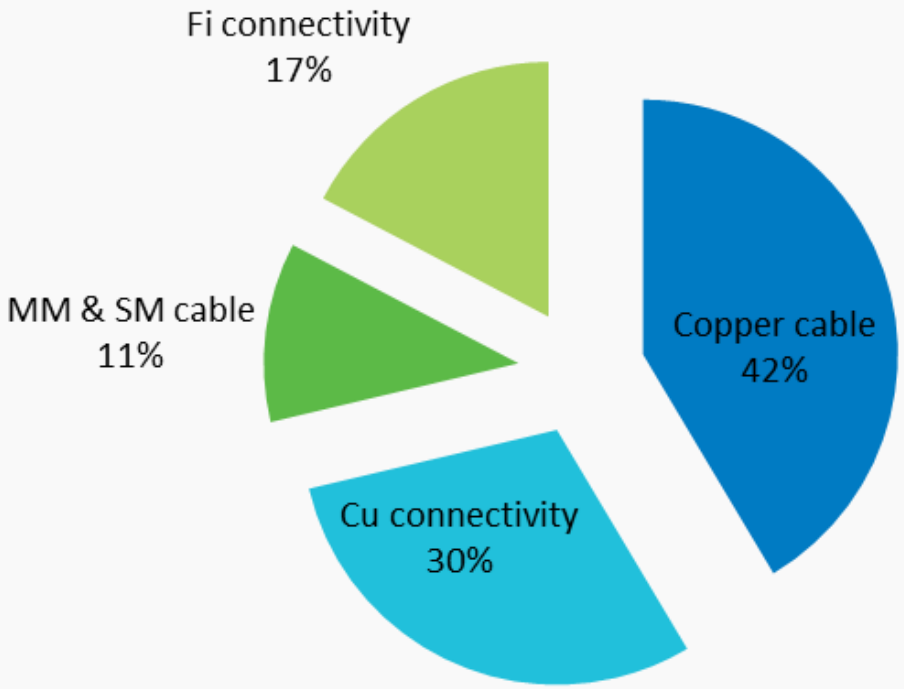
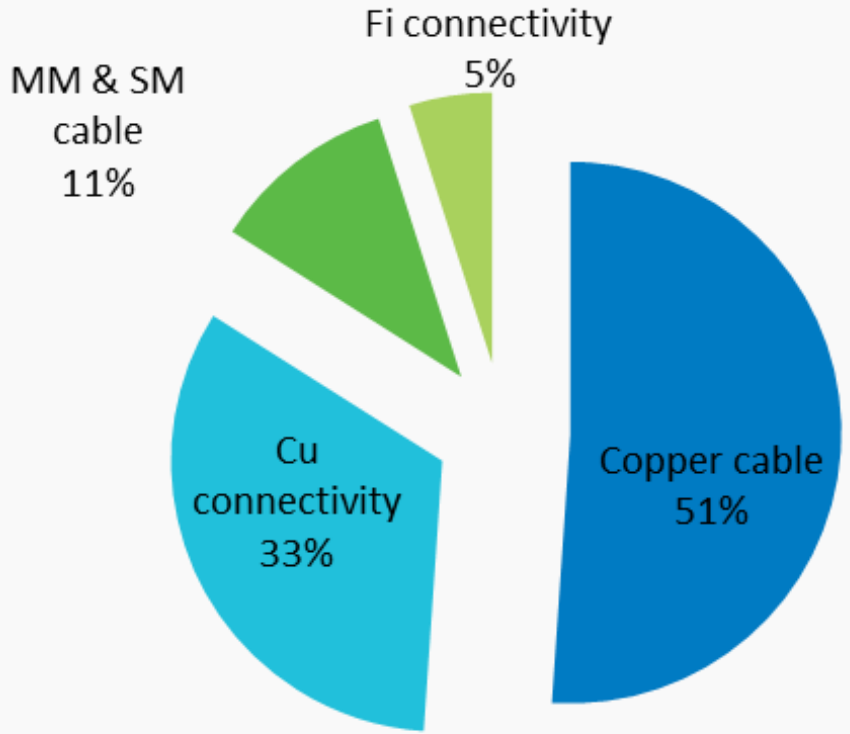
Products

Total (USD 6.4 billion)



LAN (USD 5 billion)



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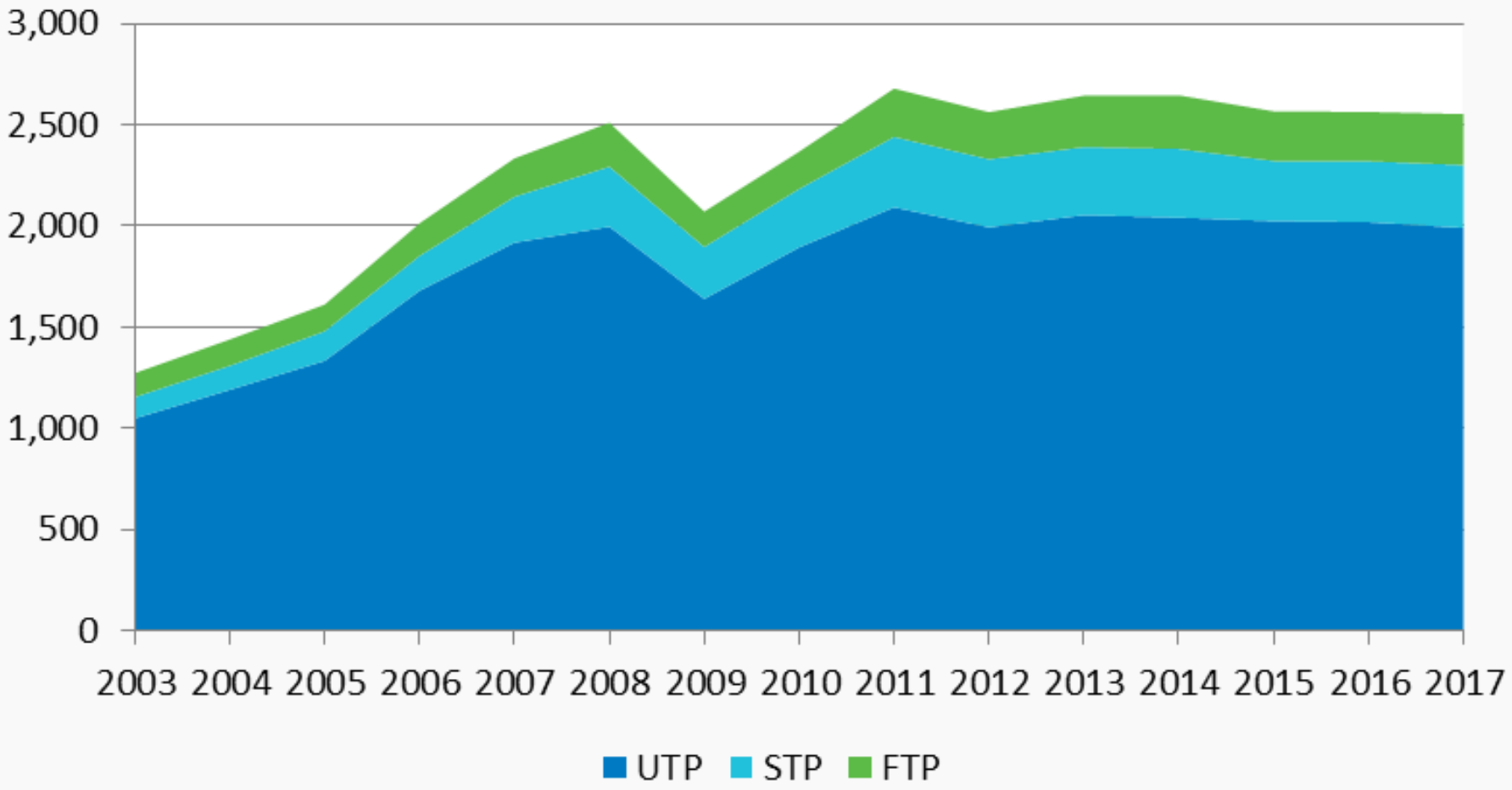
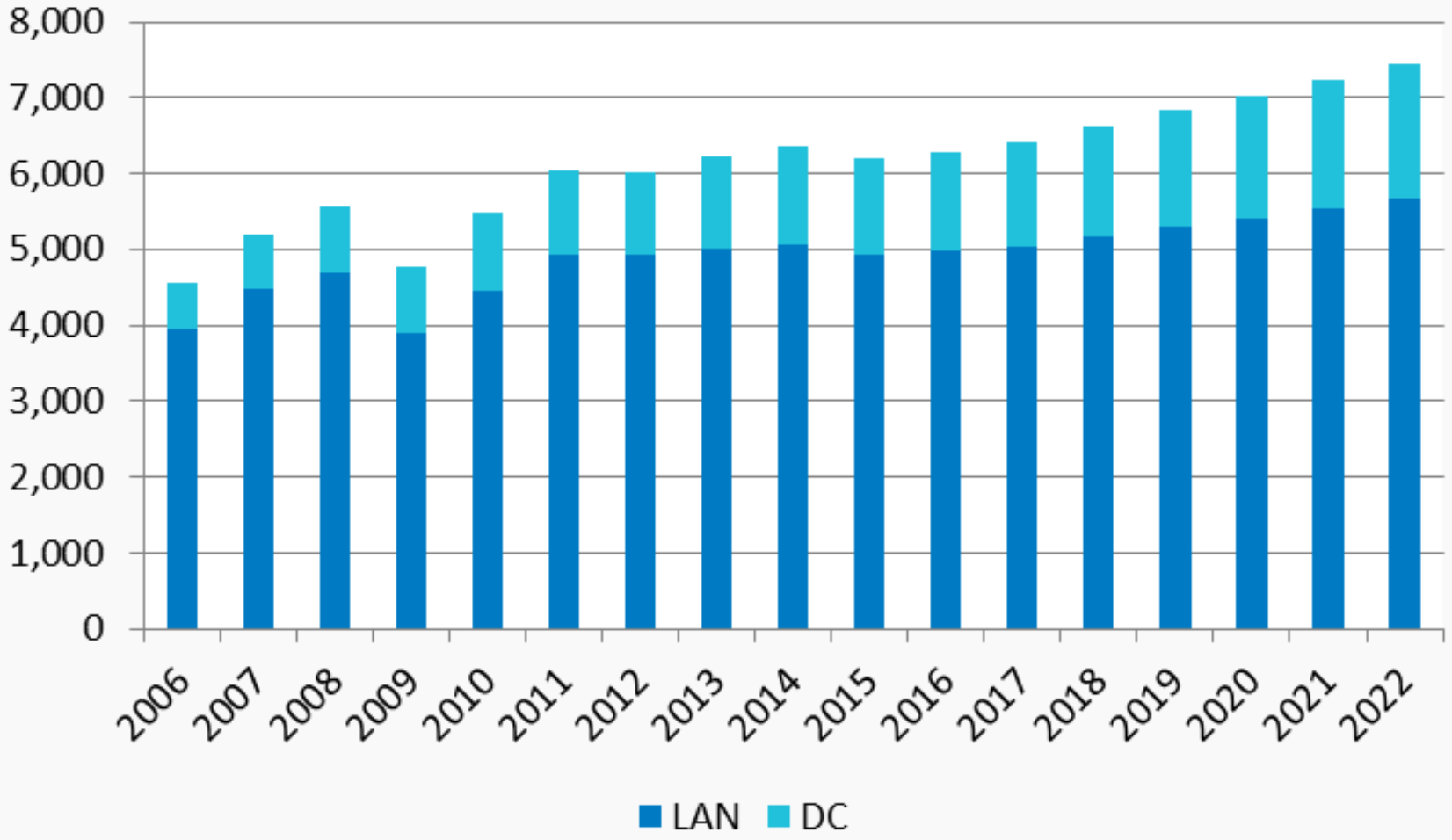
Copper cable sales 2017 by type, USD million



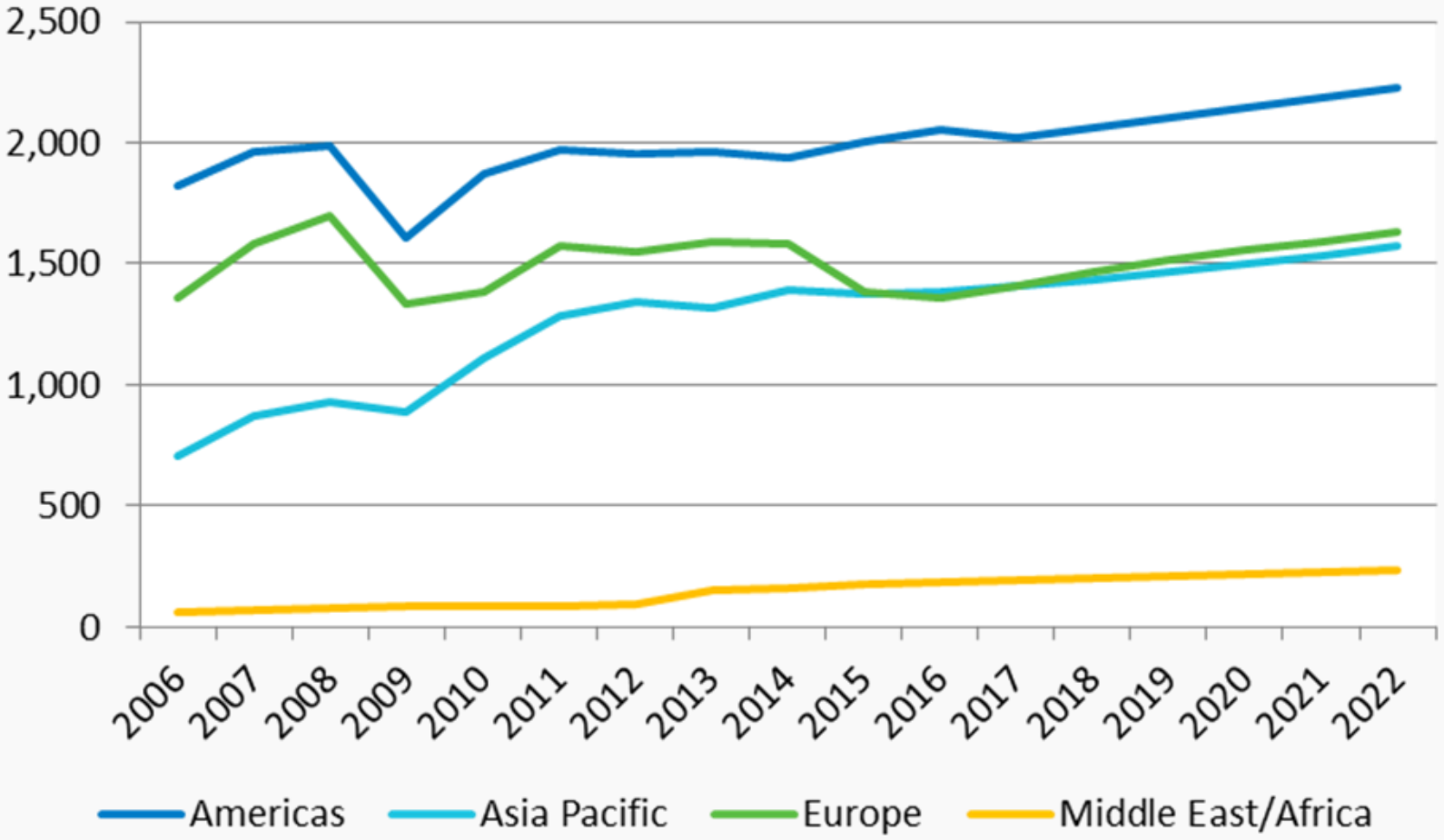
- UTP cables dominate Worldwide
- STP cables mainly found in Germany
- FTP used in France, but also in UTP dominated countries – Cat 6A

The cabling market segmented by LAN and DC applications, USD million



- The total structured cabling market is est. at USD 6.4 billion in 2017
- The cabling installed in data centre accounts for 21% or USD 1.37 billion in 2017
- By 2022 the market is est. at USD 7.4 billion, a growth of approximately 3% per year

LAN 2006 – 2022 by region, USD million



- CAGR 2017 – 2022 at 2.4%
- Americas accounts for 40% (2017)
- Europe and AsiaPac are of equal size
- Biggest growth in the Middle East (4%)

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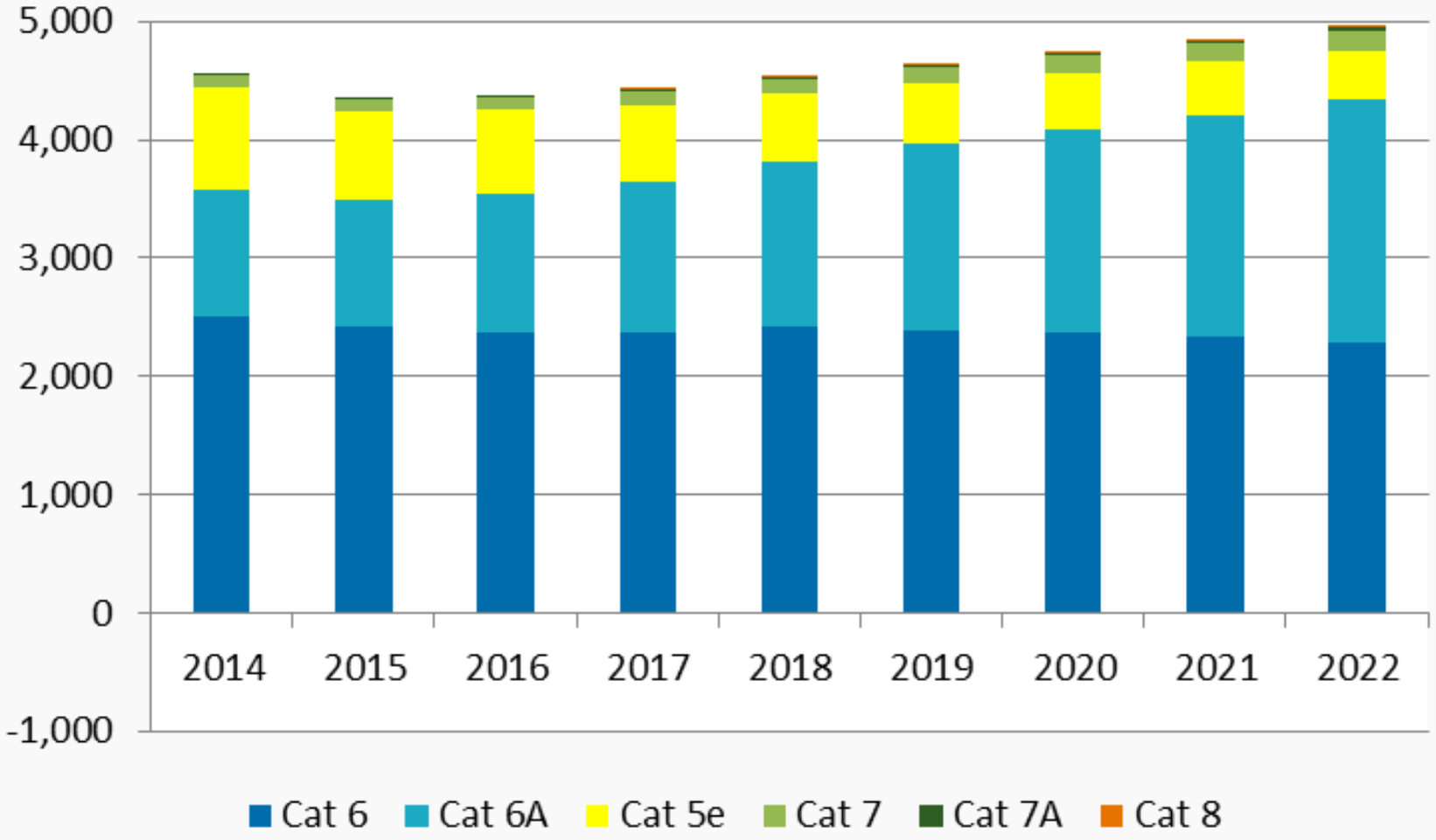
Penetration by Category (USD million), 2014 - 2022



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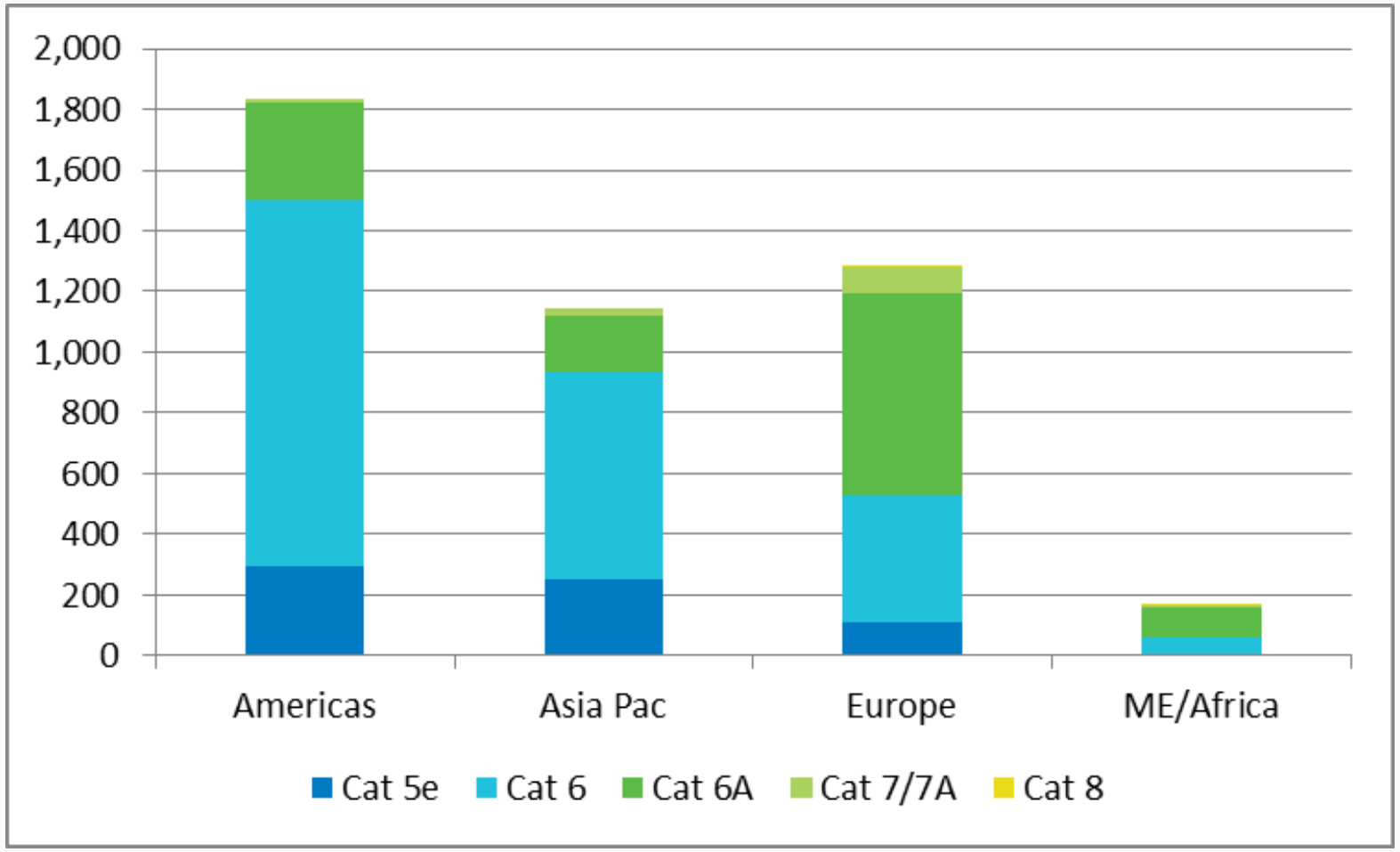
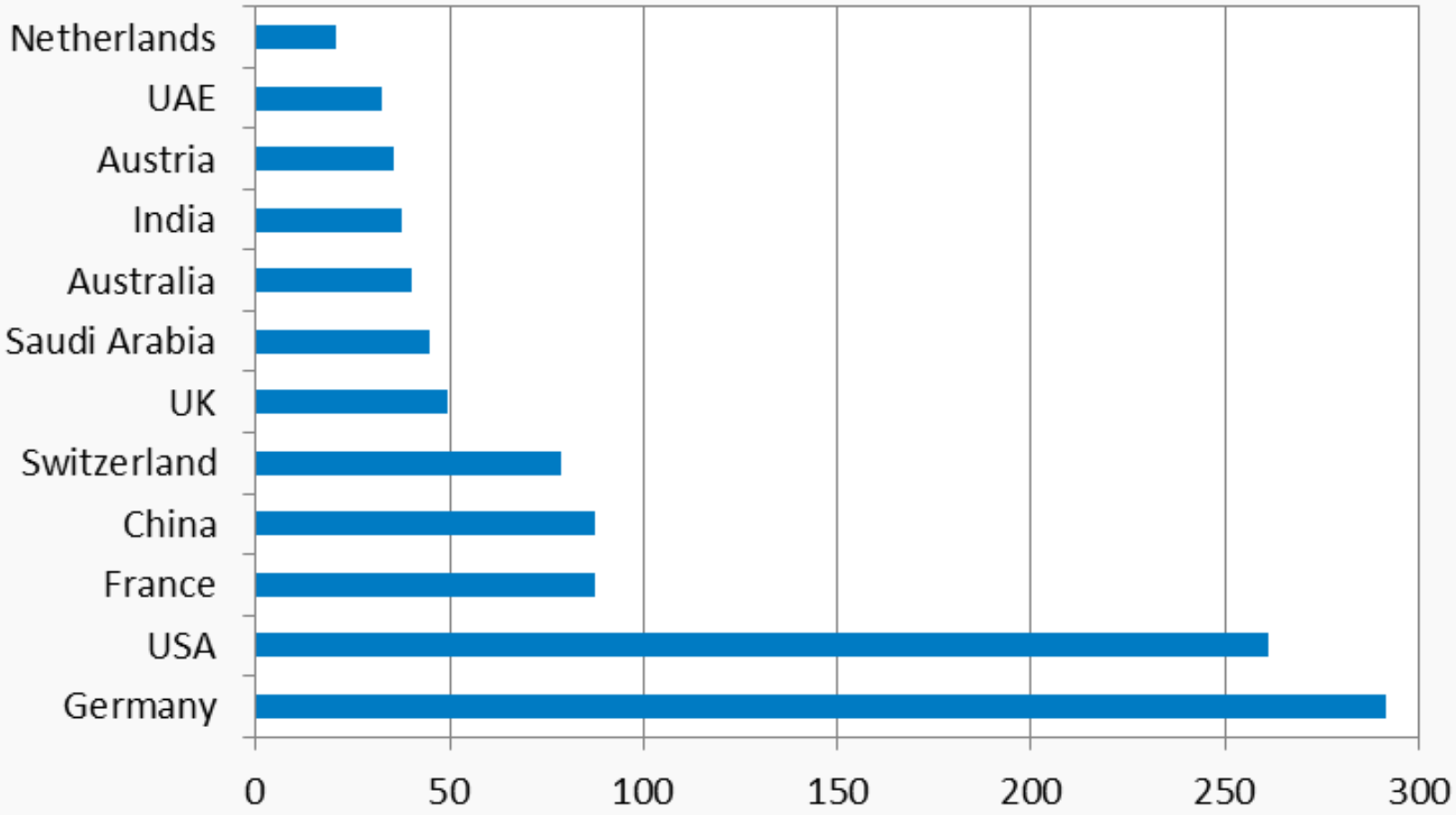
Sales of by Category by region, 2017, USD million



- Sales of Cat 6 accounted for the largest share in Americas and Asia Pac
- Cat 6A (channel) dominated in Europe and ME
- Sales of Cat 7/7A cables are significant in Germany, but installed with Cat 6A connectivity

Sales of Cat 6A, USD million 2017



- Sales of Cat 6A accounts close to a third in 2017
- Most of Cat 6A (channel) installed in Germany
- Sales in US stagnated in 2017 after a big increase in 2016

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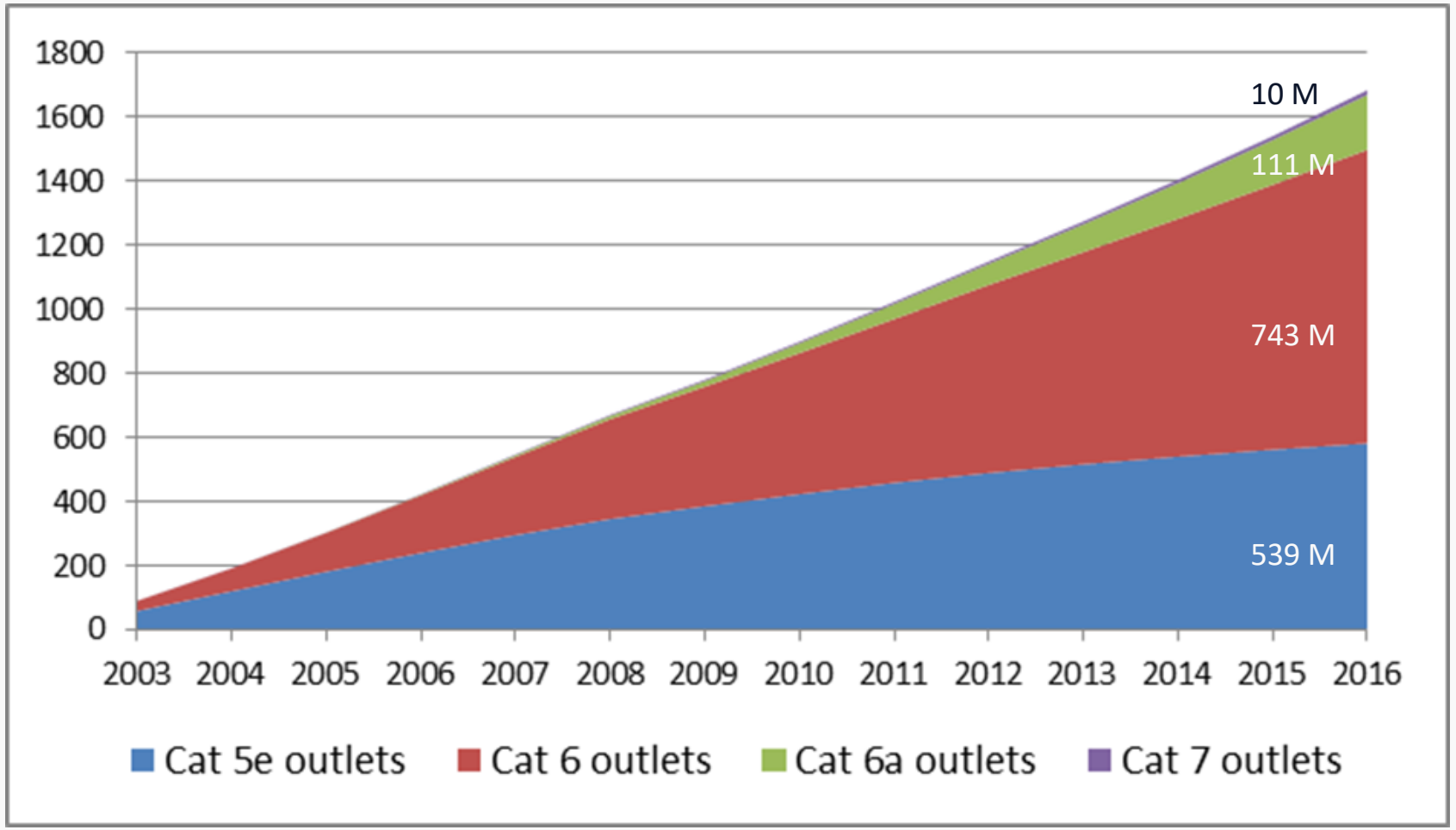
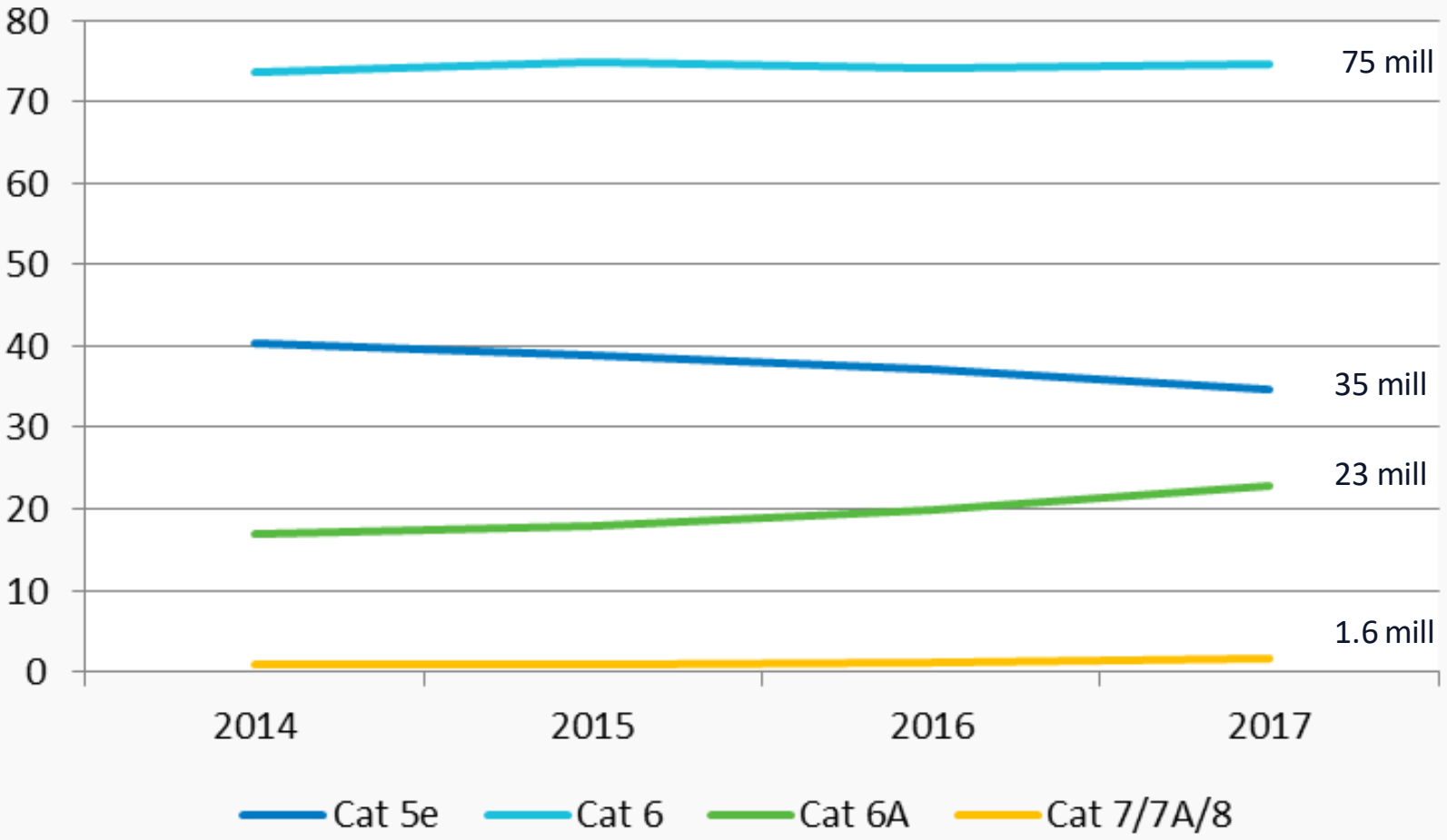
BSRIA 2014 installed base numbers



Source: BSRIA Study in 2014 for Cisco, Dell, HP, Broadcom

Sales by Category by volume, million outlets/drops



- 130 – 135 million outlets per year
- An est. 60% are new installations
- 1.4 billion installed base in 2014
- 1.6 billion in 2017.

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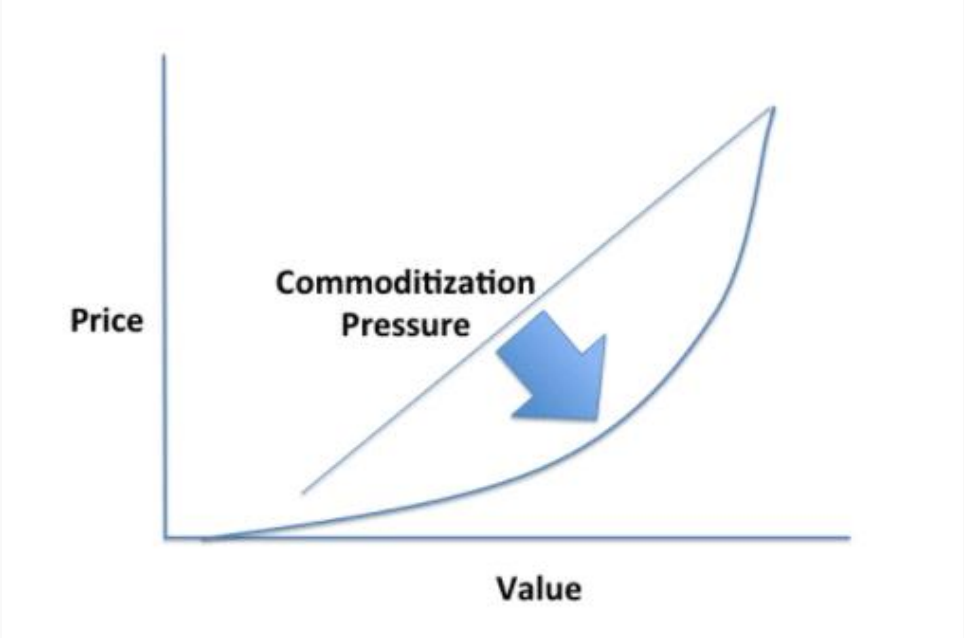
A few characteristics

- Commoditisation
- Acquisitions & mergers
- Future growth to come from non-data devices



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Convergence - IoT

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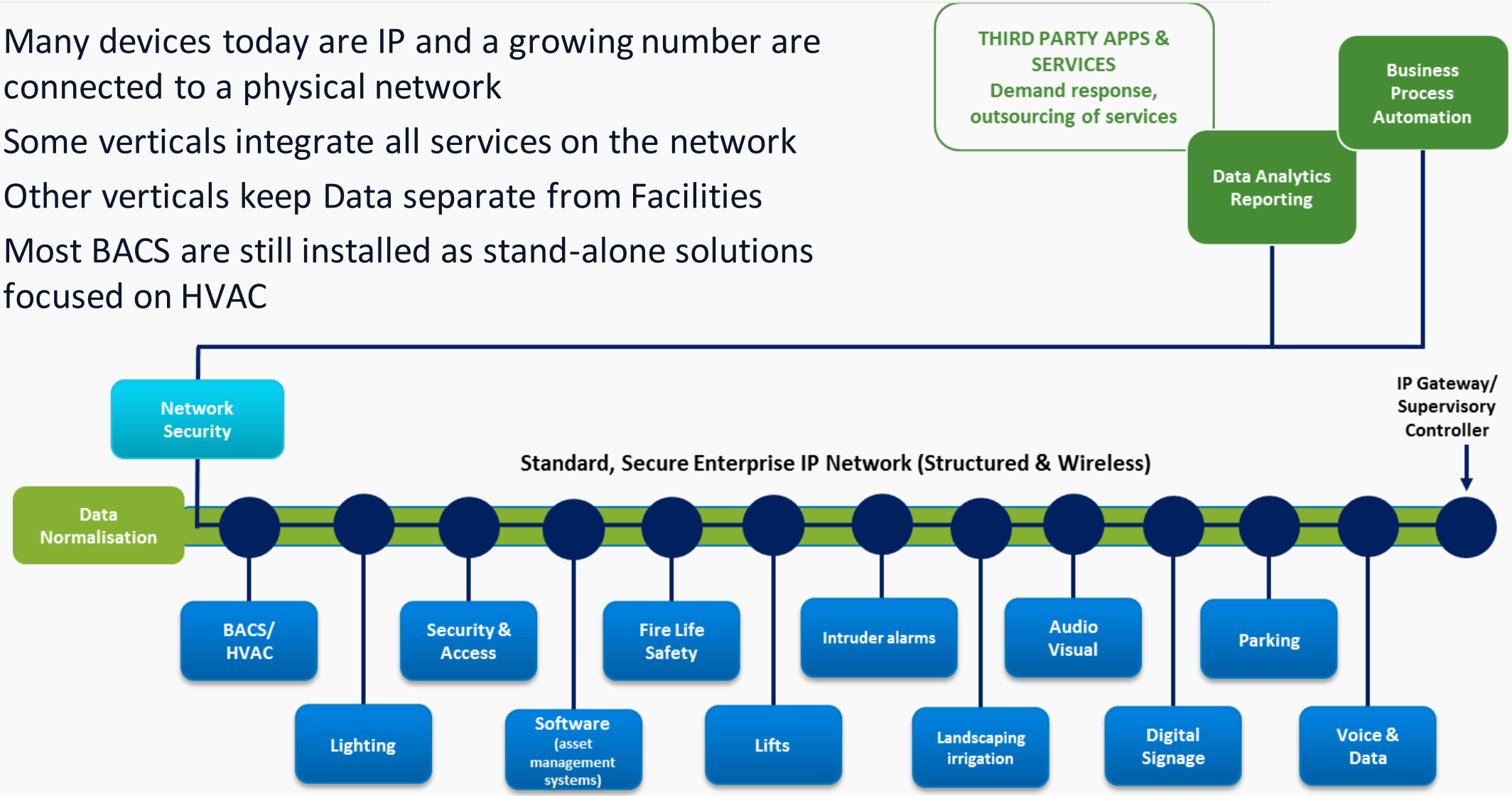
Convergence

- Many devices today are IP and a growing number are connected to a physical network
- Some verticals integrate all services on the network
- Other verticals keep Data separate from Facilities
- Most BACS are still installed as stand-alone solutions focused on HVAC



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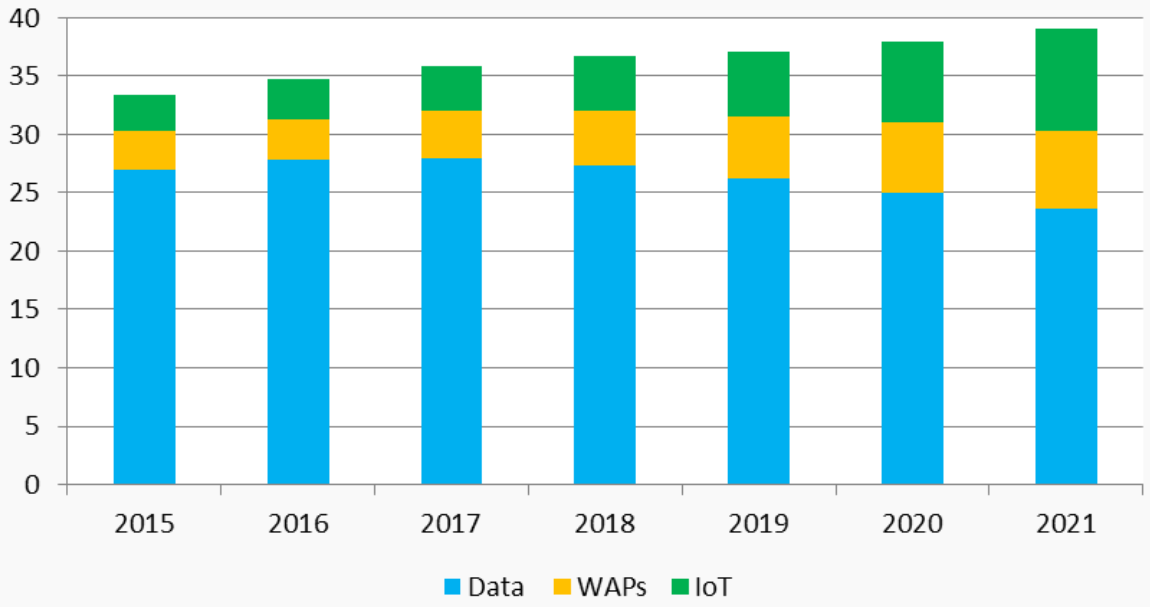
Data, WAPs and IoT

Outlets/nodes/links, Data, WAPs and IoT, US, million units, 2015 – 2021



Source: Convergence & Digitalisation of Buildings US. May 2017

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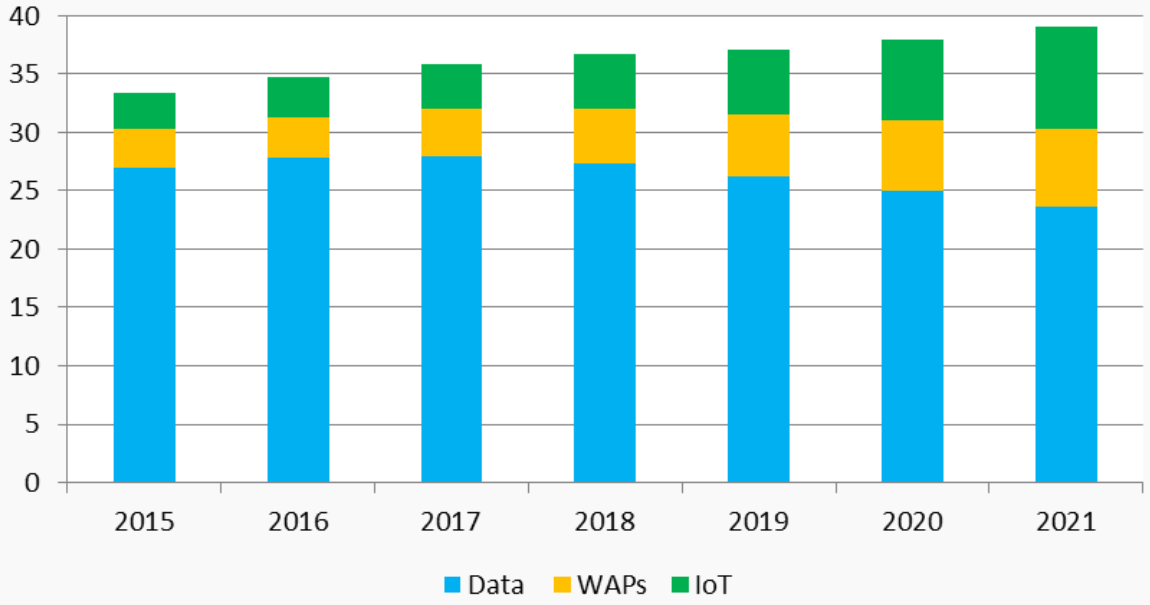
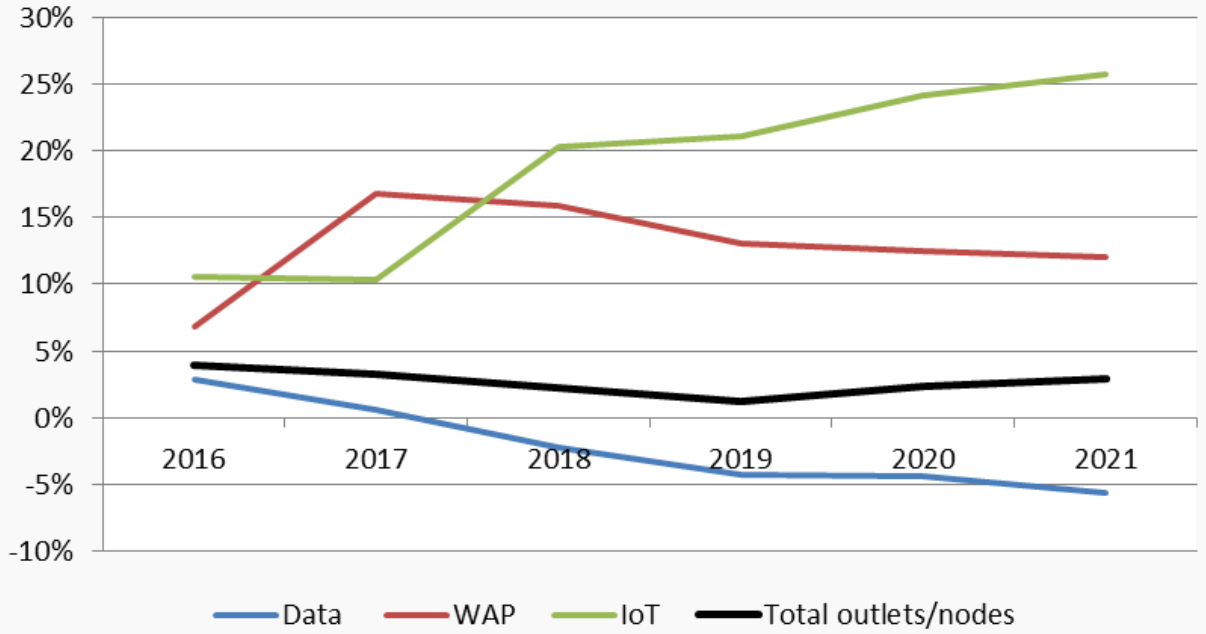
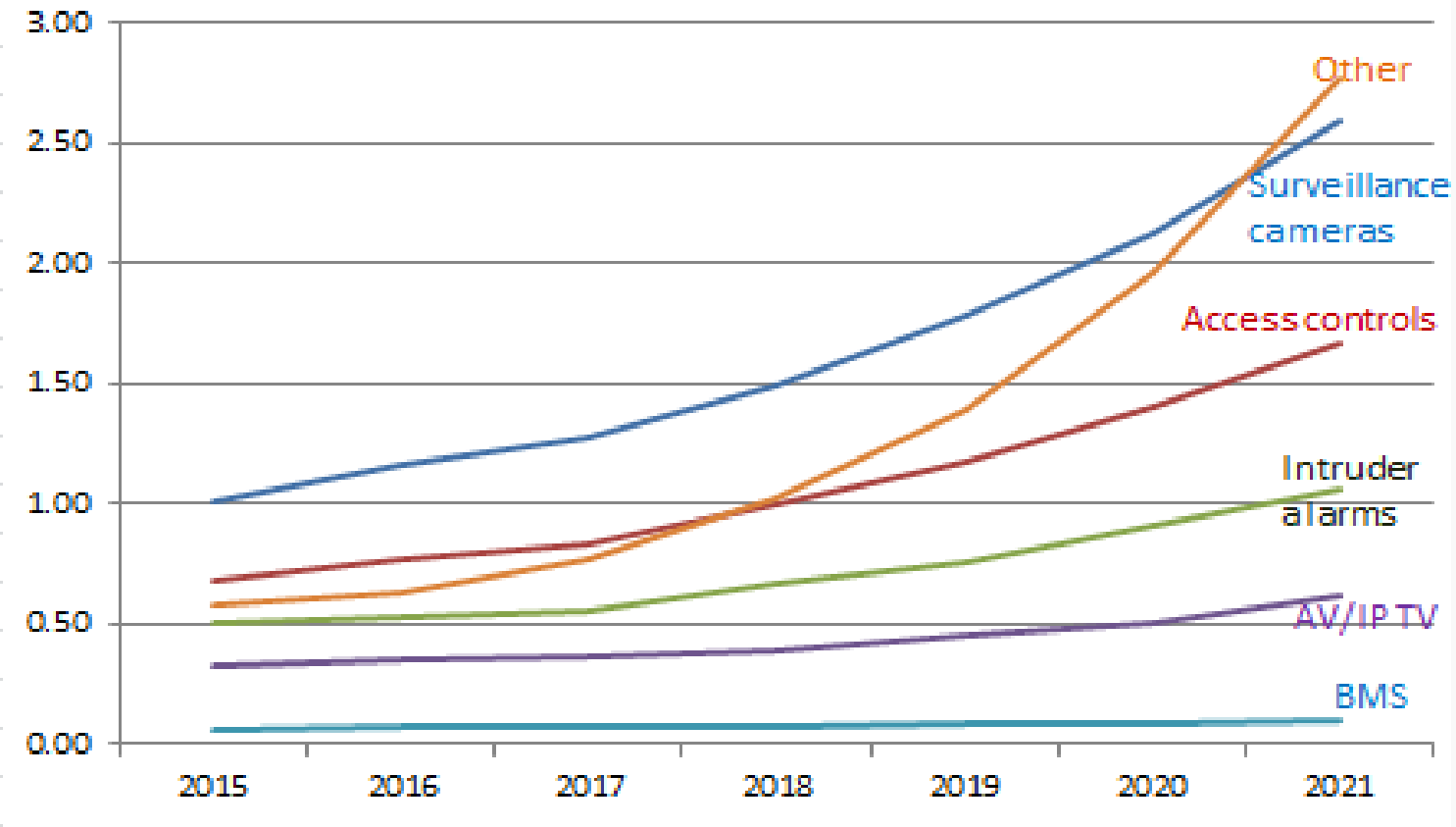


Data, WAPs, IoT and total outlets/links, growth rates, US 2015 - 2021



Source: Convergence & Digitalisation of Buildings US. May 2017

IoT, US million units/connections, 2015 - 2021



Source: BSRIA survey and modelling May 2017

- IoT increasing by 20-25% per year from 2018
- Growth from a low base

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Main non-data products

- **Surveillance cameras**
  - networked
  - commercial
  - large share is retrofit
  - upgrade hardware and software

- **Access control**
  - often installed with CCTV

- **Intruder alarms/detection**

Other: Smoke detection, AV, Smart lighting, digital signage, point of sales/card readers, white boards, room booking.

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Trends in Smart buildings

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Trends in Smart buildings

Wireless technologies

Trends in Smart buildings

Wireless technologies ⇧

Use of IP ⇧

Trends in Smart buildings

Wireless technologies

Use of IP

Individual user control

Trends in Smart buildings

Analytics and Artificial intelligence
- Predict and prevent

Wireless technologies

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Partnerships

Individual user control

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Trends in Smart buildings

More intelligent controllers
- No need for gateways

Analytics and Artificial intelligence
- Predict and prevent

Wireless technologies

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Individual user control

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Trends in Smart buildings

More intelligent controllers
- No need for gateways

Intelligent field devices/ Smart HVAC
- Build-in controls
- Built-in sensors

Analytics and Artificial intelligence
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Stand-alone home devices
Are being used in commercial applications

In the smart home space

Analytics and Artificial intelligence
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Wireless technologies

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Trends in Smart buildings

More intelligent controllers
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Software
Growth in use of software / platforms

Intelligent field devices/ Smart HVAC
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Analytics and Artificial intelligence
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Wireless technologies ⇧

Use of IP ⇧

Open protocols

Stand-alone home devices
Are being used in commercial applications

⇧

In the smart home space

Partnerships

CISCO

Individual user control

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In the smart home space

More specifiers focus on employee productivity and comfort

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Cyber Security issues

Analytics and Artificial intelligence
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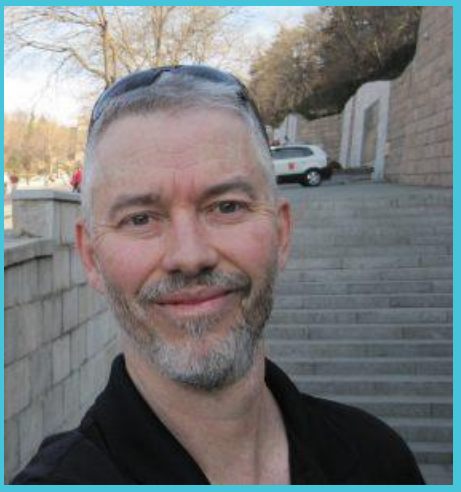
Wrap-up & Discussion



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Wrap-up & Discussion

- Steady Growth
- Long Future for NBASE-T
- Dawn of IoT
- Smart Buildings

Thank you!

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