5G AS AN INNOVATION PLATFORM

June 28 2017 – Net Futures 2017

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ERICSSON

ERICSSON MOBILITY REPORT
5 YEAR INDUSTRY OUTLOOK

ERICSSON MOBILITY REPORT

JUNE 2017

OVER ONE MILLION NEW MOBILE INTERNET USERS ADDED EVERY DAY

4G WILL BE THE DOMINANT ACCESS TECHNOLOGY GLOBALLY BY 2018

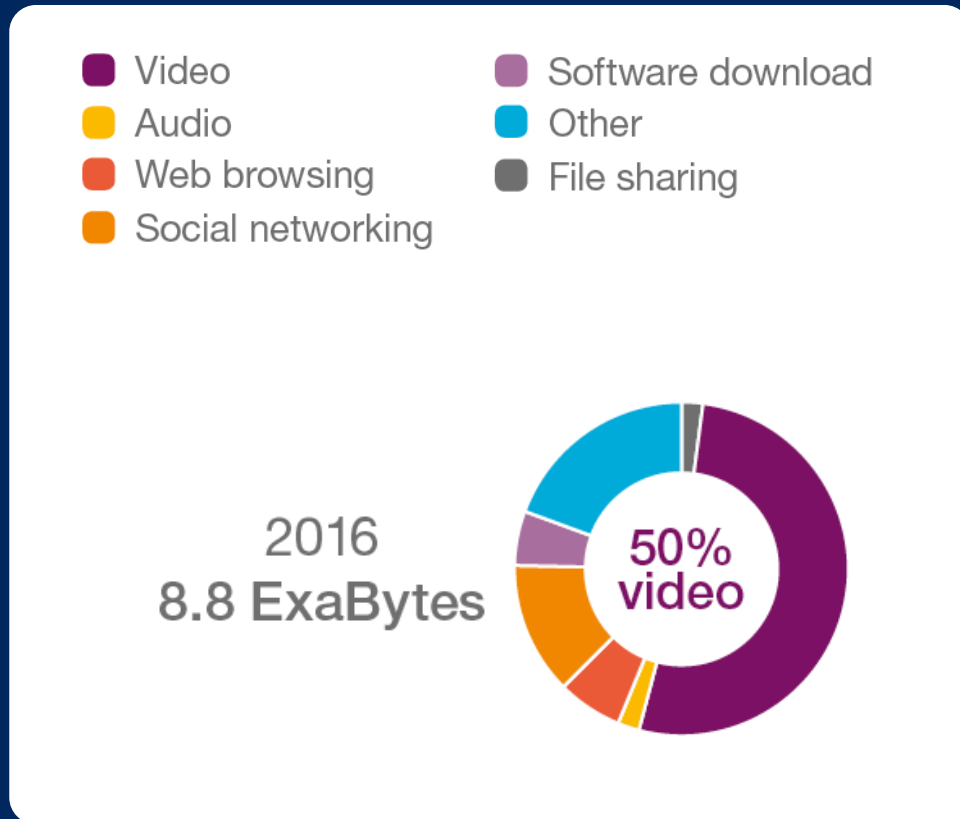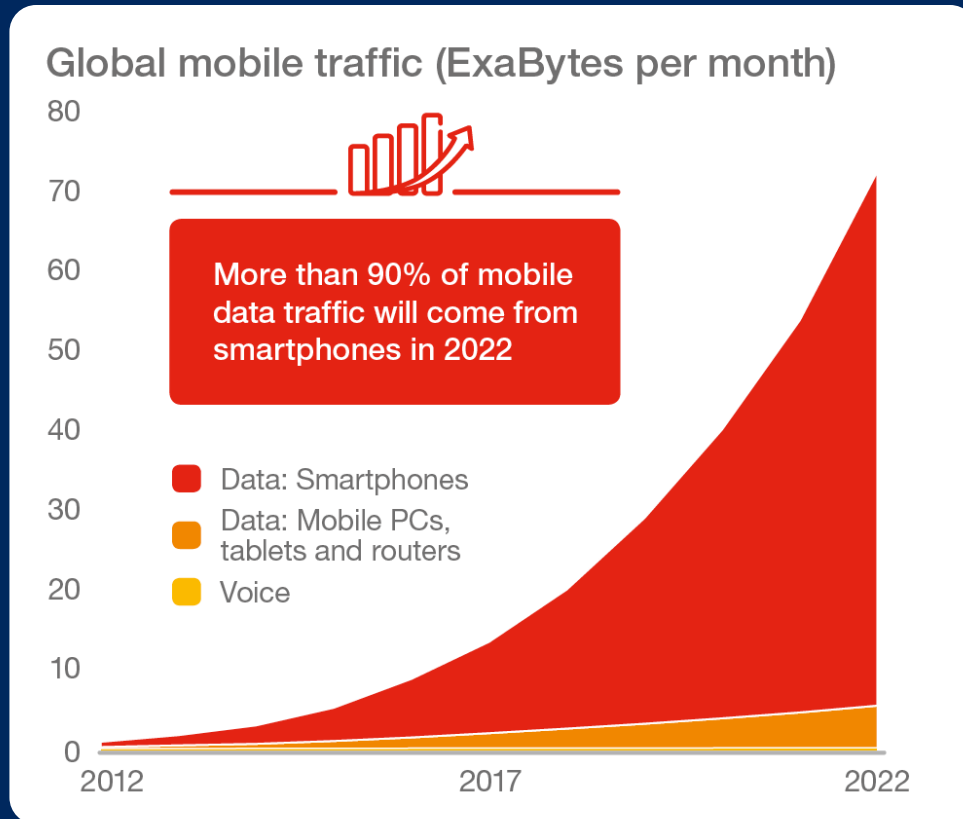TOTAL MOBILE DATA TRAFFIC GREW BY 70% BETWEEN Q1 2016 AND Q1 2017

VOLTE SUBSCRIPTIONS TO REACH 4.6 BILLION BY 2022 – 90% OF ALL LTE SUBS

THERE WILL BE HALF A BILLION 5G SUBSCRIPTIONS GLOBALLY BY 2022

SMARTPHONE GROWTH CONTINUES

Global mobile traffic (ExaBytes per month)

More than 90% of mobile data traffic will come from smartphones in 2022

Legend:
- ■ Data: Smartphones
- ■ Data: Mobile PCs, tablets and routers
- ■ Voice

X-axis: 2012, 2017, 2022
Y-axis: 0, 10, 20, 30, 40, 50, 60, 70, 80

Pie chart legend:
- ■ Video
- ■ Audio
- ■ Web browsing
- ■ Social networking
- ■ Software download
- ■ Other
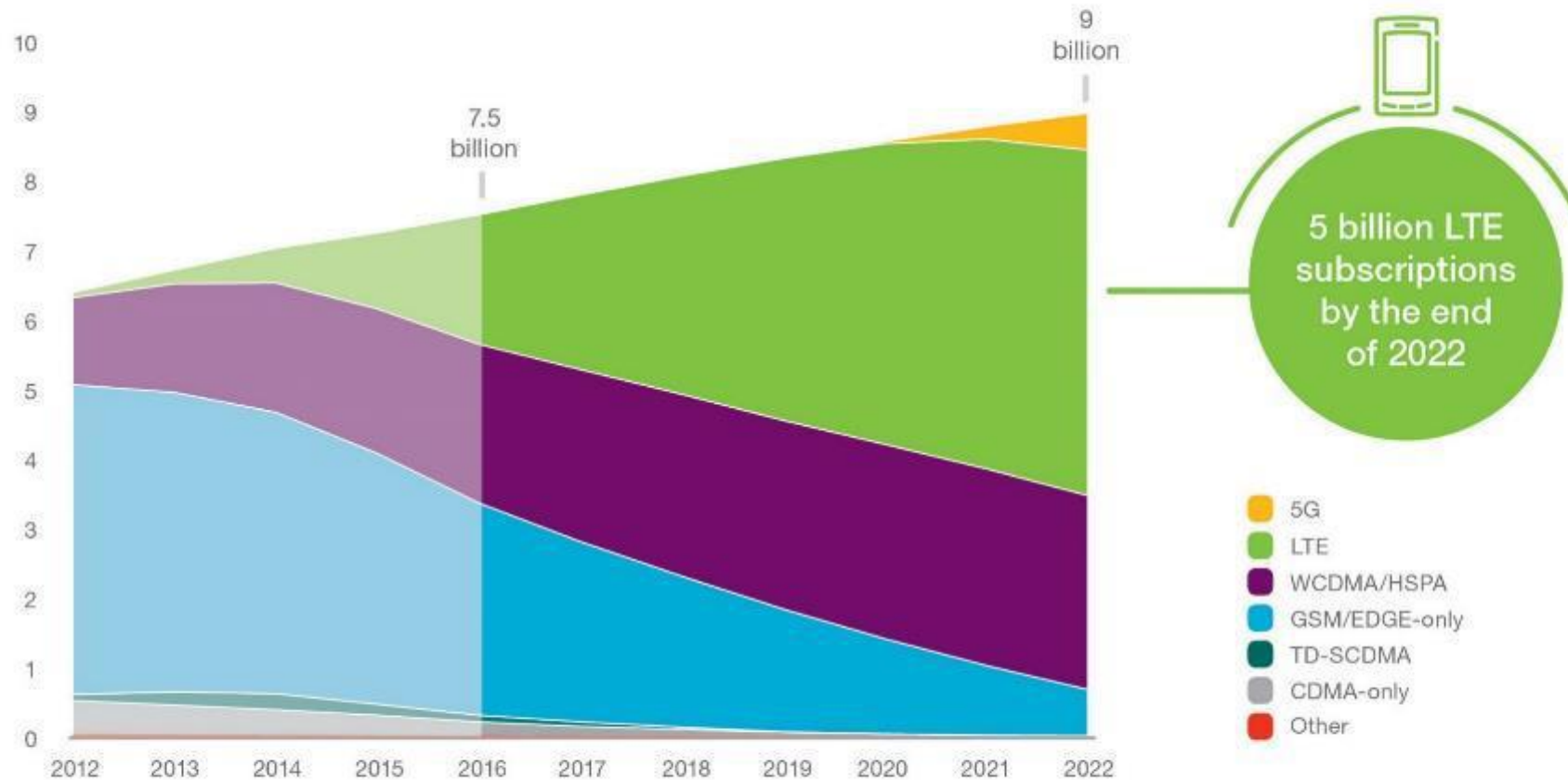- ■ File sharing

2016
8.8 ExaBytes

50% video

- Total mobile data traffic will increase 8 times – exceeding 70 EB/month in 2022
- Smartphone traffic will increase 9 times – reaching 66 EB/month in 2022
- In 2022, video will account for around 75% of mobile data traffic

SUBSCRIPTIONS BY TECHNOLOGY

Mobile subscriptions by technology (billion)

5 billion LTE subscriptions by the end of 2022

Legend:
- 5G
- LTE
- WCDMA/HSPA
- GSM/EDGE-only
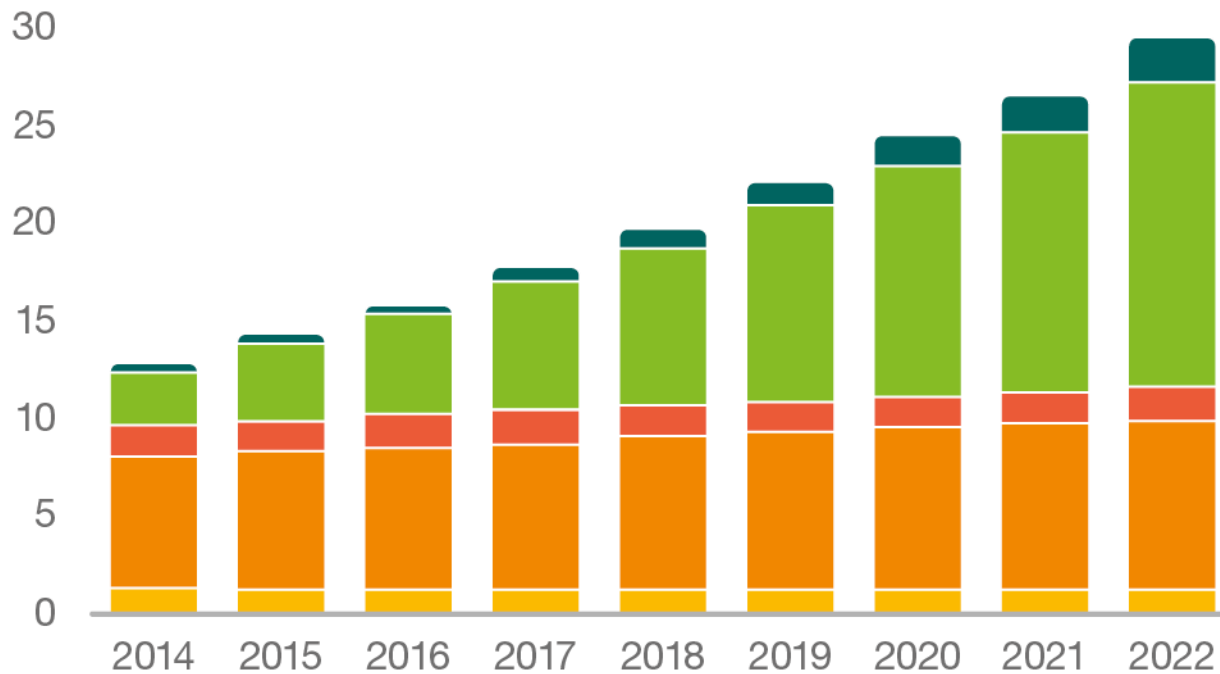- TD-SCDMA
- CDMA-only
- Other

5G subscriptions will exceed half a billion by the end of 2022

Figure note: IoT connections and Fixed Wireless Access (FWA) subscriptions are not included in the above graph
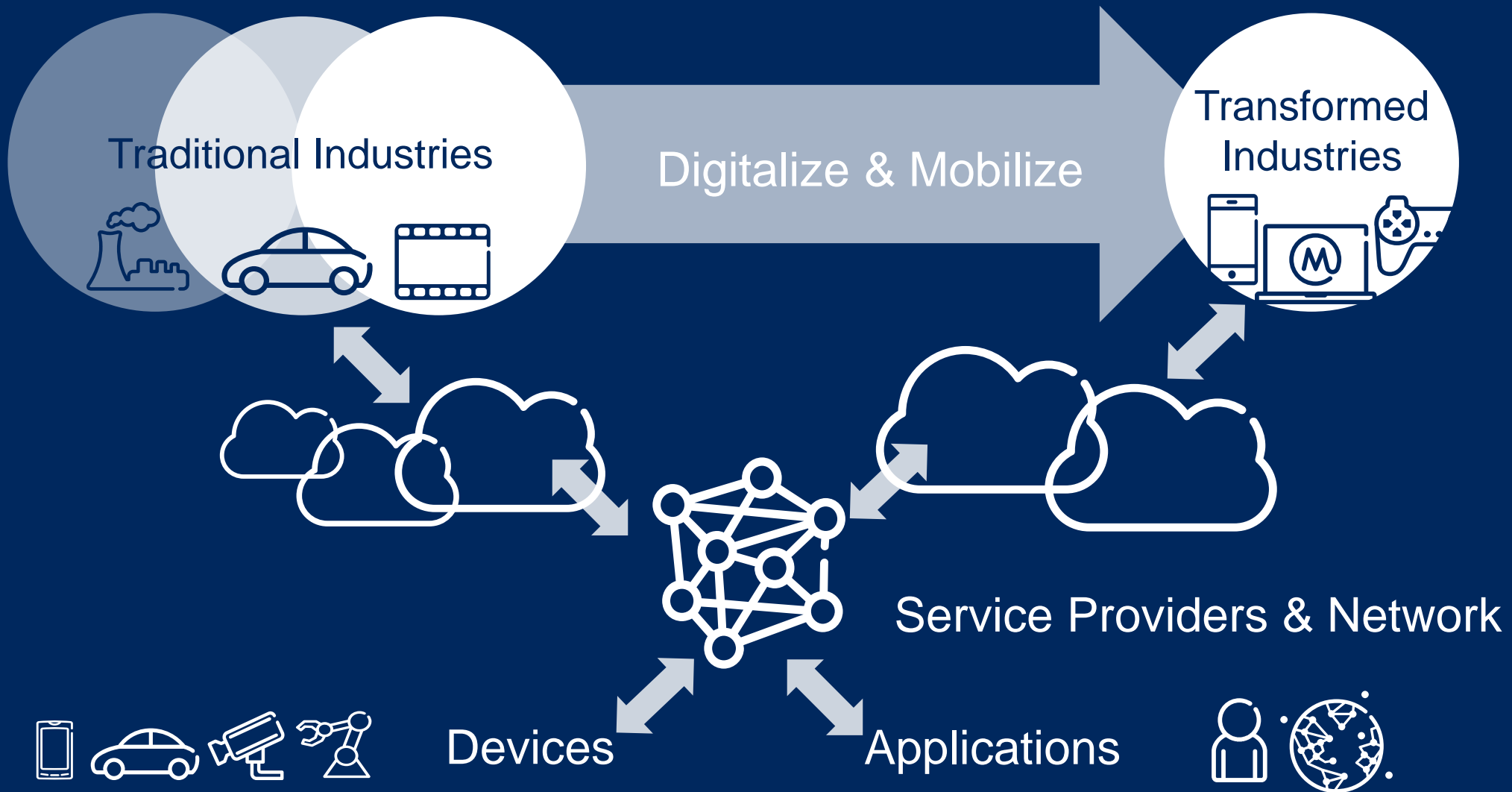
TOWARDS AN IOT-DOMINATED WORLD

Connected devices (billions)

	2016	2022	CAGR
Wide-area IoT	0.4	2.1	30%
Short-range IoT	5.2	15.5	20%
PC/laptop/tablet	1.6	1.7	0%
Mobile phones	7.3	8.6	3%
Fixed phones	1.4	1.3	0%
	16 billion	29 billion	

Source: Ericsson Mobility Report, June 2017

DIGITALIZATION & MOBILITY

Traditional Industries

Digitalize & Mobilize

Transformed Industries

Service Providers & Network

Devices

Applications

NETWORK EFFICIENCY & PERFORMANCE

Smartphones/ MBB

Mobility & Connectivity

Cloud & Data

Analytics & Automation

Applications & Services

App Cloud
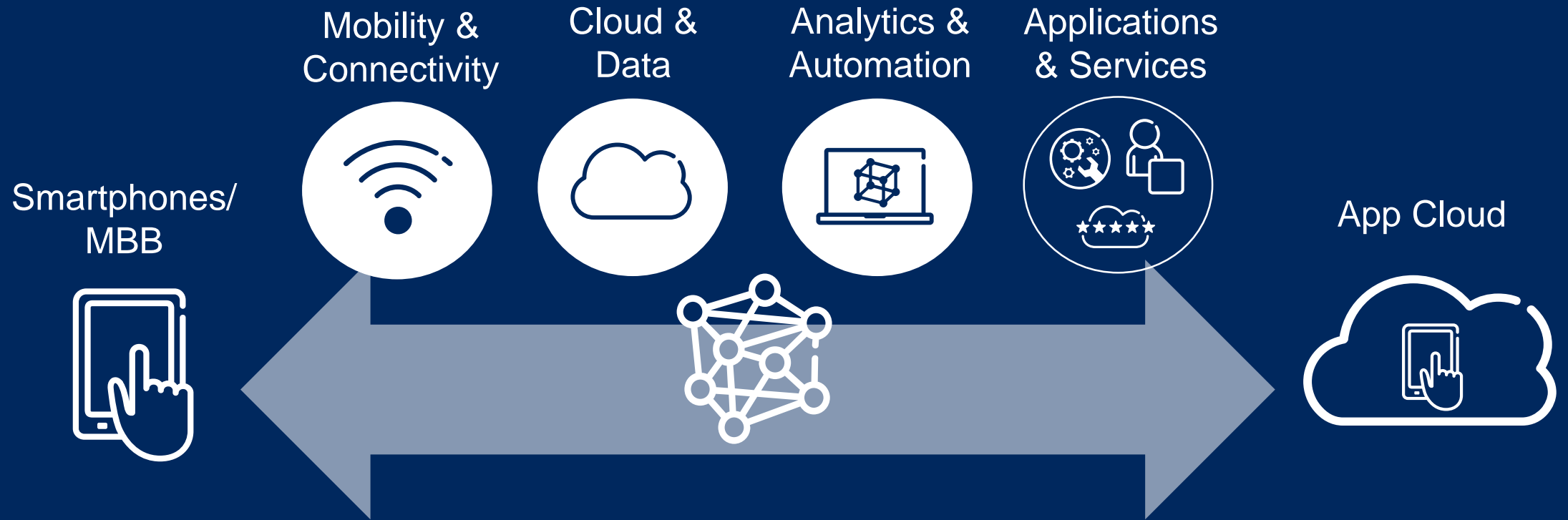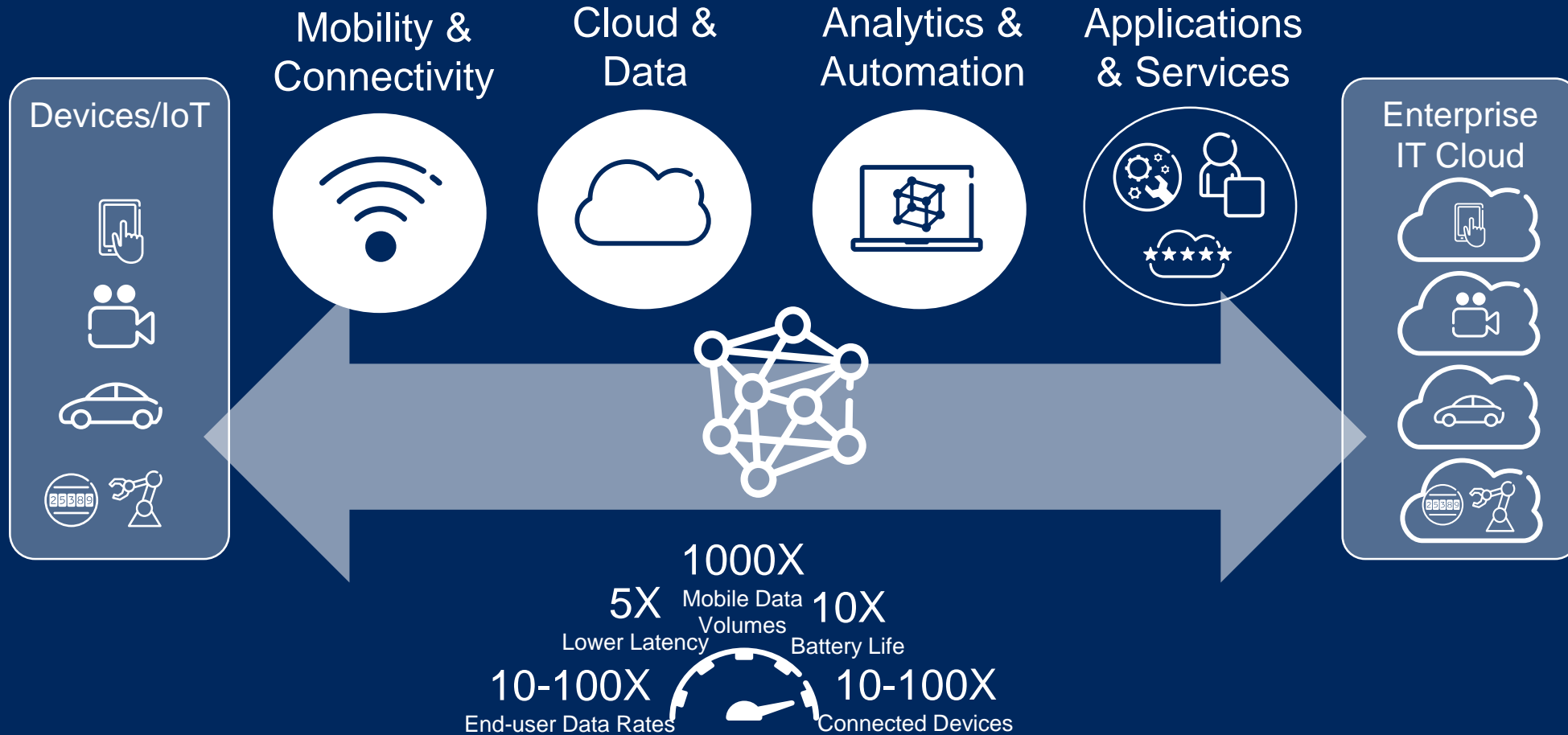
Increased efficiency (lower cost per bit) & higher capability for Mobile Broadband

INCREASED NETWORK RELEVANCE FOR OTHER INDUSTRIES

Devices/IoT

Mobility & Connectivity

Cloud & Data

Analytics & Automation

Applications & Services

Enterprise IT Cloud

1000X
Mobile Data Volumes

5X
Lower Latency

10X
Battery Life

10-100X
End-user Data Rates

10-100X
Connected Devices

A horizontal, programmable Network platform to connect all clouds to all devices

ONE NETWORK FOR MULTIPLE INDUSTRIES

Devices / Local NW	Access sites	Distributed sites	National sites	Global sites

Application Cloud

Management & Monetization

Network Slices

Mobile — Access, Mobility, Network applications

Fixed

Cloud Infrastructure
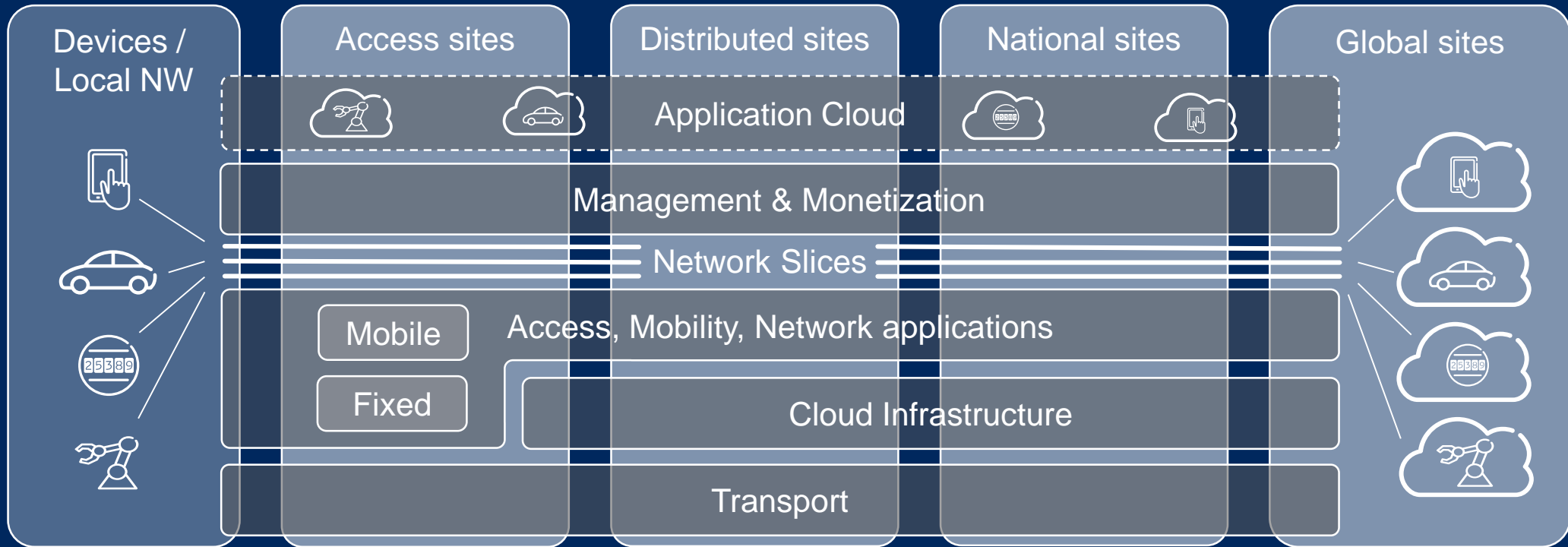
Transport

The 5G Distributed Cloud – A platform for Innovation

5G USE CASES

BROADBAND AND MEDIA EVERYWHERE

SENSORS EVERYWHERE

SMART VEHICLES, TRANSPORT

INFRASTRUCTURE, MONITOR AND CONTROL

CRITICAL CONTROL OF REMOTE DEVICES

INTERACTION HUMAN-IOT

Secure Gbps broadband leading, more use cases leveraging 2ms and reliabilty

OPERATOR PARTNERS

T-Mobile

Verizon

AT&T

Vodafone Group
Deutsche Telekom
Orange
Telefónica
TIM

Telia

Lifecell

Swisscom

Turkcell

Alfa
Etisalat
Zain
Ooredoo
Group

Batelco

MTS

China Mobile
China Unicom
Korea Telecom
SK Telecom
LG Uplus

NTTDoCoMo
Softbank
KDDI
Far EasTone

América Móvil

Singtel

Telstra

33
SIGNED 5G OPERATOR AGREEMENTS

5G SUCCESS FACTORS

› 5G System – Openness and horizontal network end to end
(5G is cloud/core, control, access and devices/sensors)

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› Global ecosystem – Multiple use cases with one global eco-system
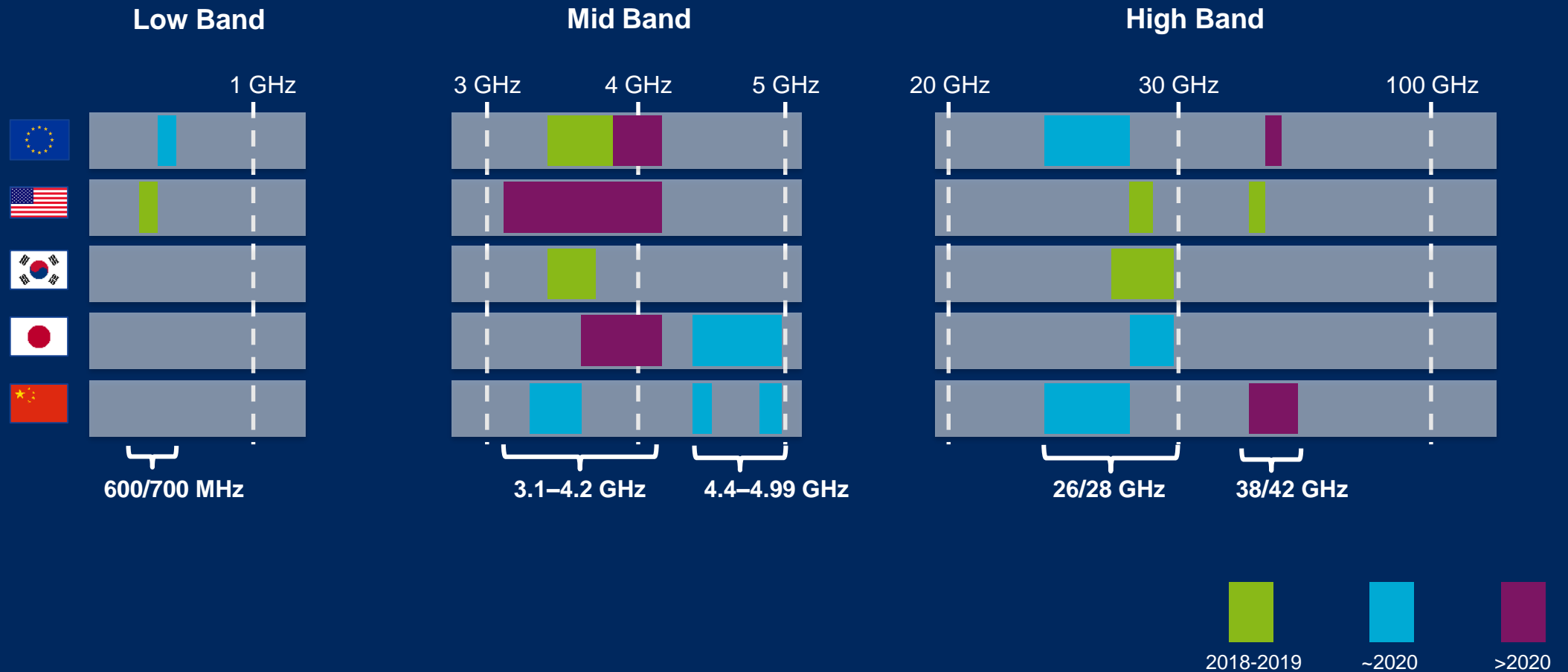*(Leveraging the scale of 4G/LTE)*

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› 5G enabling new business – Operators driving growth in IoT, media and industry transformation
(New capabilities for digitalization and mobilization)

_____

› The Network platform - Relevance to other industries
(Speed is essential to position networks in the global web environment)

_____

› Industry alignment - Standardization and open source approach
(A broader set of use cases requires cross industry collaboration)

5G SPECTRUM

Low Band

Mid Band

High Band

1 GHz

3 GHz   4 GHz   5 GHz

20 GHz   30 GHz   100 GHz

600/700 MHz

3.1–4.2 GHz   4.4–4.99 GHz

26/28 GHz   38/42 GHz

2018-2019   ~2020   >2020

ALL BITS ARE NOT EQUAL

PUBLIC SAFETY

ENTERPRISE SERVICES

UTILITIES

SPECIALIZED SERVICES (IPTV)

ZERO RATED SERVICES

DIGITAL SINGLE MARKET

Holistic &
Light Touch

Adaptive to
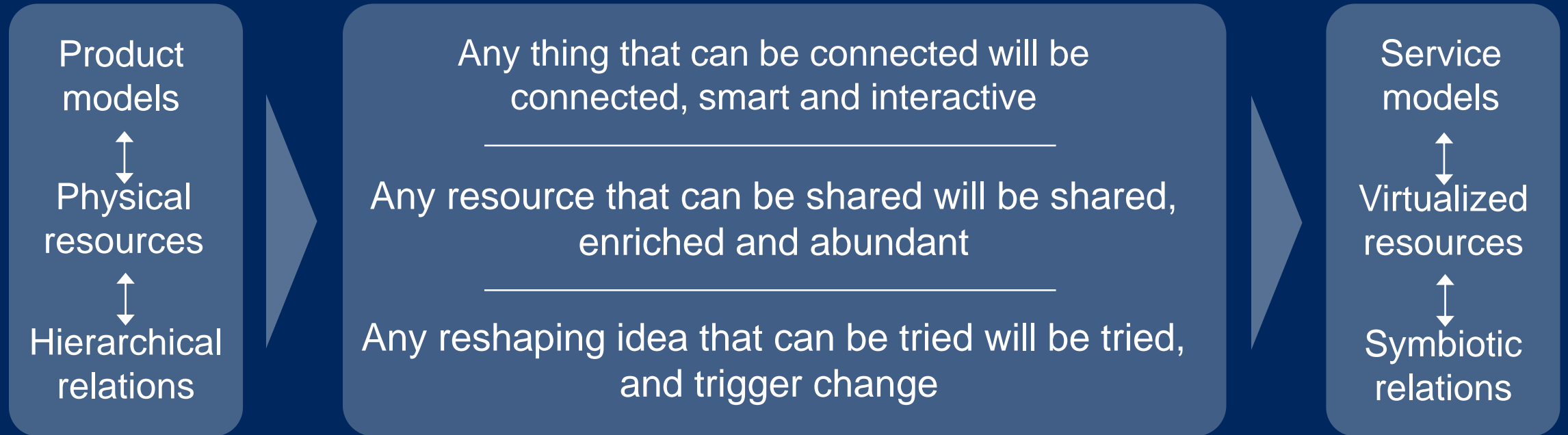Change

Business
Friendly

Technology
Neutral

Broadband &
IT Stimulus

NEW LOGICS IN THE DIGITAL ERA

Consumption Logic

Usage Logic

Product models

↕

Physical resources

↕

Hierarchical relations

Any thing that can be connected will be connected, smart and interactive

Any resource that can be shared will be shared, enriched and abundant

Any reshaping idea that can be tried will be tried, and trigger change

Service models

↕

Virtualized resources

↕

Symbiotic relations

USERS
participating and active

THINGS
connected & intelligent

DATA
own, shared & open

PLATFORMS
economics & scale