Monetizing the 5G World

From Use Cases to Business Models

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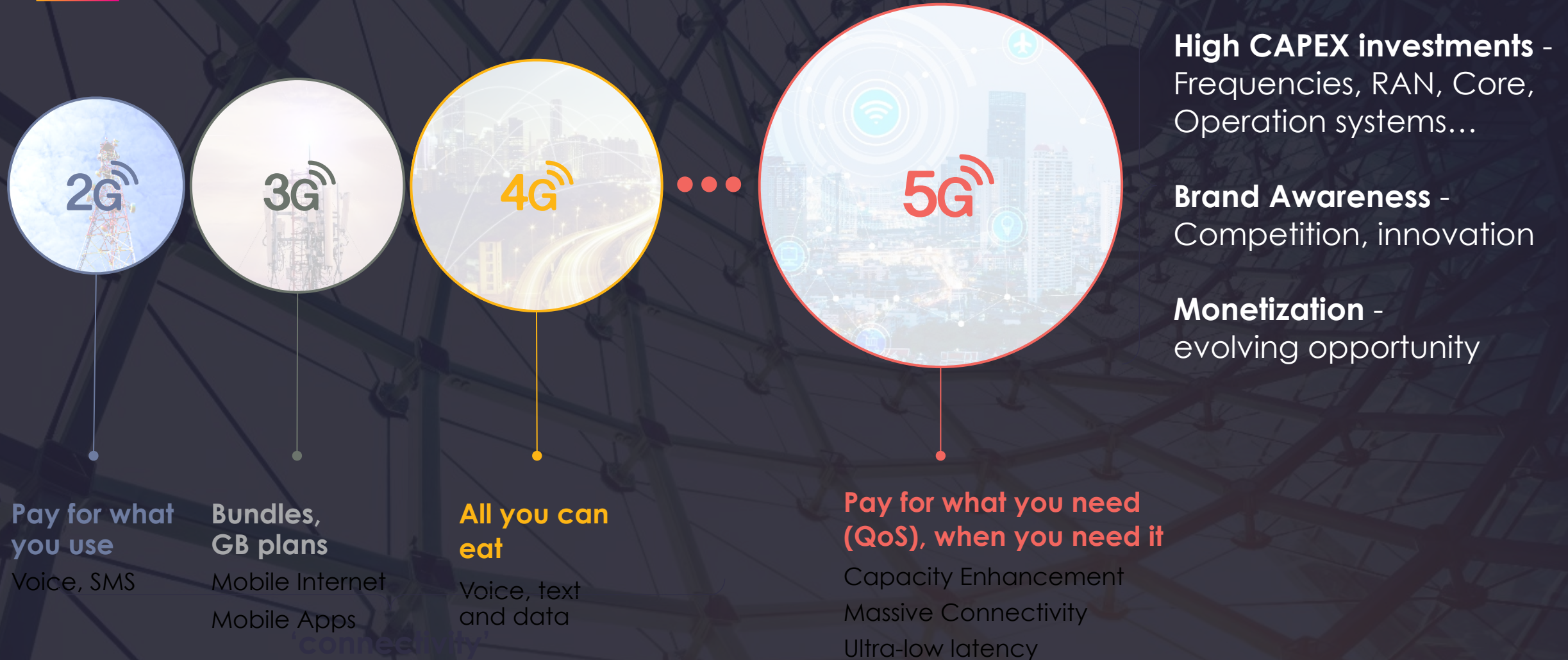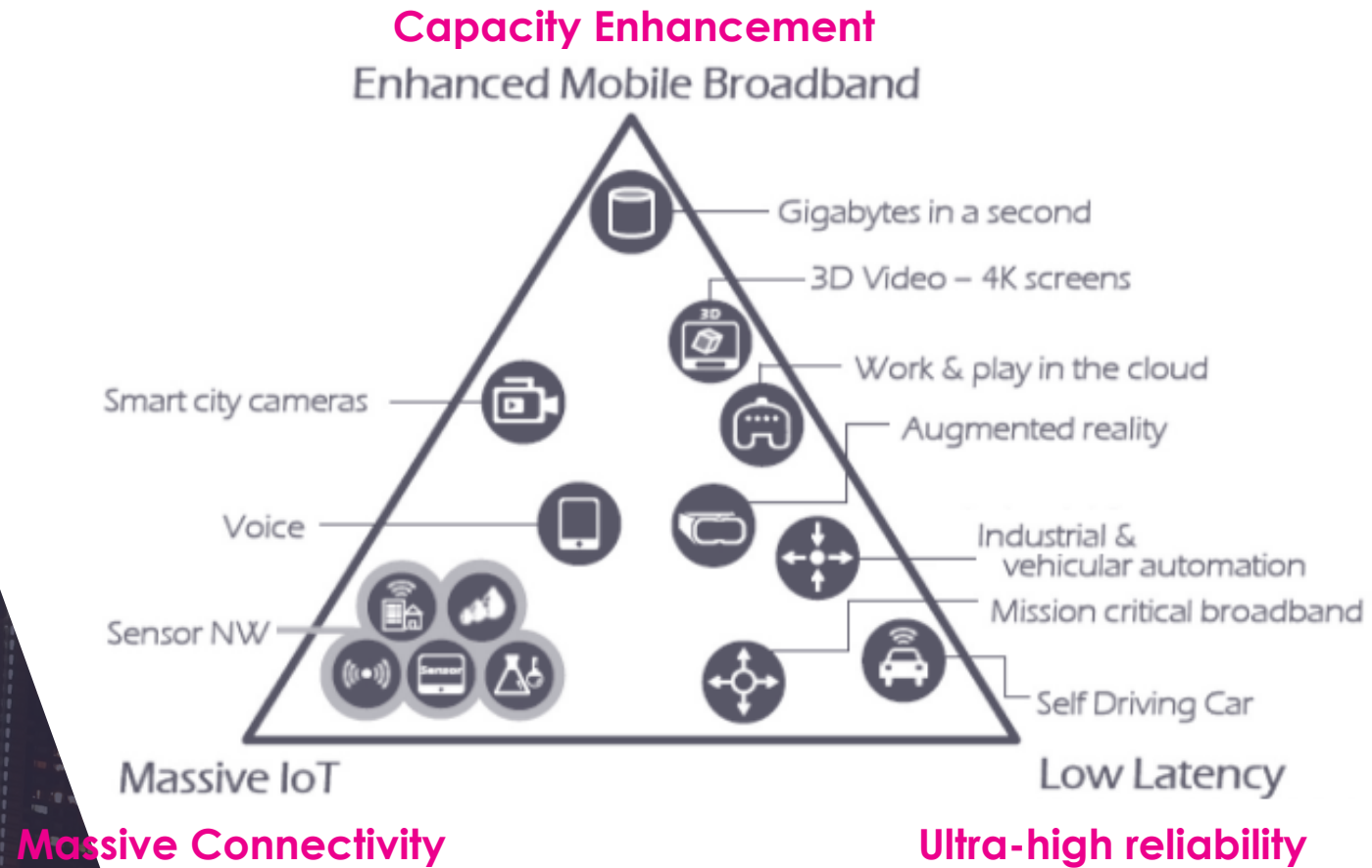
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Agenda

5G
Monetization

1	5G Fundamentals
2	Business Model Exploration
3	Monetization Needs

The road to 5G

2G

Pay for what you use
Voice, SMS

3G

Bundles, GB plans
Mobile Internet

Mobile Apps

4G

All you can eat

Voice, text and data

5G

Pay for what you need (QoS), when you need it
Capacity Enhancement
Massive Connectivity
Ultra-low latency

High CAPEX investments - Frequencies, RAN, Core, Operation systems…

Brand Awareness - Competition, innovation

Monetization - evolving opportunity

5G usage scenarios

Capacity Enhancement

Enhanced Mobile Broadband

- Gigabytes in a second
- 3D Video – 4K screens
- Work & play in the cloud
- Augmented reality
- Industrial & vehicular automation
- Mission critical broadband
- Self Driving Car

Smart city cameras

Voice

Sensor NW

Massive IoT

Low Latency

Massive Connectivity

Ultra-high reliability
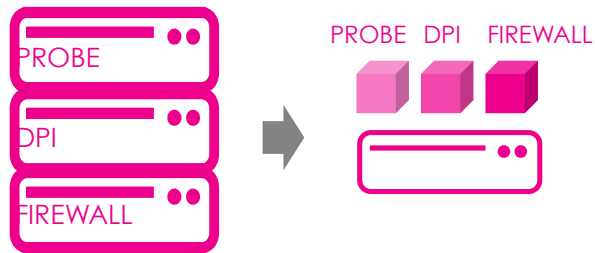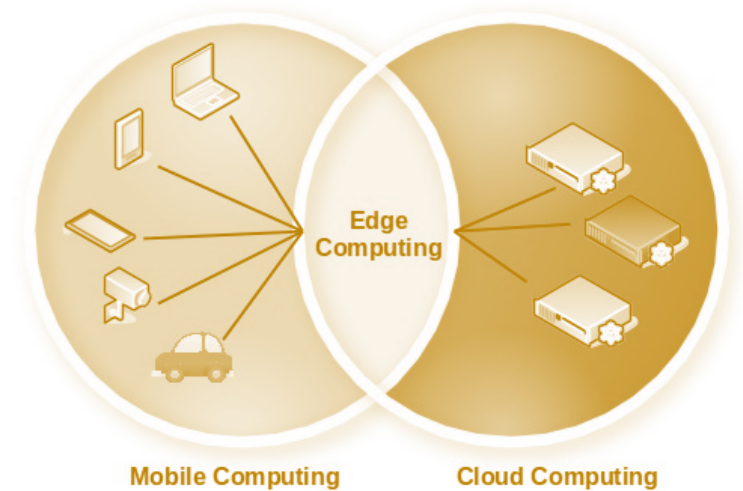
Enabling technologies

Virtualization

Move to white
box appliances

Slicing

Reconfigurable network with
disparate demands - low latency,
high density, high speed

Edge Computing

Mobile Computing   Edge Computing   Cloud Computing

Connected compute and
storage resources closer
to the user

Board of Advisors 2018

5G is Happening Now

5G is expected to see faster adoption than 4G

4G

225K subs at T+1

13 CSPs in 9 countries by end-2009

5G

24.5M subs at T+1

54 CSPs in 27 countries by end-2021

"KT showcases 5G innovation at the Olympics in PyeongChang."

"AT&T names first three cities to get its ultra-fast 5G network"

"Verizon to launch 5G residential broadband services in up to 5 markets in 2018"

"NTT Docomo launched the 5G Open Partner Program to explore and develop new use cases for 5G."

5G connections to reach 1.1 billion, 12% of total mobile connections, by 2025 - GSMA

5G will reach 1 billion subs within 5 years of launch - Ovum

Source: Ovum
4G launch = 2009; 5G launch = 2020

5G will accelerate monetization trends

5G will create a paradigm shift in data monetization: from Volume to Quality

**% of Global
Plans over 10GB**
(source: Ovum)

32%

60% in 10 Qs

20%

Q4 2014

Q1 2017

Data becomes
virtually unlimited
for consumer use
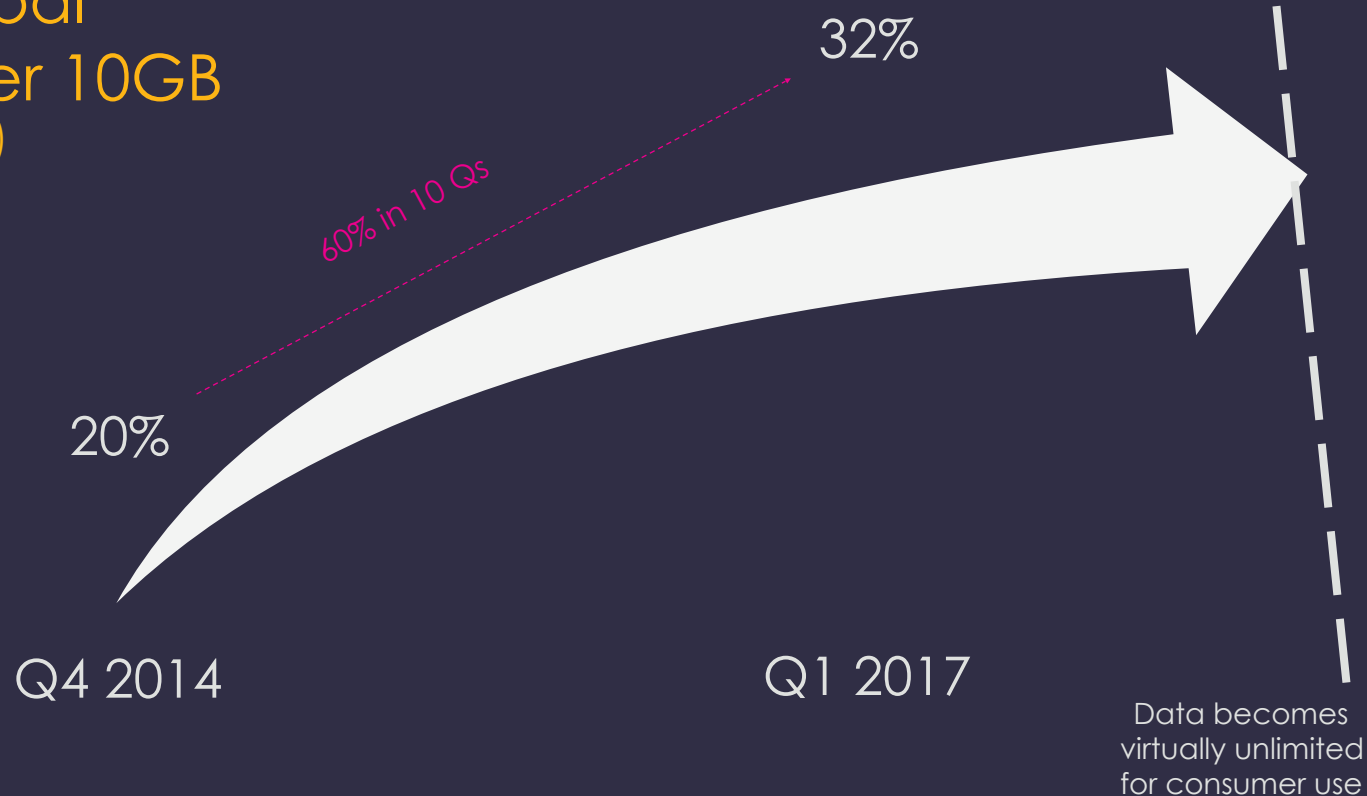
5G

**Access monetization moves
from volume to quality**

Overlapping services and
business models between
wireless and wireline will move
general access monetization
from volume to speed/QoS

(source: Ovum)

5G Challenges

Tech Maturity

Through 2025, the full value of 5G networks will not be realized due to the immaturity of WEC infrastructure

Organization

By 2023, over 35% of roles in CSP organizations will either be new or redesigned.

Market

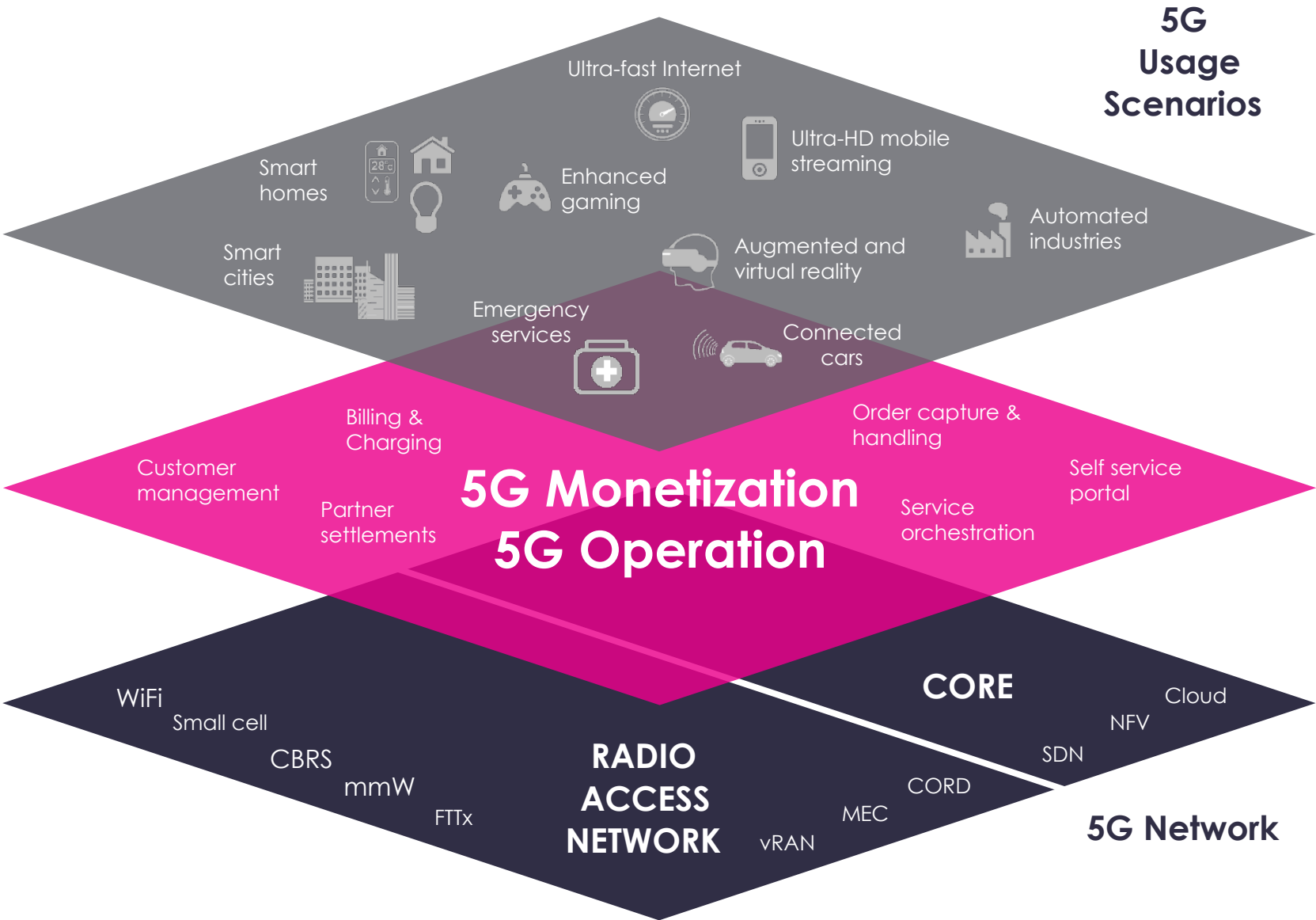Gartner: Through 2023, only 1% of CSPs will boost revenue from 5G services

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Connecting Technology and Use Cases with Monetization
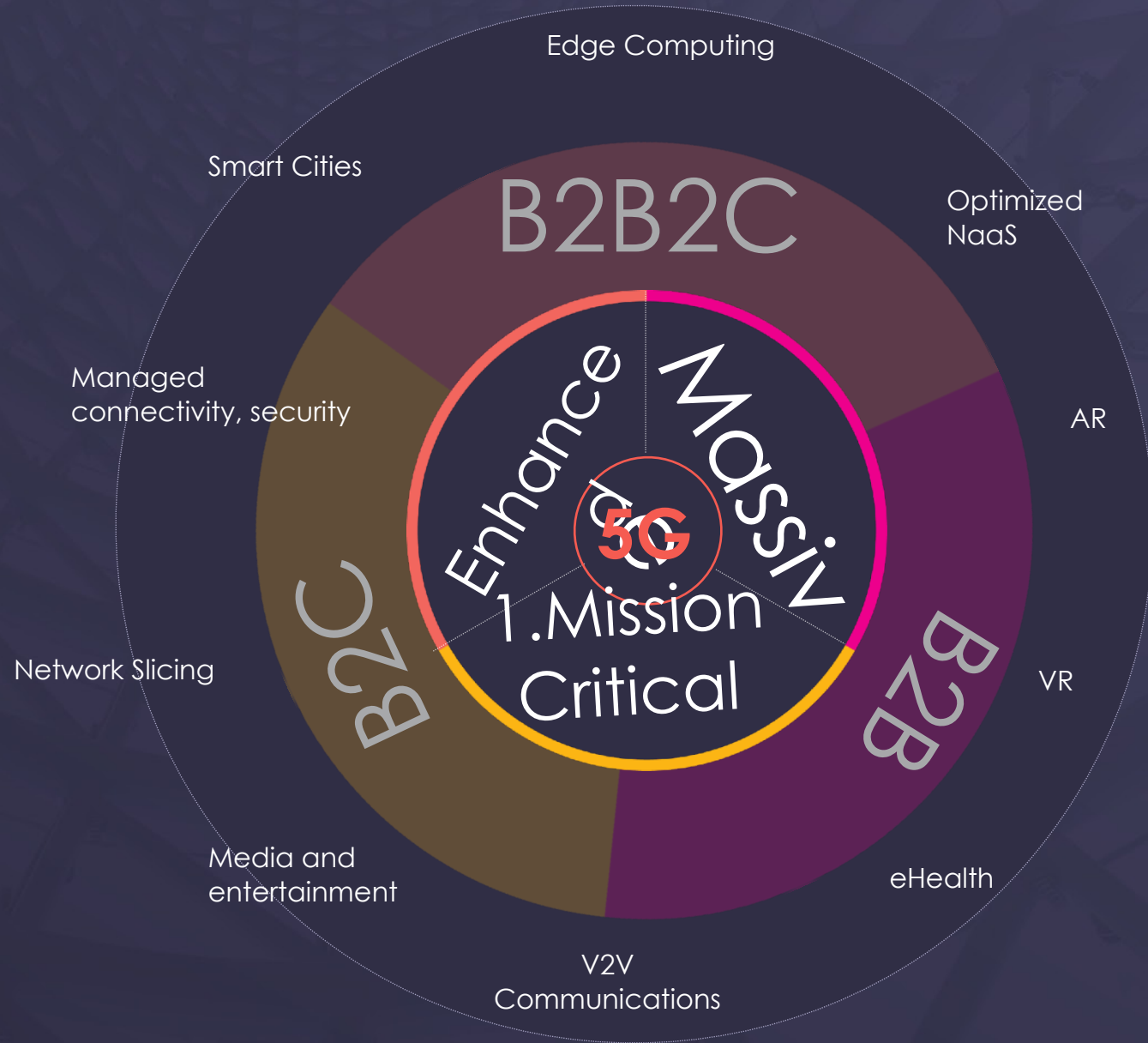
5G will enable an all new category of services

- Dynamic scaling, real-time charging, complex partner settlement etc.

- Trigger a parallel demand for 5G **monetization & operation systems**

5G Usage Scenarios

Ultra-fast Internet

Smart homes

Ultra-HD mobile streaming

Enhanced gaming

Smart cities

Augmented and virtual reality

Automated industries

Emergency services

Connected cars

5G Monetization 5G Operation

Billing & Charging

Order capture & handling

Customer management

Self service portal

Partner settlements

Service orchestration

WiFi

CORE

Cloud

Small cell

NFV

CBRS

SDN

mmW

RADIO ACCESS NETWORK

CORD

FTTx

MEC

vRAN

5G Network

5G Potential

"Digitalization of open, connected 5G ecosystems represent a $500bn+ opportunity."
- TMF

Edge Computing

Smart Cities

Optimized NaaS

B2B2C

Managed connectivity, security

AR

Enhance

Massiv

5G

1.Mission Critical

B2C

B2B

Network Slicing

VR

Media and entertainment

eHealth

V2V Communications

5G Monetization: Business Models

Business model	Direct to Consumer	B2B	B2B2X
	• Grow new lines of business (Fixed Wireless) • Extensive bundling of partner services • Application based monetization • QoS based data offers	• Increase value to vertical industries (Industry 4.0) • Embedded connectivity and eSIM management • Managed connectivity & security • Intelligence and automation	• Leverage network slicing to tailor and monetize network as a Service • New wholesale potential • Usage and Quality based monetization
Business Benefit	*Services and connectivity differentiation*	*Added value to industries*	*Extract value from the Digital Ecosystem*
Monetization Model	QoS based tiers, content and media, subscriptions, partners	NaaS, VNFs, Services, Partners	Network Exposure Function, network slicing, APIs, Edge computing hosting, usage

Jan – Is an AT&T wireless customer with competitor's triple play at home

- Lives in Austin Tx
- Pays over $200 a month to her cable provider
- Family of 4 with mobility family plan
- Family watches lots of video content on their mobile devices
- Agreed to be notified on location based promotions

Consumer Engagement

- Intelligence based notification – User awareness
- Offered bundle of Gigabit internet, voice and TV Everywhere with optional OTT content
- Commerce interaction and payment
- Online scheduling of store visit or technician
- Subscription billing with real-time payments for extras
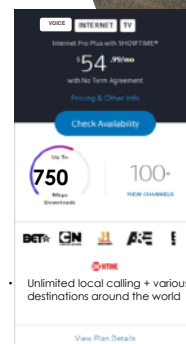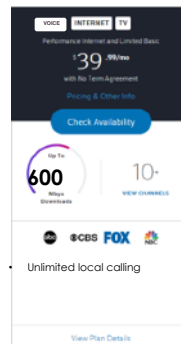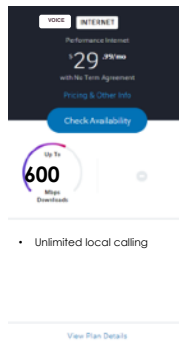
FarmX– Is a mid-size, eco-sensitive farm

- Located in upstate NY
- Supplies fresh produce to many farm to table restaurants
- Business depends on dedication to sustainable farming
- Business model requires lean, cost sensitive operations for profitability

Consumer Engagement

- Telco has E2E solution for industry that includes connectivity and partner services
- Sales rep easily creates proposal for humidity sensors, water management, breed management, health sensors
- After negotiation and agreement, FarmX is mapped to NB-IOT network slice
- Sensors start generating data and customer gets actionable alerts/automation kicks in

Formula One Group

- Group of companies responsible for the promotion of the Formula One World Championship and exercising the sport's commercial rights
- Operates the Formula 1 app with a free and premium version.
- Would like to enhance the service with ultra HD, ultra reliability and low latency mobility.

Consumer Engagement

- Telco can offer a dedicated network slice with the application at the edge of the network for high reliability and low latency.
- With the network capabilities, F1 can offer enhanced VR experiences
- Telco can also offer secure payment gateway and billing aaS.
- Formula 1 owns the relationship with the customer and pays for the wholesale connectivity

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5G Monetization

Break down IT-Network barriers – automate network complexity

IT

Business Enablement Systems			
B2B/IoT Portal	Customer Management	Billing	Partner Settlements

Design	Fulfill	Monitor	Manage	Operate

Service Driven Layer

Network as a service

Service model definition	Fulfil service intent	Sense intent issues	Learn better policies	drive fully autonomously

Network

Programmable & Hybrid Network			
Mobile Broadband slice	Massive IoT slice	Mission Critical IoT slice	Other slices

New Monetization Engines

User centric

Fail Fast

Intelligent

Autonomous

Service intent-driven network enabled by distributed set of network resources

5G Monetization

Break down IT-Network barriers – automate network complexity

Digital ONE	Digital Monetization	Media & Entertainment	Internet of Things
Omni-channel experience, Smart bot, Digital Identity	**Charging & billing**; Central catalog; Revenue recovery	Subscription management; Content distribution	IoT portal; Connected home; eSIM management

Design · Fulfill · Monitor · Manage · Operate

Open Network

Service Driven Layer
Network as a service

Design & Onboarding
Service model definition

NFV Orchestration / ONAP Network rollout; Hybrid operations Mobile Next /RAN
Fulfil service intent · Sense intent issues · Learn better policies

Autonomous Service Assurance
drive fully autonomously

AmdocsONE

Partner Ecosystem

Network

Mobile Broadband slice · Massive IoT slice · Mission Critical IoT slice · Other slices

Service intent-driven network enabled by distributed set of network resources

Building tomorrow's digital society, together

"***Our customers are leading the way*** *in the industry's transition to 5G, which will serve as the backbone for a* ***new generation of services****… as such, we have developed the latest version of our Digital Monetization suite to help them monetize the advanced product configurations that 5G enables.*"

Anthony Goonetilleke

Group president, amdocs technology

Thank you