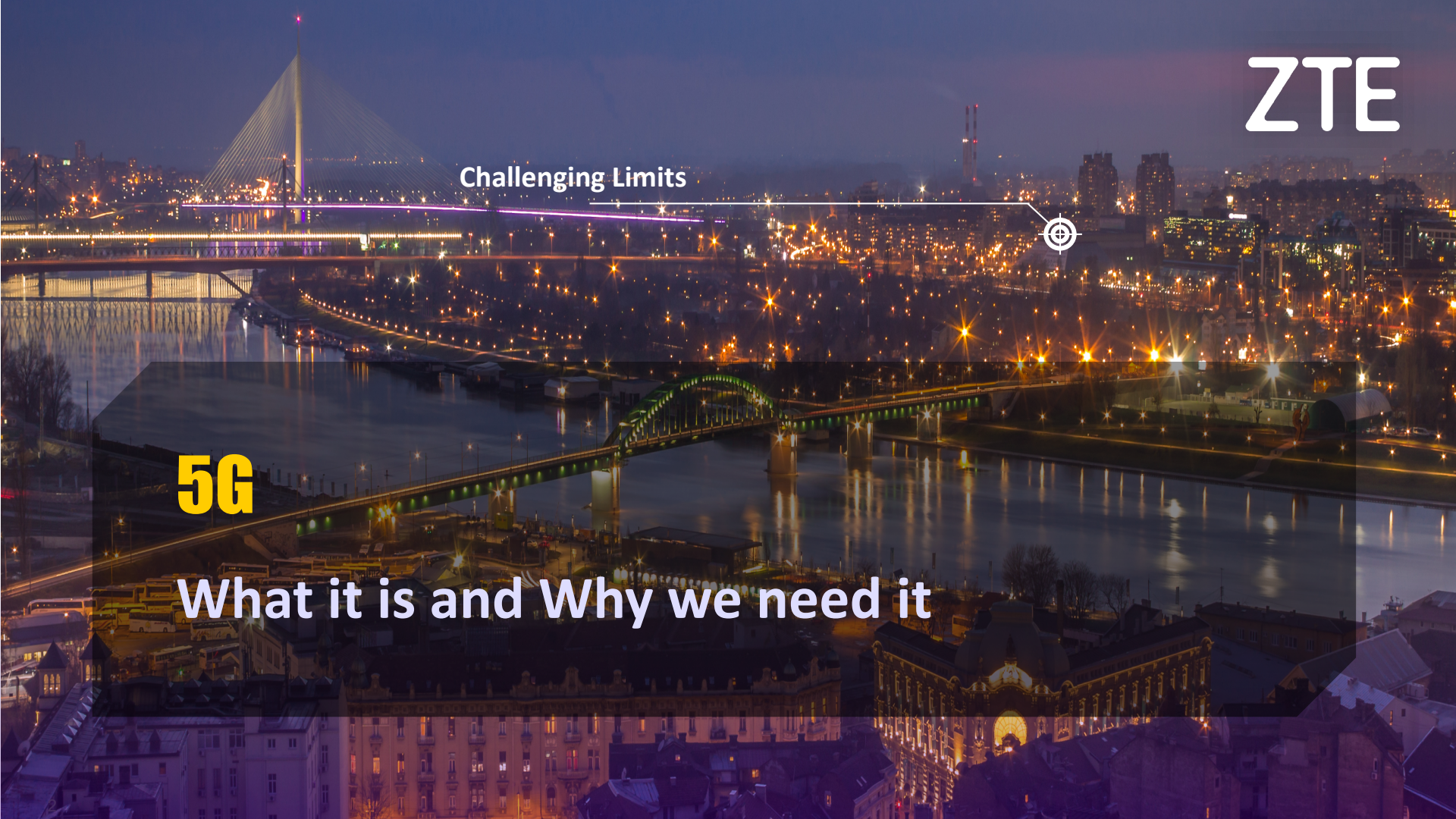
5G is Here and Available

Athens – 6th June 2019

Chris Mulley
ZTE Corporation.
CTO Group


ZTE
Challenging Limits
5G
What it is and Why we need it

Mobile Telecommunication Evolves Every 10 Year

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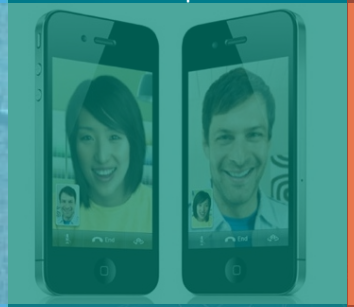
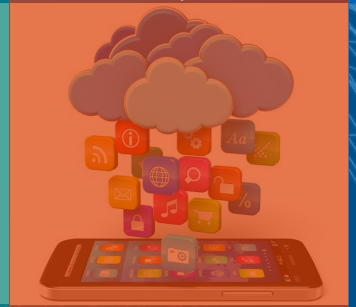
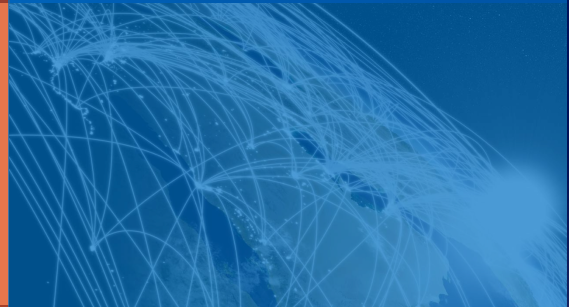
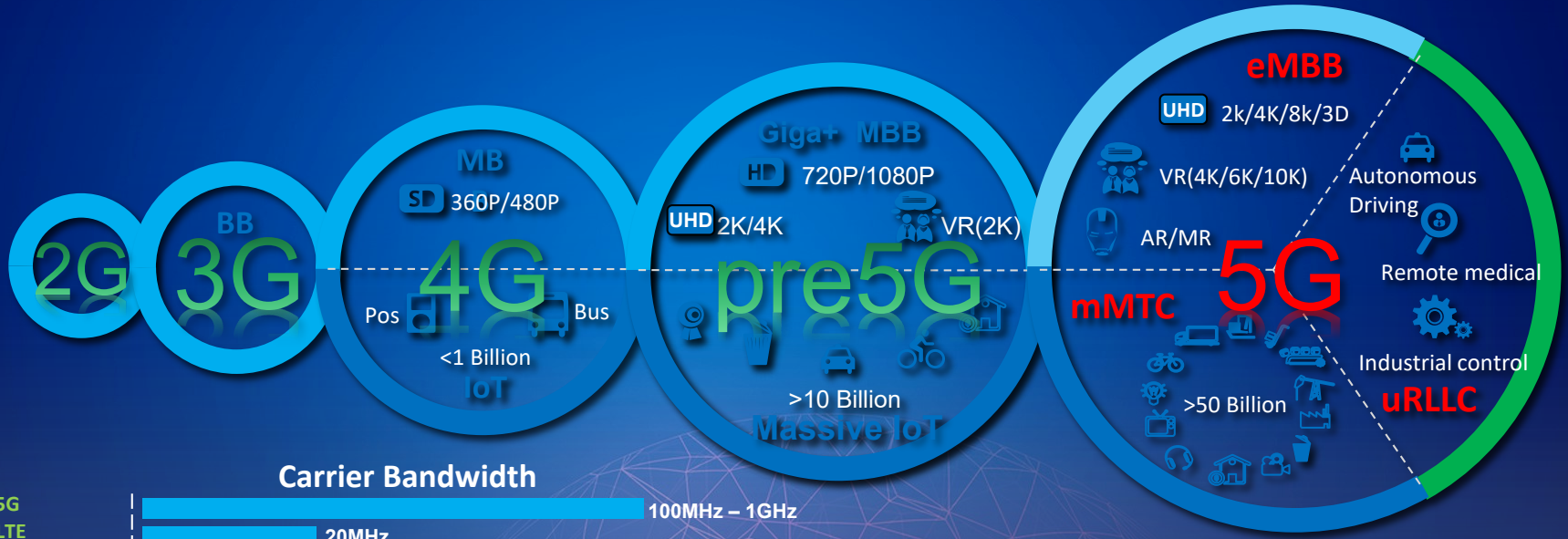
1G	2G	3G	4G	5G
1980	100Kbps 1990	100Mbps 2000	1Gbps 2010	10G+bps 2020
				
Analog Voice	Digital Voice	Internet	Data Dominated	Everything Connected, Mobile Internet

5G is a REVOLUTION

in the TELCO Industry

ZTE



5G Provides the Ultimate Video Experience

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AR/VR and Ultra HD video demand

Commercial time	2016	2018	2020
Resolution	2K	4K	16K
Bandwidth Mbps	25	66	1600+
Latency ms	20ms	16ms	1ms
Computing location	local	local	cloud
Network	4G	Pre5G	5G

- The bandwidth of 4G's tens of megabits/s is far from meeting the bandwidth demand of ultra high-definition video.
- The bandwidth of 5G fits perfectly into the applications of AR/VR, Ultra-HD video, Remote Control, Autonomous Driving.

Retinal level VR live broadcast

More interactive AR/VR games

UHD video remote driving

Data-based industry AR service

Only 5G network can meet the huge bandwidth requirements of AR/VR and Ultra HD video

5G Meets the Needs of Industry 4.0 & Autonomous Driving

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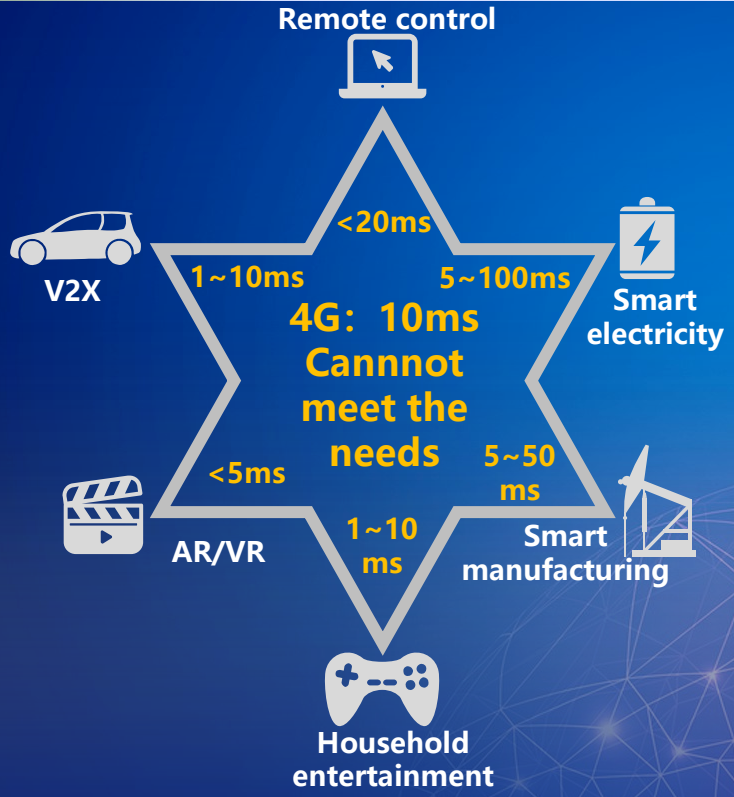

5G: 1ms

No Problem

In many vertical industries the requirements of latency is less than 20ms, the 50ms latency in 4G has become a bottleneck industry development.

The low latency of 5G solves the problem.

Demand for ultra-low latency in vertical industries is growing
Only 5G can promote the technological revolution in these industries.

5G Provides for the Massive Internet of Things

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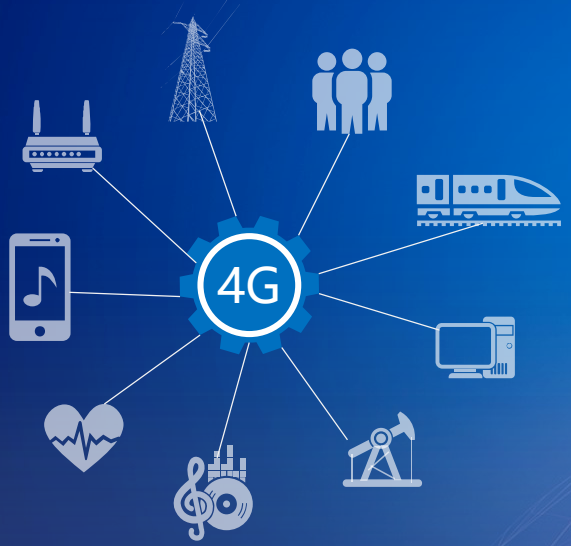
4G: Man to Man Connection



4G connection density: 100k/sqr. km

Massive connectivity

5G: Ubiquitous Connection

5G connection density: 1 million/sqr. km

Internet of Things has promoted a surge in terminal access, and 5G is imperative

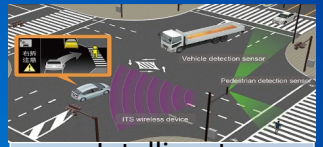
5G Offers New Service Opportunities and Revenue Streams

ZTE

5G will enable all kinds of innovative services, accelerate the digital transformation of vertical industries, explore new business mode and finally realize everything connected digital society.

Smart City

Smart Grid



Intelligent Transport

Remote Control

€

Autonomous Vehicle

AR/VR

Real-time Gaming

Smart Factory

€

5G Drone

4K/8K UHD Video

AR Navigation

Smart Agriculture

The combination of the characteristics of 5G allows for the introduction of a wide variety of revenue generating new services.

ZTE
Challenging Limits
ZTE Corporation
Who we are and What we do

ZTE has developed since the 2G Era To a Leader in the 5G Era

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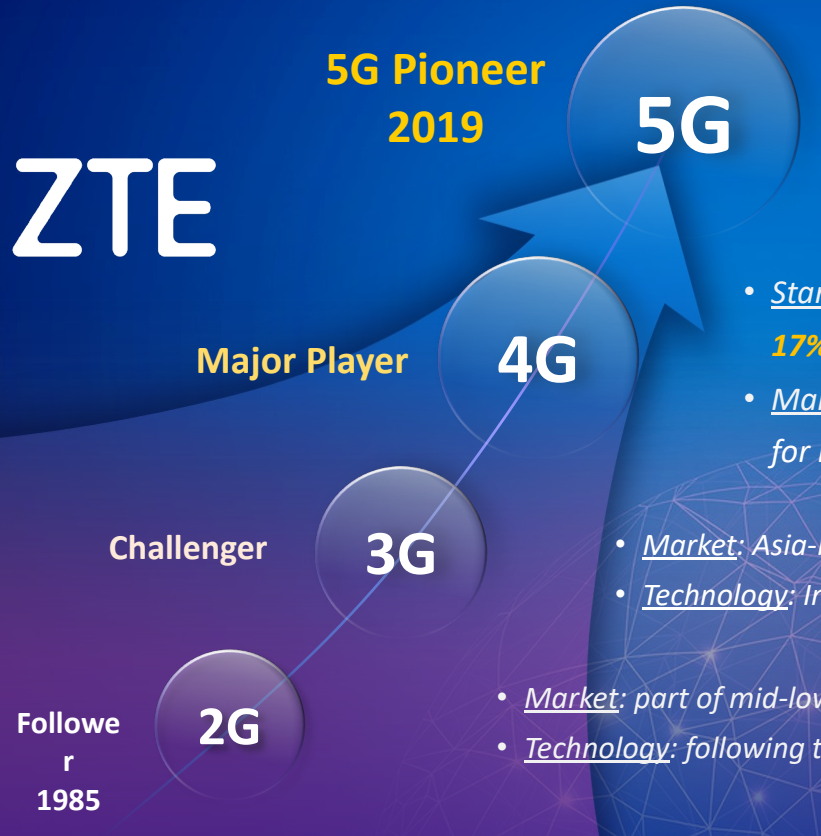


- *Standardization: **Leader seat**, main contributor, core member*
- *Industry cooperation: 5G IA/5GAA/3GPP/ITU-T*

- *Standardization: **815** LTE fundamental patents, **13%** global share & **17%** global share E2E*
- *Market: **25%** of global 4G shipments in 2017, ranked **the leader** for LTE in both 2016 and 2017 by Gartner*

- *Market: Asia-Pacific, Africa and part of Europe, more than 140+ countries*
- *Technology: Innovated SDR leading the industry development direction*

- *Market: part of mid-low end market, mainly in China*
- *Technology: following the industry*

ZTE is a provider of the full End-to-end Architecture for 5G

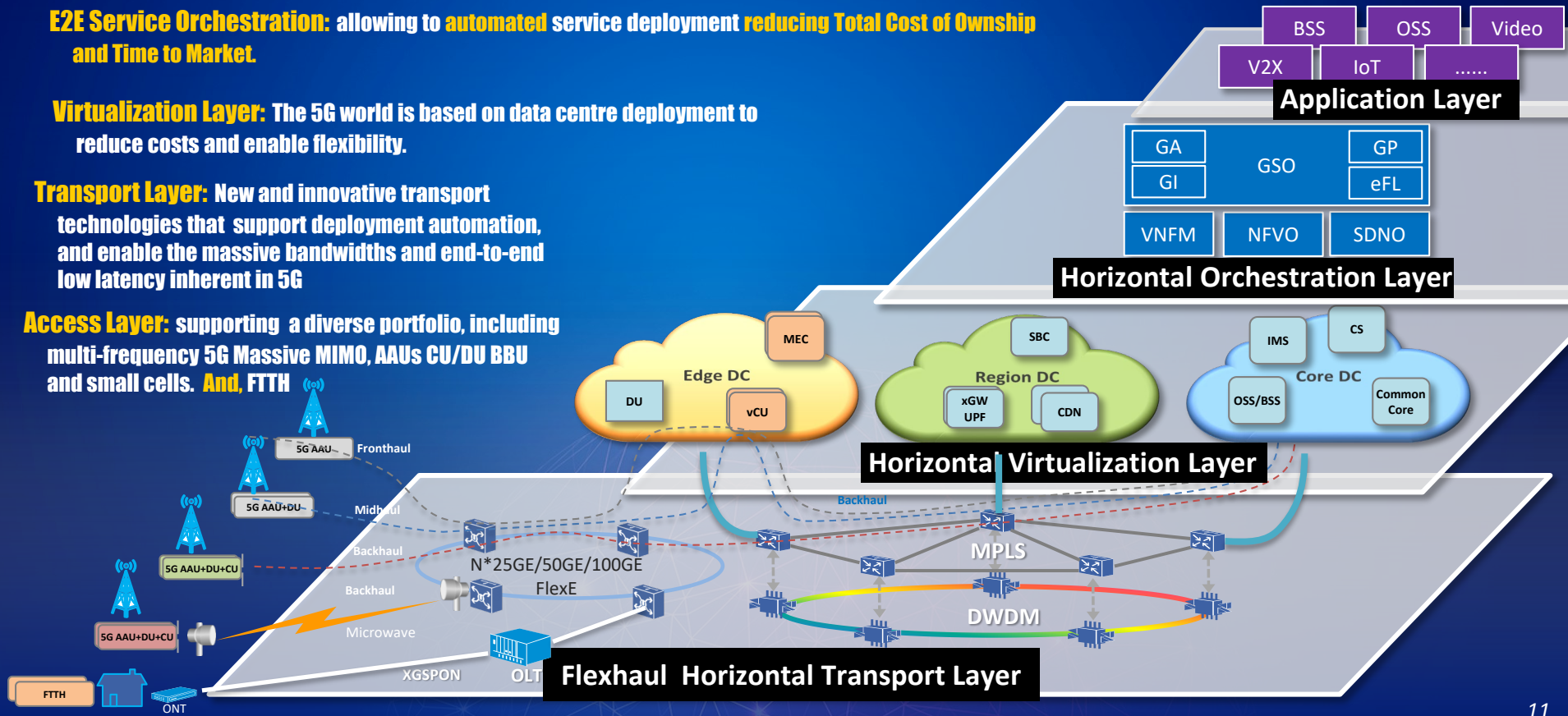
ZTE

E2E Service Orchestration: allowing to automated service deployment reducing Total Cost of Ownship and Time to Market.

Virtualization Layer: The 5G world is based on data centre deployment to reduce costs and enable flexibility.

Transport Layer: New and innovative transport technologies that support deployment automation, and enable the massive bandwidths and end-to-end low latency inherent in 5G

Access Layer: supporting a diverse portfolio, including multi-frequency 5G Massive MIMO, AAUs CU/DU BBU and small cells. And, FTTH



ZTE Promotes the Development & Innovation in Standards

ZTE

50+
Membership in international organizations and forums

40+
Leader seats in standards organizations

67
3GPP reporter seats

800
Experts for 3GPP LTE/LTE-V/ 5G NR domain

815
Fundamental patents of LTE, 13% global share & 17% end to end share

40,000+
International standard proposals/contributions

17,000+
3GPP standard proposals

4,700+
3GPP 5G NR/NexGenCore standard proposals

ZTE Leading in International Standards Development

ZTE Won 6 Awards at the 2018 SDN NFV World Congress

WINNER ZTE

ZTE Common Core
Best New Cloud-Native VNF

ZTE TECS CloveStorage
Best New Open Source Product

ZTE 5G Distributed Cloud Solution
Best New Cloud Infrastructure

ZTE's vBRAS
Best Network Edge

ZTE CloudStudio
Best New Automation & Management

ZTE CO Re-Architecting Solution
Best New Edge & Access Solution

First Mover Advantage, Accelerating the Commercial Process

1st 5G IoDT
@China Mobile + Qualcomm

1st 5G Field First call
@China Mobile

1ST 5G SA Field First call
@China Telecom

1s industry commercial-ready carrier-grade E2E 5G network slice

The first International SA test of Orange

Wind Tre First call

20+5G Cites @ China

20+Global Operator Partners

Europe's Earliest 5G Pre-Commercial Network

Step 1

Lab Test

Step 2

Field Test for NSA

Step 3

Field Test for SA

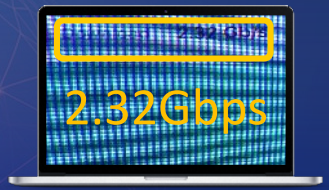
Step 4

Commercialization

Lab: 5G Innovation and Research Center in L'Aquila

Field: 1 in L'Aquila, 1 in Prato

Download
Peak Data Throughput



Thank You