

THE CONNECTIVITY JOURNEY





5G: AN ECONOMIC & POLICY PERSPECTIVE

ALI CHEEMA
GOVERNMENT & INDUSTRY RELATIONS
ERICSSON MIDDLE EAST & AFRICA

MOBILE GENERATIONS ACROSS TIME



The foundation of
mobile telephony

Mobile telephony
for everyone, and
start of packet data

The foundation of
mobile broadband,
and ubiquitous voice

All-IP, mature
mobile broadband

The Network for
the Networked Society,
Broadband everywhere,
for everyone, everything

1G

NMT, AMPS, TACS

~1980

2G

GSM

~1990

3G

WCDMA
HSPA

~2000

4G

LTE

~2010

5G

~2020

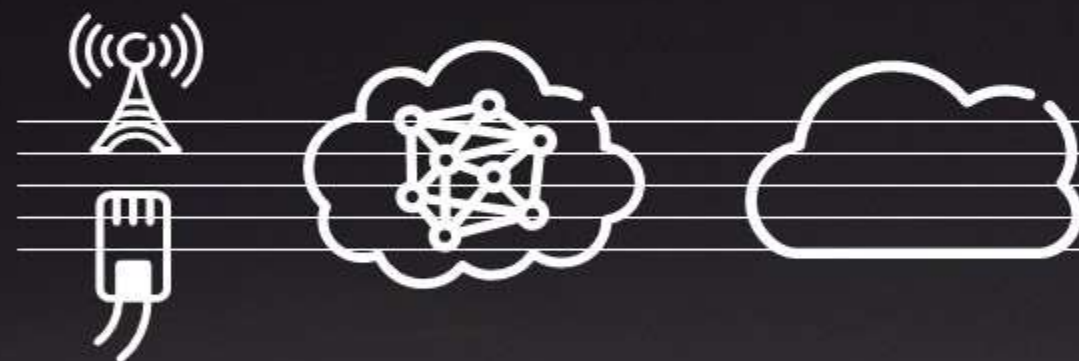
Historically, higher peak data rates, denser infrastructure and more bandwidth have been the hallmark of each mobile technology generation!

Access technologies & new air-interfaces have been the center of attention

5G IS DIFFERENT: IT'S NETWORK PLATFORM



A common Network Platform designed to serve multiple industries and use cases, each with different requirements



Digitalizing industries can be served with dynamic and secure Network Slices

Emphasis as much on network core as on access

5G: THE NETWORK AS A PLATFORM



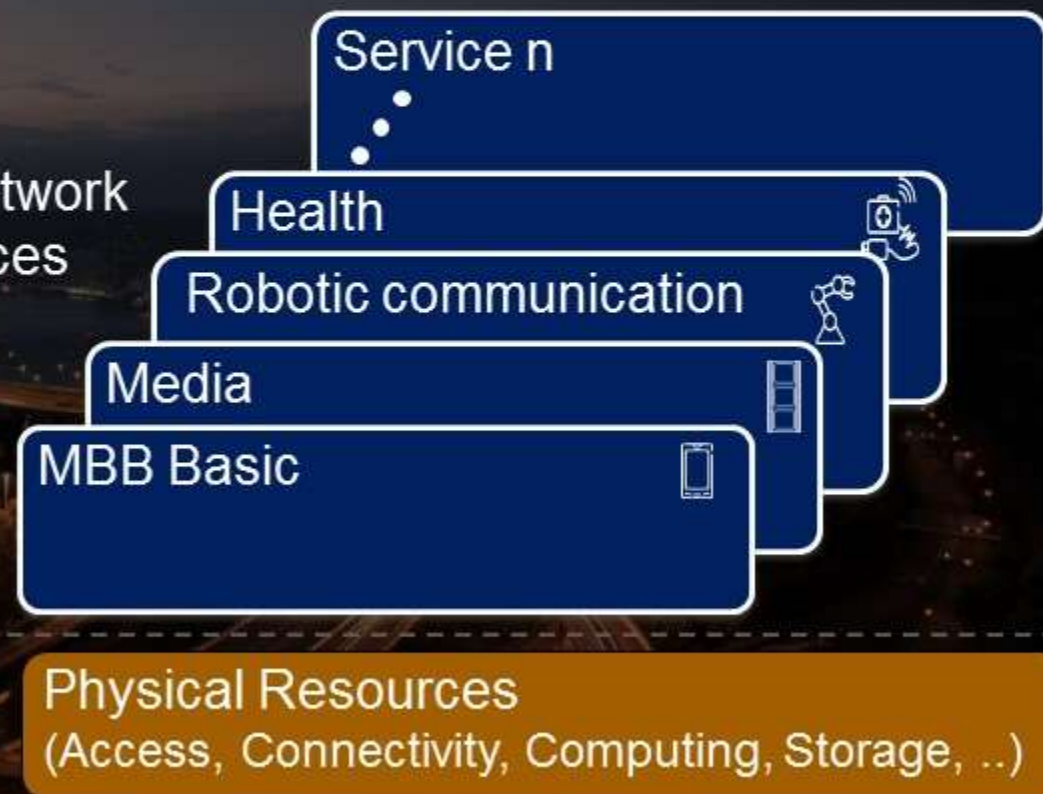
Moving away from dedicated physical networks and resources for different applications



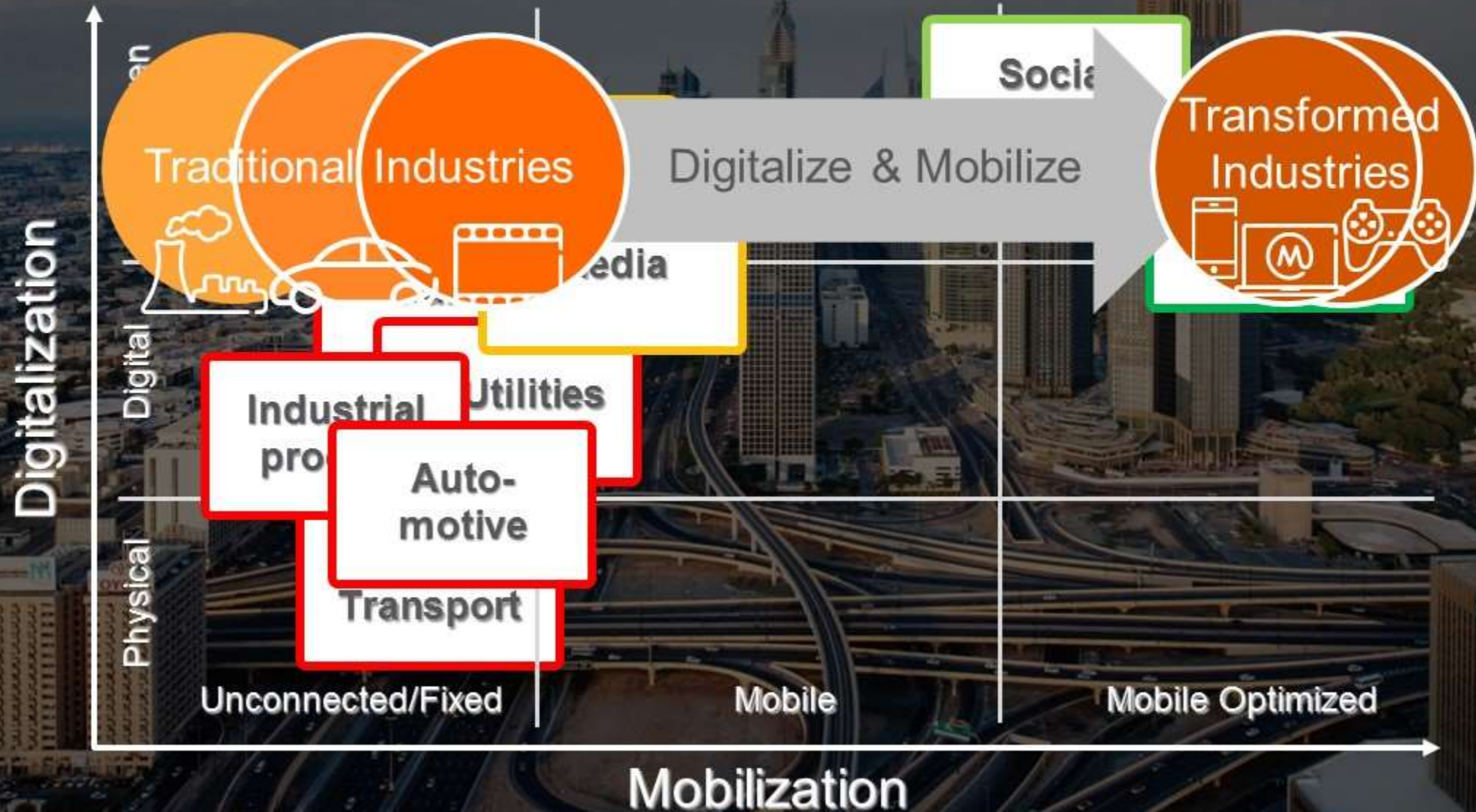
To a “Network Factory” where new networks and architectures are “manufactured by SW”



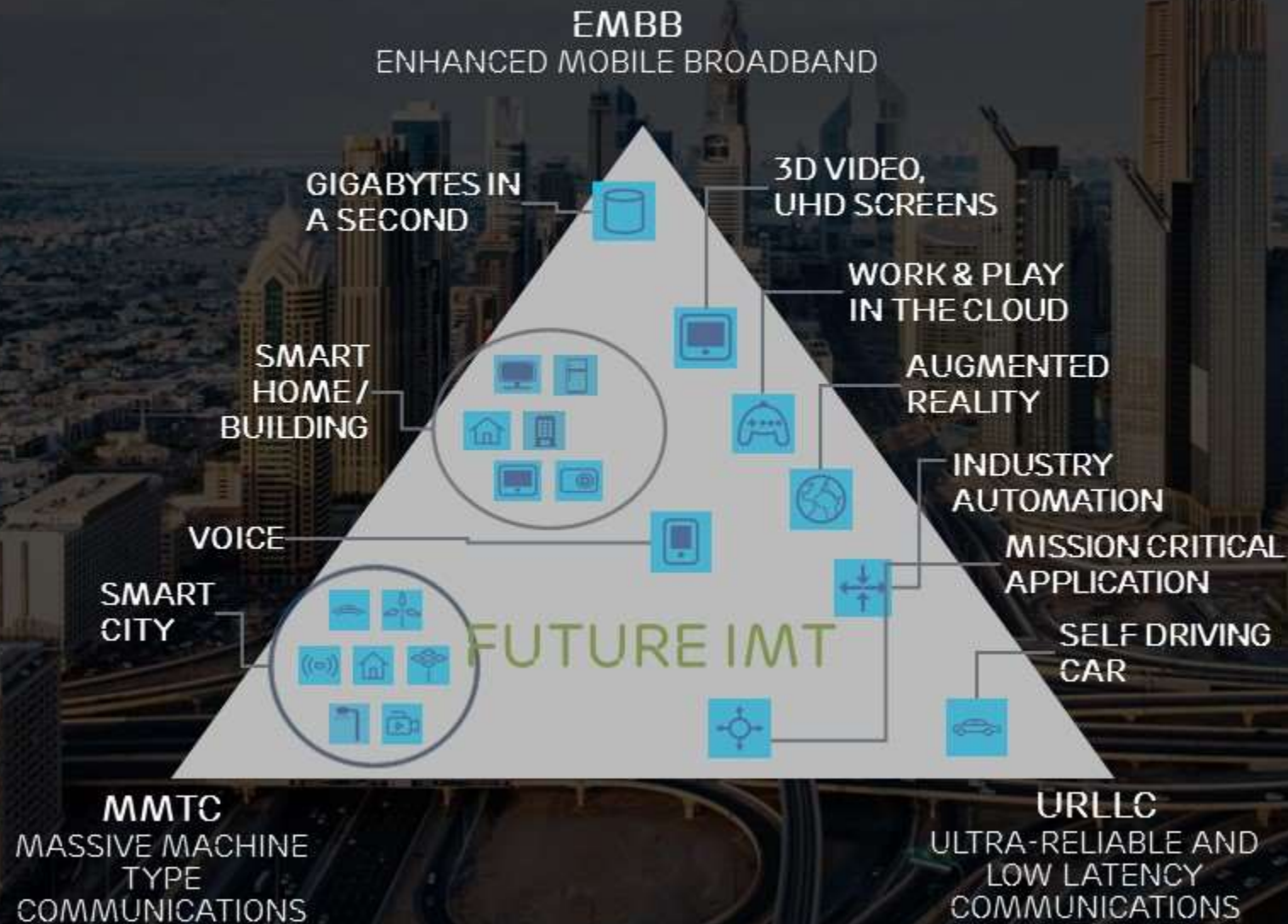
Network slices



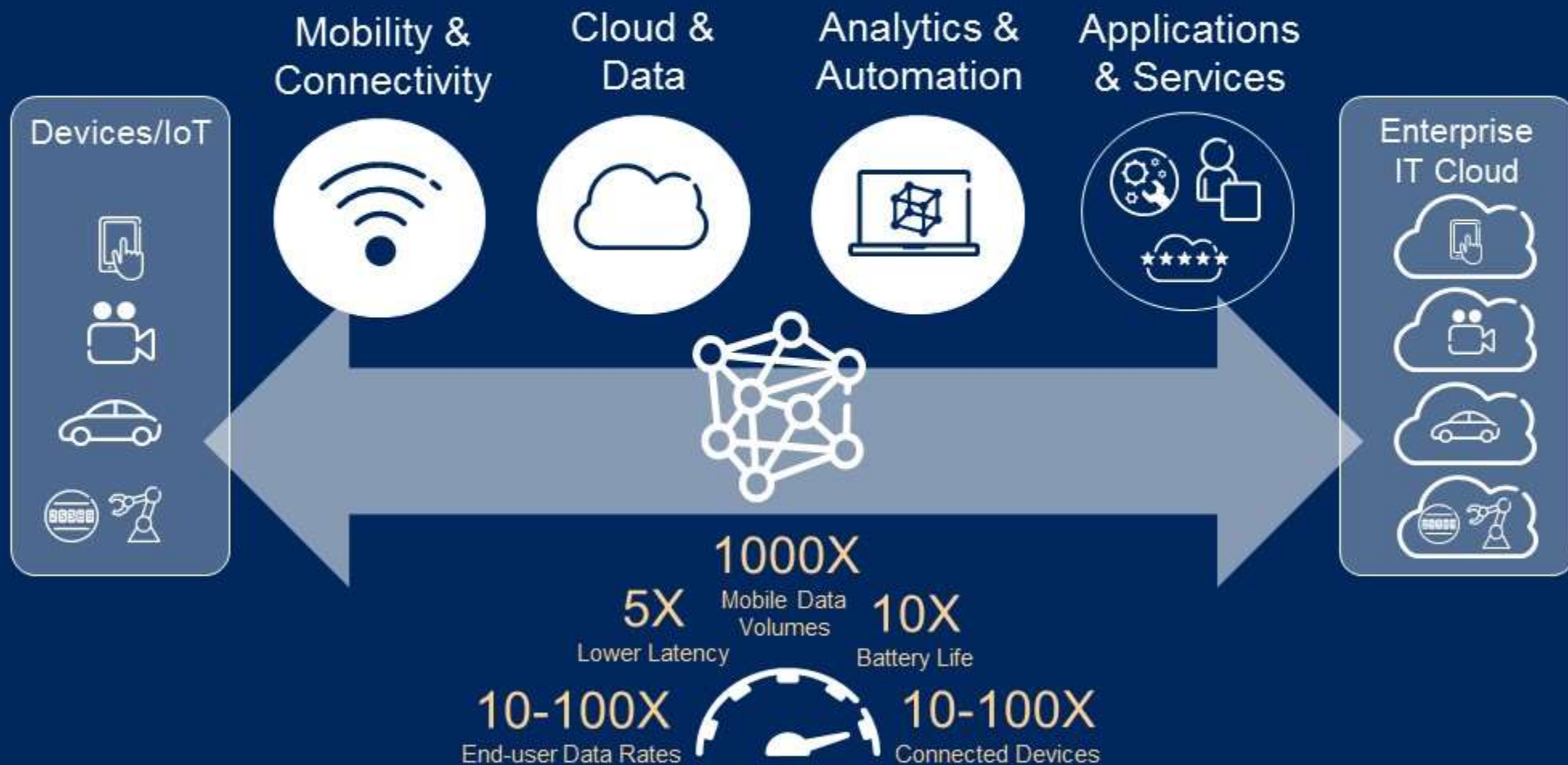
INDUSTRIES IN TRANSFORMATION



5G FRAMEWORK & UBIQUITOUS IMPACT



INCREASED NETWORK RELEVANCE FOR OTHER INDUSTRIES



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

MACHINE TYPE COMMUNICATIONS



Critical Communications

Massive Communications

← Extreme availability

<5ms e2e delay
99.999% transmission reliability
500Kmph relative velocity

>10yrs battery lifetime
>80% cost reduction
20dB better coverage

→ Scalability and flexibility



Intelligent Transport Systems



Connected Sensors

Autonomous Cars



Process Control



Energy Meters



Logistics Tracking



THE KEY RADIO COMPONENTS



Flexible and scalable design

Spectrum

Deployment

Use cases

Extension to higher frequencies



Licensed and unlicensed spectrum

Ultra-lean design

Minimize network transmissions
not directly related to user data delivery

Multi-antenna
transmission

Multi-site
connectivity

Flexible
PHY

System control

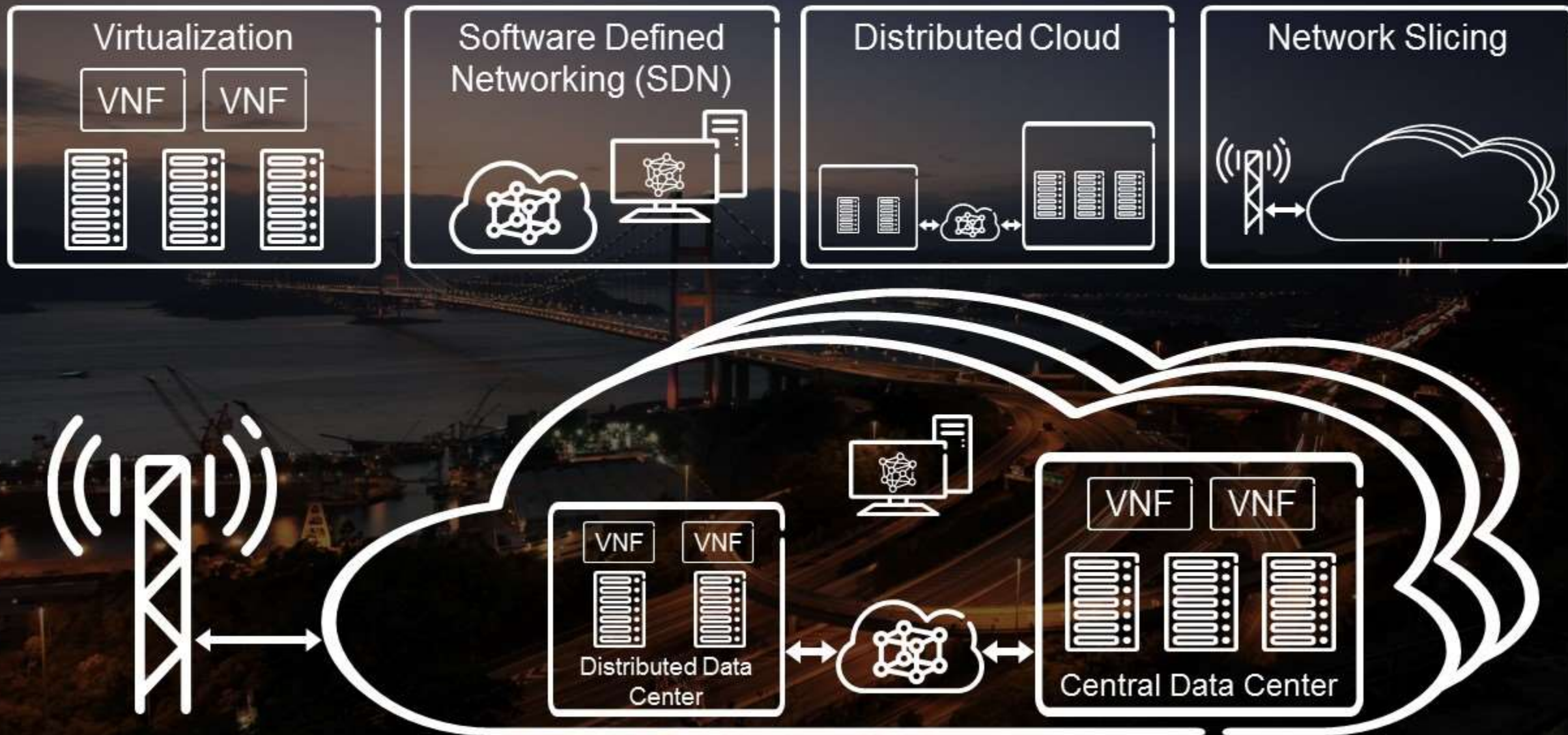
Common
system plane

Access/backhaul
integration

Integrated
D2D



THE KEY CORE COMPONENTS



WIRELESS ACCESS & SPECTRUM



Spectrum flexibility

Flexible duplex

FDD and TDD
Dynamic TDD
Full Duplex

Spectrum sharing

Unlicensed
Shared licensed

*Complementing dedicated
licensed spectrum*

Significant effort required regionally and globally for the required New Spectrum

SPECTRUM APPROACH

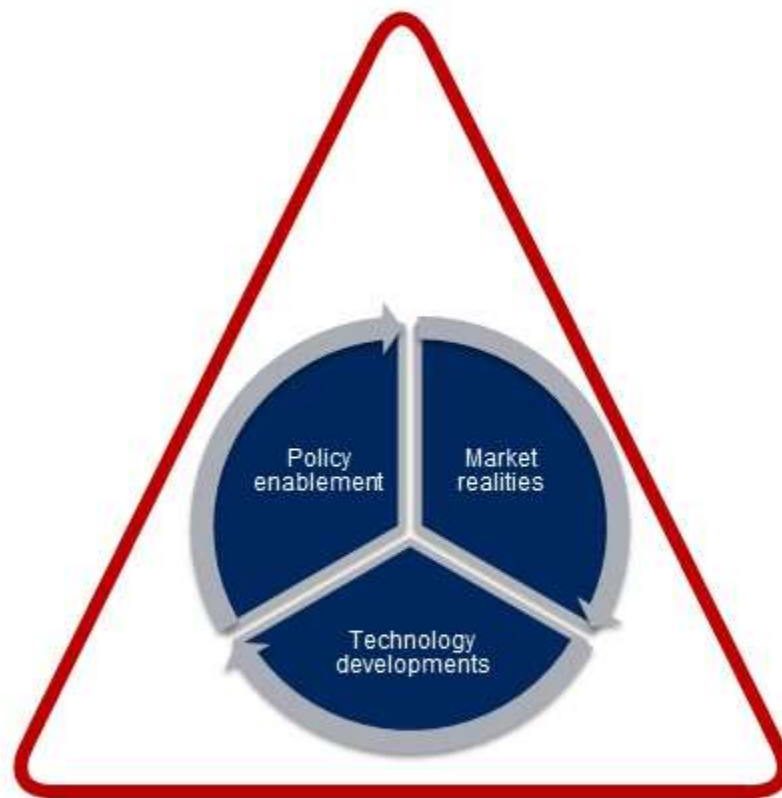


- › Global & regional harmonization of spectrum is key
- › More licensed spectrum bands to be added
- › Capacity and Coverage considerations for bands eg. LTE-A vs NB-IoT
- › Complement licensed (anchor) with unlicensed bands eg. LAA

PARTING THOUGHT



Technology



Policy

Markets

MUTUAL INTERDEPENDENCE: TECHNOLOGY CANNOT DO IT ALONE

SPECTRUM IS THE LIFEBLOOD OF ALL THAT IS MOBILE

WHY POLICY MAKERS NEED TO ACT



Technology can't
do it alone



Must be backed
by resilient &
adequate policy



Policy choices shape the
size and sustainability of
net benefits



Spectrum availability
and regulatory
certainty are critical



Benefits are not
automatic



There are also policy
structures that must
be addressed



OPERATOR PARTNERS



GLOBAL

SIGNED 5G OPERATOR AGREEMENTS

*As of March 2017

Innovation

Ericsson Business Labs & Garage's





ERICSSON