

# OPPORTUNITIES IN A NETWORKED SOCIETY



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IN THE NETWORKED SOCIETY  
PEOPLE, KNOWLEDGE, DEVICES,  
AND INFORMATION ARE  
NETWORKED FOR THE GROWTH OF  
SOCIETY, LIFE AND BUSINESS.

# THE NETWORKED SOCIETY



DEVICES

NETWORK

CLOUD

SERVICES

# TECHNOLOGY TRENDS



1 B smart-phones and innovation diversity in M2M platforms & use cases

Analytics & insights from data assets (both open data and closed) needed in enterprise and public sectors, but operator reluctant to share data

Video and OTT services dominating in telecom networks today. Voice & SMS declining

Traffic and reduced cost per bit drive cloud & network technology flexibility

High focus on energy and CO<sub>2</sub> and main socio-economic trends are urbanization and resource scarcity

Disruption due to ICT starts to happen in utilities, city governance & public safety and automation

Cyber security is high on political agendas and privacy a growing concern

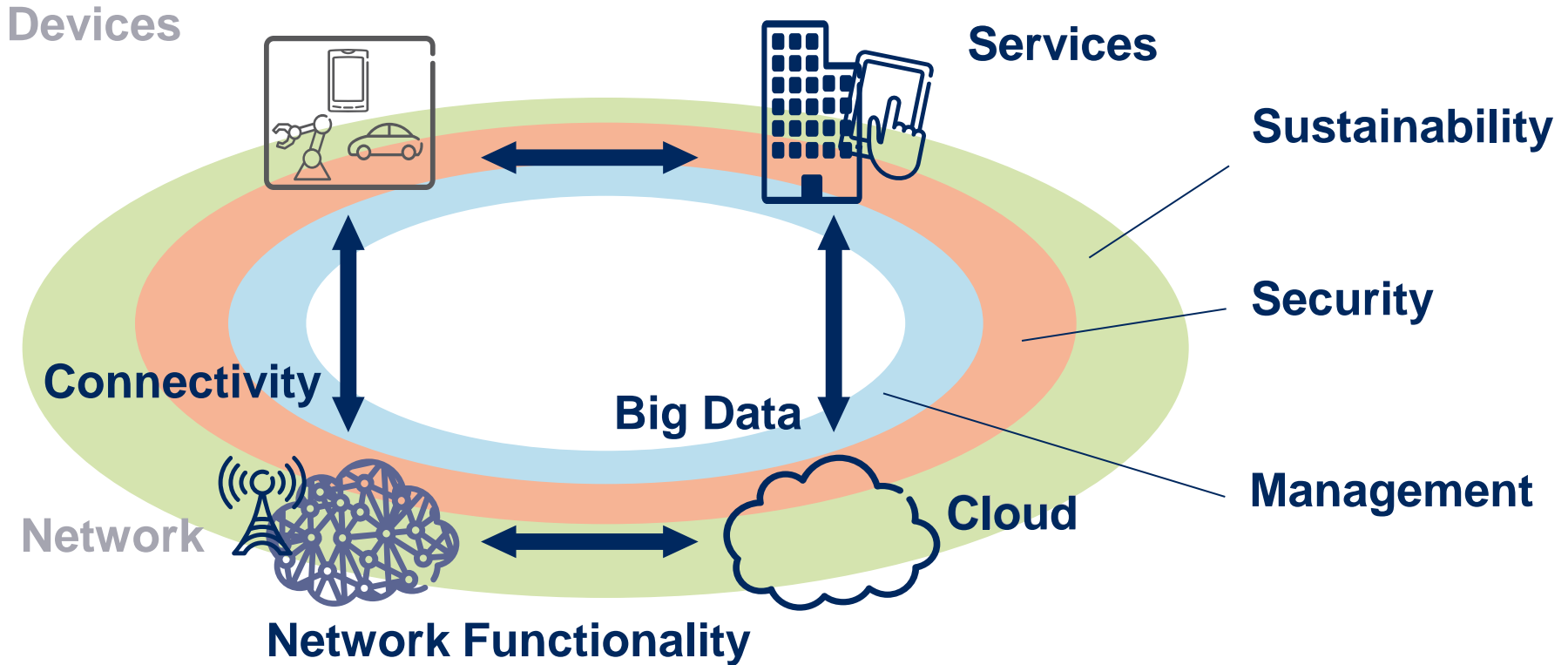
# DEMANDING USE CASES



- › High demanding crowds – emergency, stadiums, events
- › Transportation-as-a-Service – automation, tracking
- › Virtual environments – for less transportation
- › High demanding government/enterprise services mixed with lower priority services
- › Management of networks and things
- › Assisted living – smart homes and buildings
- › Resilience against physical or cyber attacks targeting the network
- › Automation, control, logistics in process and manufacturing



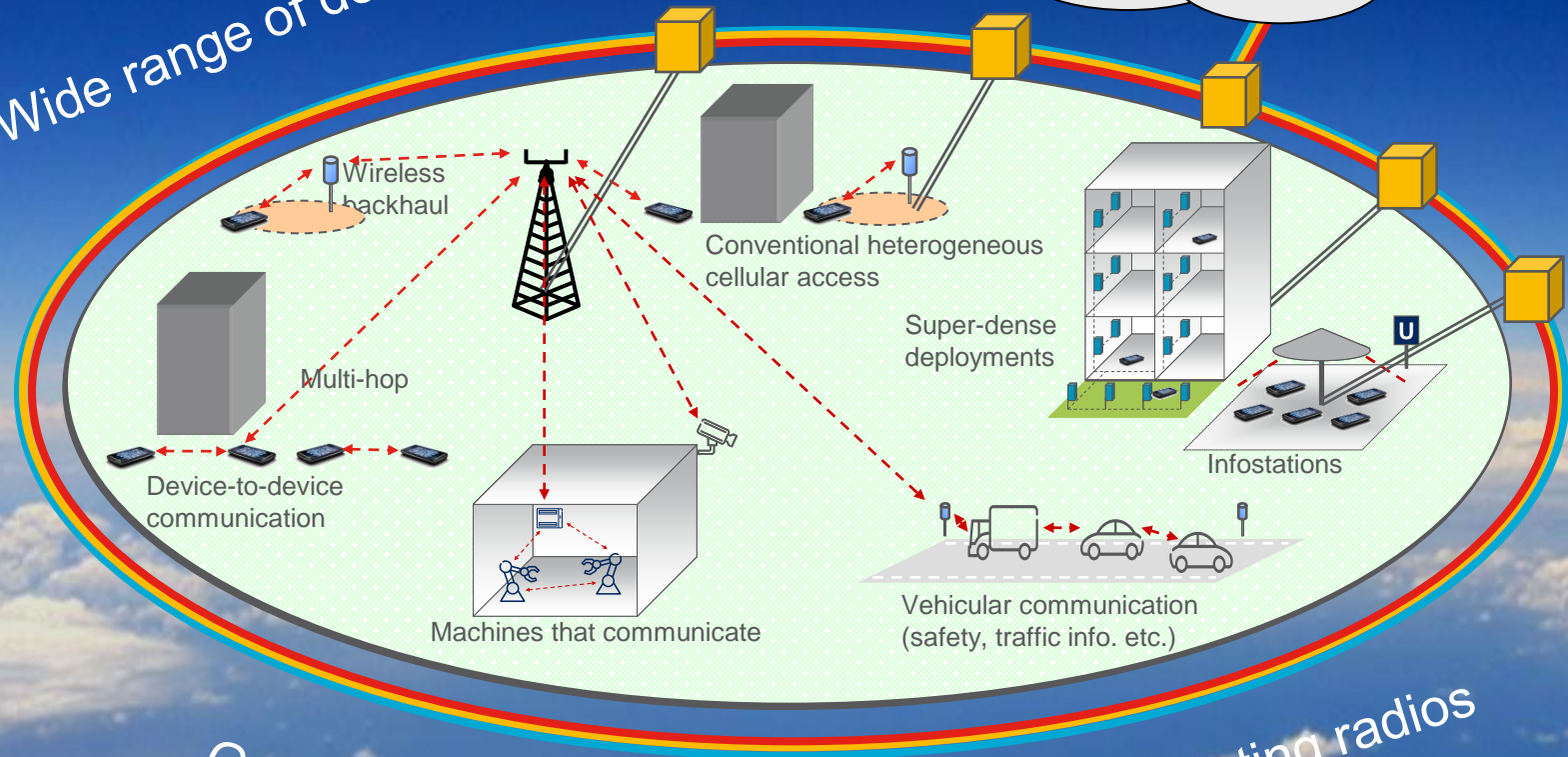
# THE NETWORKED SOCIETY



# CONNECTIVITY



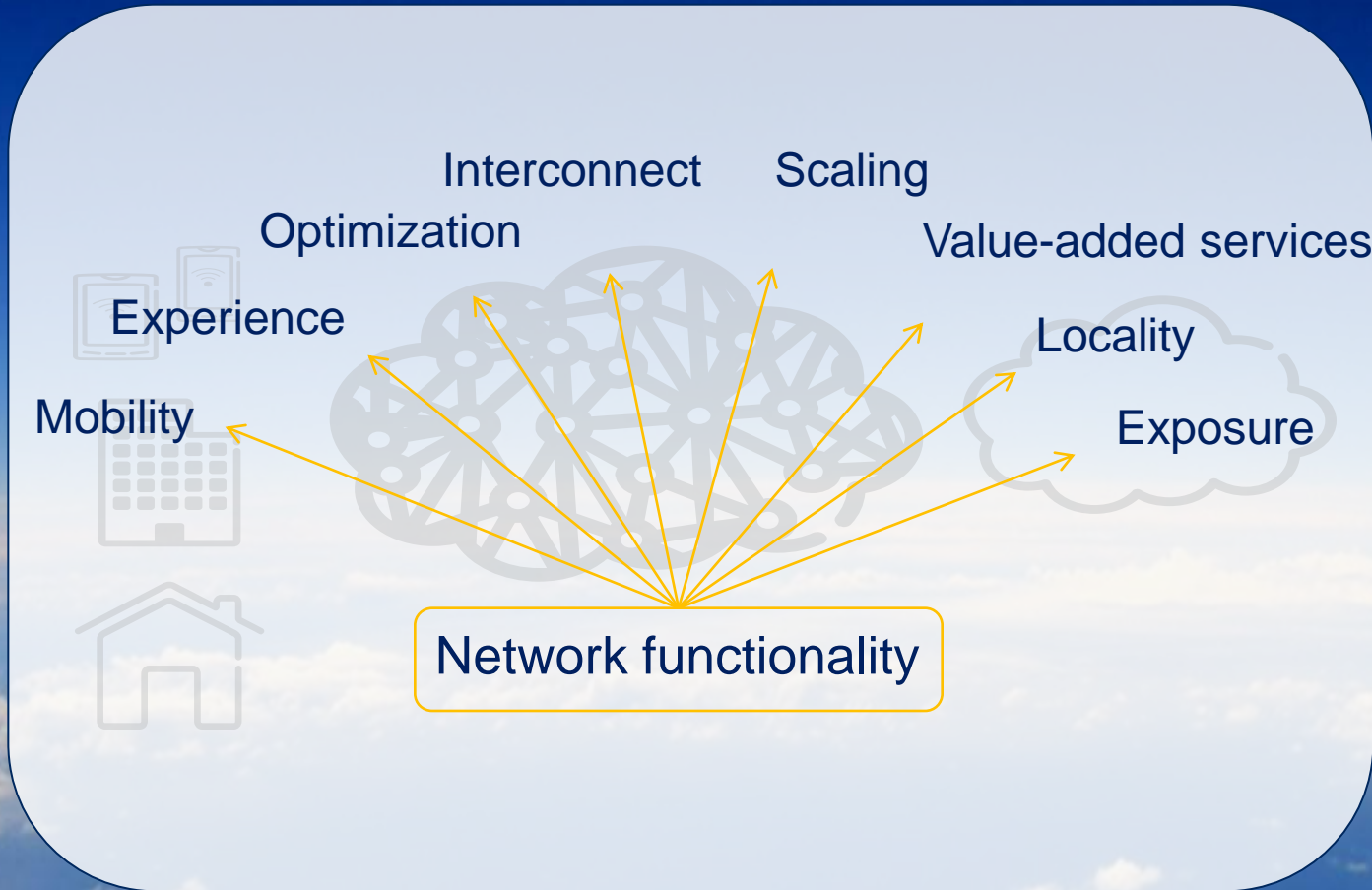
Wide range of devices



Gateways

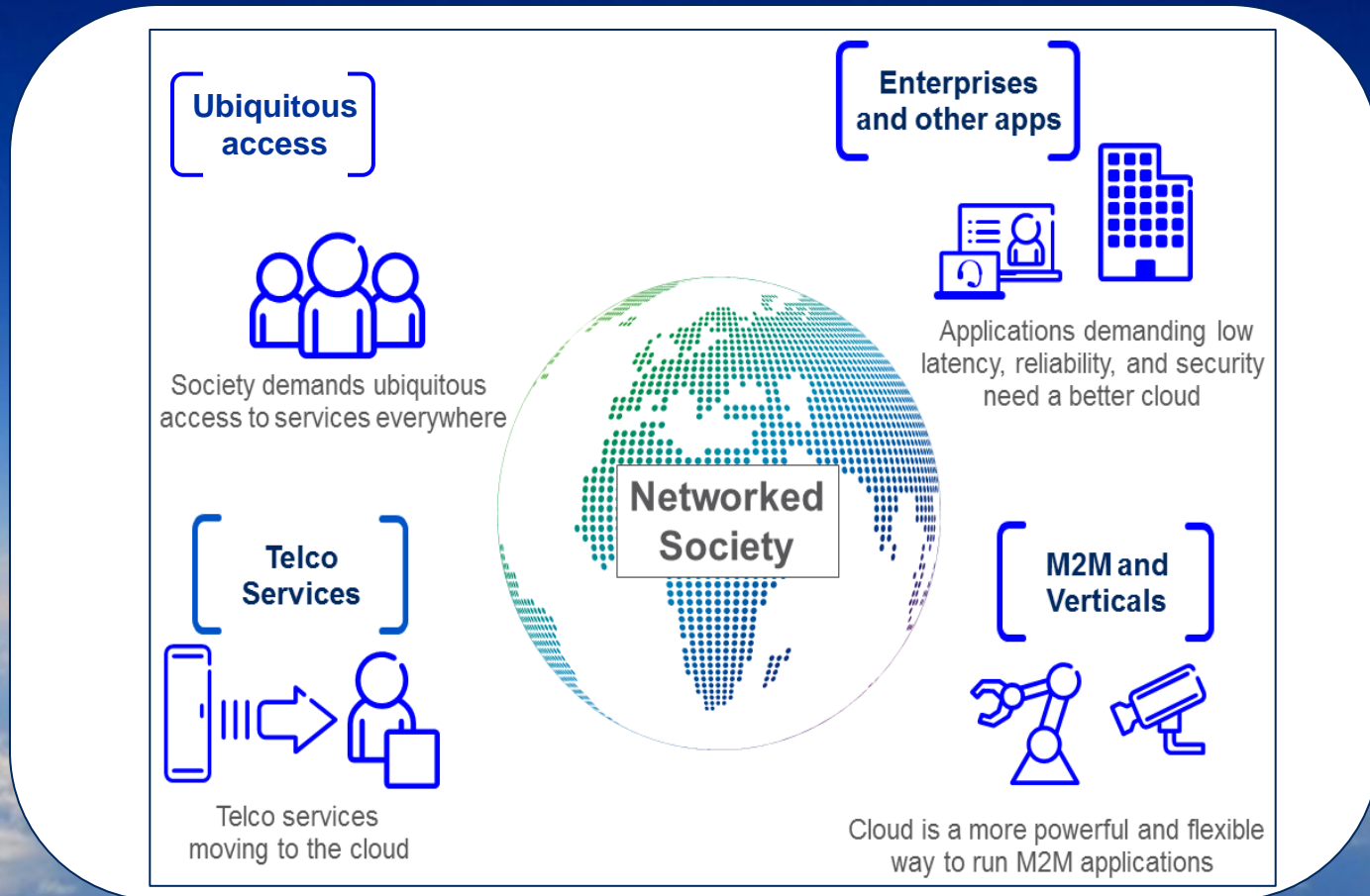
Complementing radios

# NETWORK FUNCTIONALITY

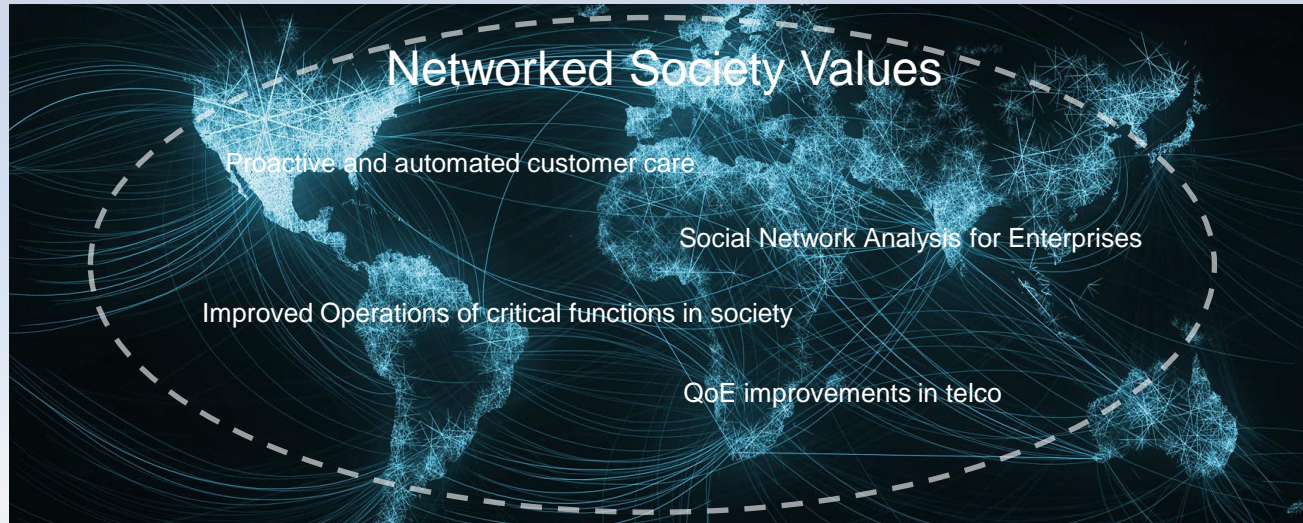




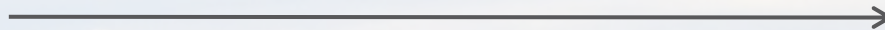
# CLOUD



# BIG DATA ANALYTICS



Big Data



Big Insight



Sources  
Volumes  
Speed



Descriptive  
Predictive  
Prescriptive



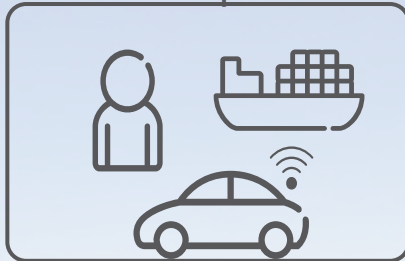
Visualize  
Interact  
Act

# SERVICES

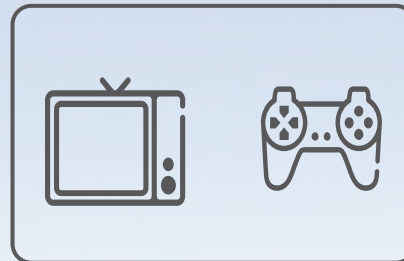


## Services

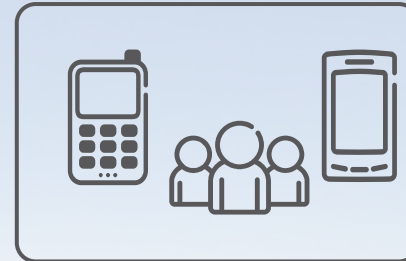
Transport



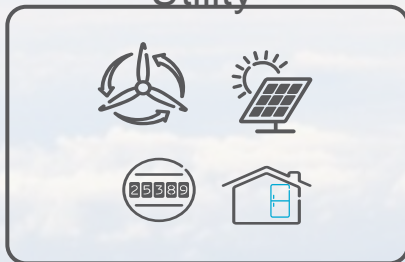
Media



Evolved com



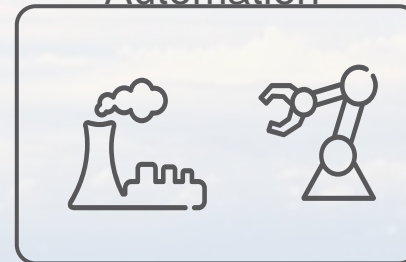
Utility



Authority



Automation



# SUSTAINABILITY



Environmental



Business

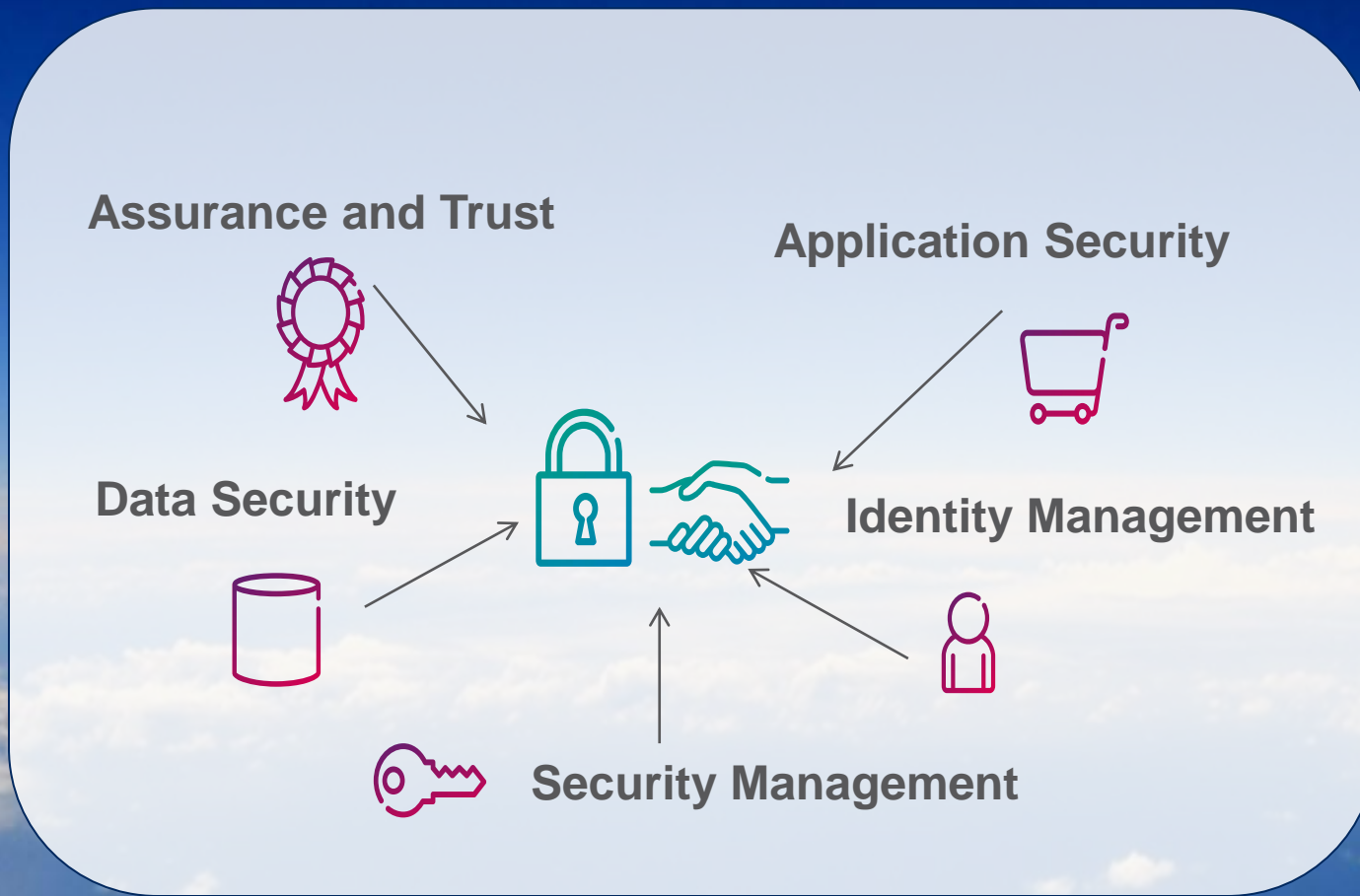


Socioeconomic

THE SUSTAINABLE  
NETWORKED SOCIETY



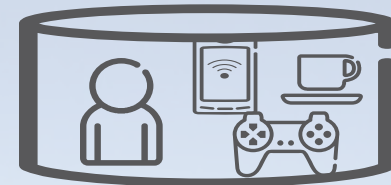
# SECURITY



# MANAGEMENT



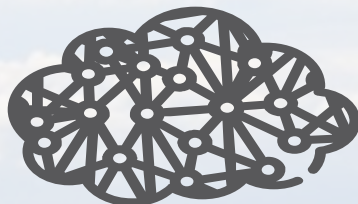
Applications



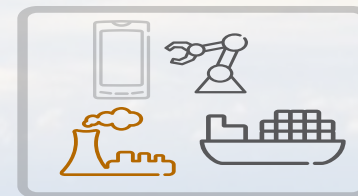
Devices



Cities



Networks



Enterprises



# 5G FOR THE NETWORKED SOCIETY BEYOND 2020

# KEY CHALLENGES



## Massive growth in Connected Devices

Massive amount of  
communicating machines

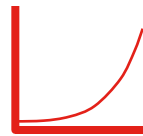


“50 billion devices”

## Massive growth in Traffic Volume

Further expansion of  
mobile broadband  
Additional users and  
increased usage

Additional traffic due to  
communicating machines



“1000 times in ten years”

## Wide range of Requirements & Characteristics

Multi-Gbps in  
specific scenarios  
Tens of Mbps  
almost everywhere

New requirements and  
characteristics due to  
communicating machines

*Very low latency*  
*Ultra-high reliability*  
*Extreme battery life*



***Affordable and sustainable***

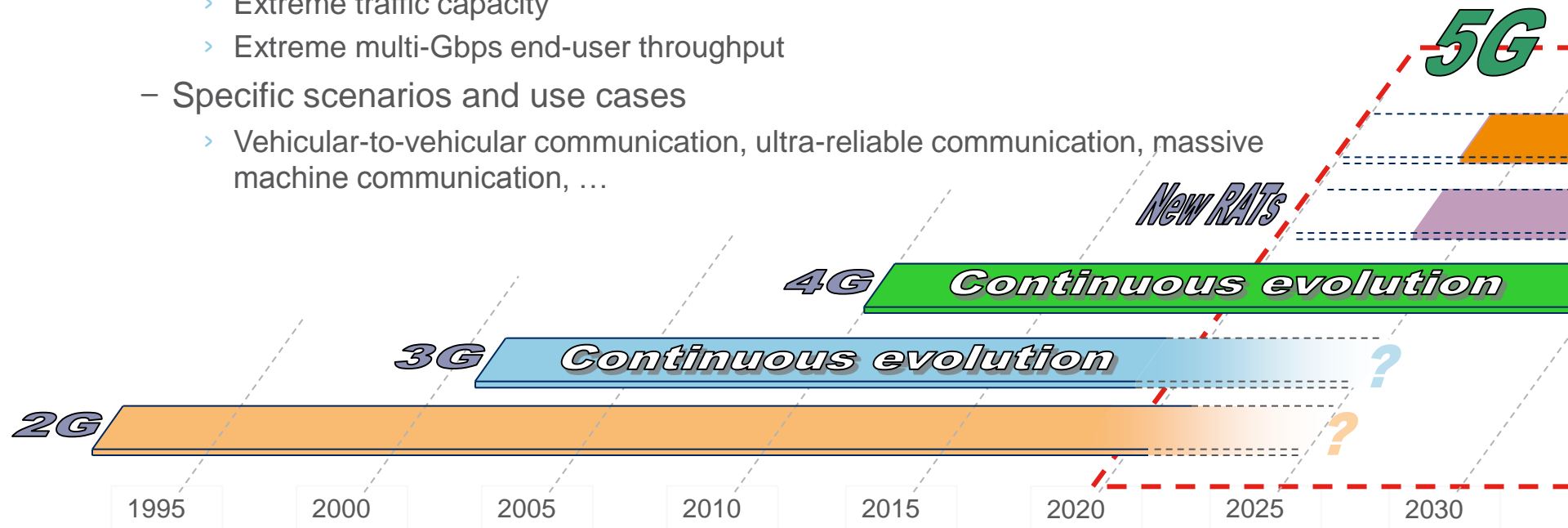




# 5G IS 4G + COMPLEMENTING RADIO ACCESS TECHNOLOGIES



- › HSPA and LTE will continue to evolve and remain main-stream mobile-broadband technologies well beyond 2020
- › Will extend to new usage scenarios and use cases
  - Extreme mobile broadband targeting ultra-hotspot scenarios
    - › Extreme traffic capacity
    - › Extreme multi-Gbps end-user throughput
  - Specific scenarios and use cases
    - › Vehicular-to-vehicular communication, ultra-reliable communication, massive machine communication, ...





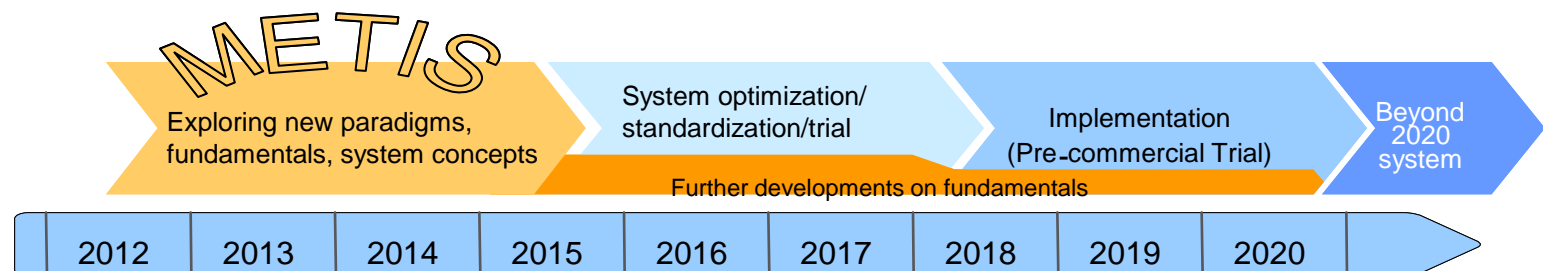
PAVING THE WAY...



# ERICSSON LEADING PRE-INDUSTRY ALIGNMENT



- › METIS = **M**obile communications **E**nablers for **T**wenty-twenty (2020) **I**nformation **S**ociety
- › **FP7 IP** (26 partners, ~200MY) **initiated and led by Ericsson**
  - ALU, NSN, Huawei, Nokia, FT, DoCoMo, DT, TI, Telefonica, BMW, Elektrobit, CTH, KTH, UoA, Oulo, Aalborg, ...
- › Budget: 27 M€ where **15.885 M€ is funded**
- › Form **consensus for communication solutions beyond 2020**
- › Ensure **European leadership**
- › Phase 1 (30 months) **started in November 2012**



# SUMMARY



- › The networked society will be built on Devices, Network, Cloud and Services
- › Horizontal enablers are needed to support scale
- › Connectivity is the foundation for the networked society
- › 5G research has started with the networked society in focus



**ERICSSON**