6G Overview

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Mobile Industry Evolution

1,000,000×

Data speed increase in 30 years

1G
Local voice calls

2G
Global voice calls and SMS

3G
Mobile broadband

4G
App economy

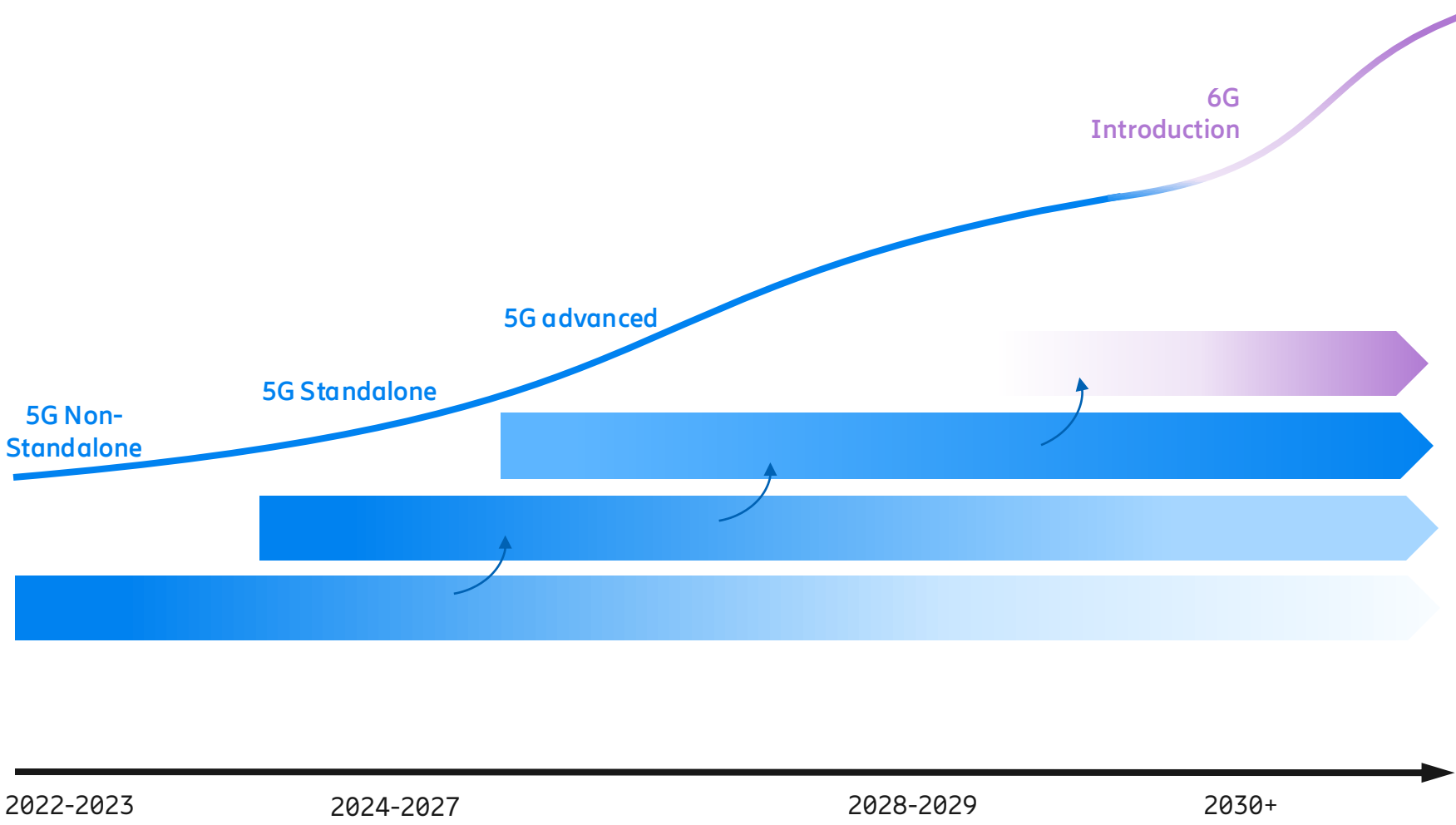
5G
Digitalization of societies and industries

6G
Cyber-physical world

1980 1990 2000 2010 2020 2030

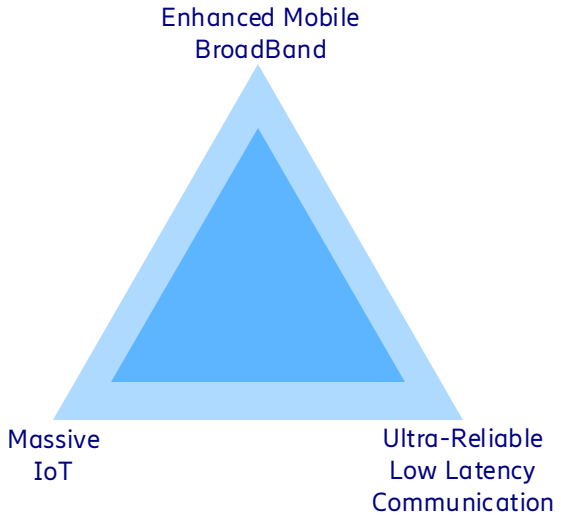
Journey to 6G

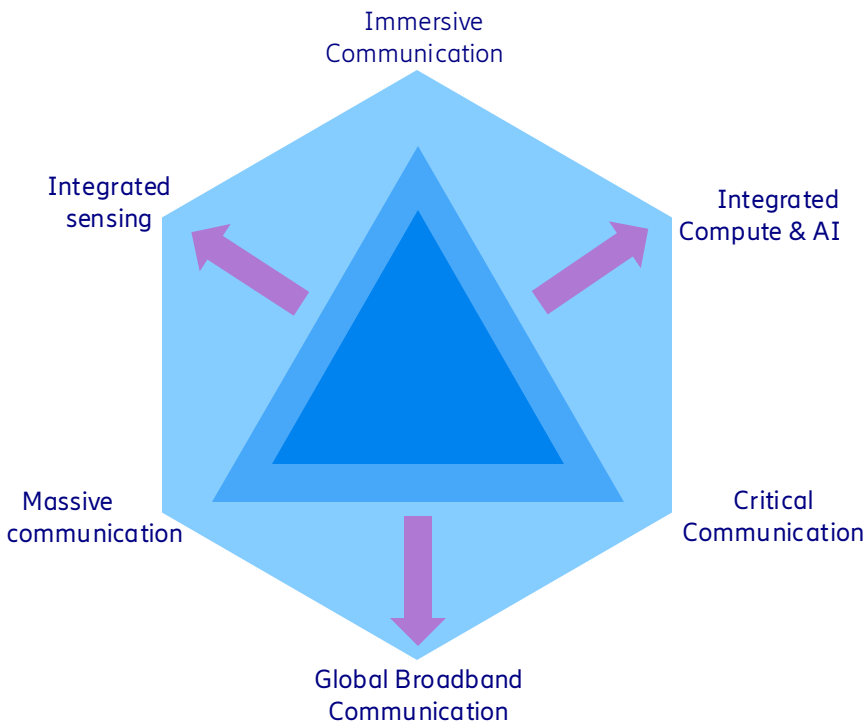
Starts with deployments of 5G Standalone



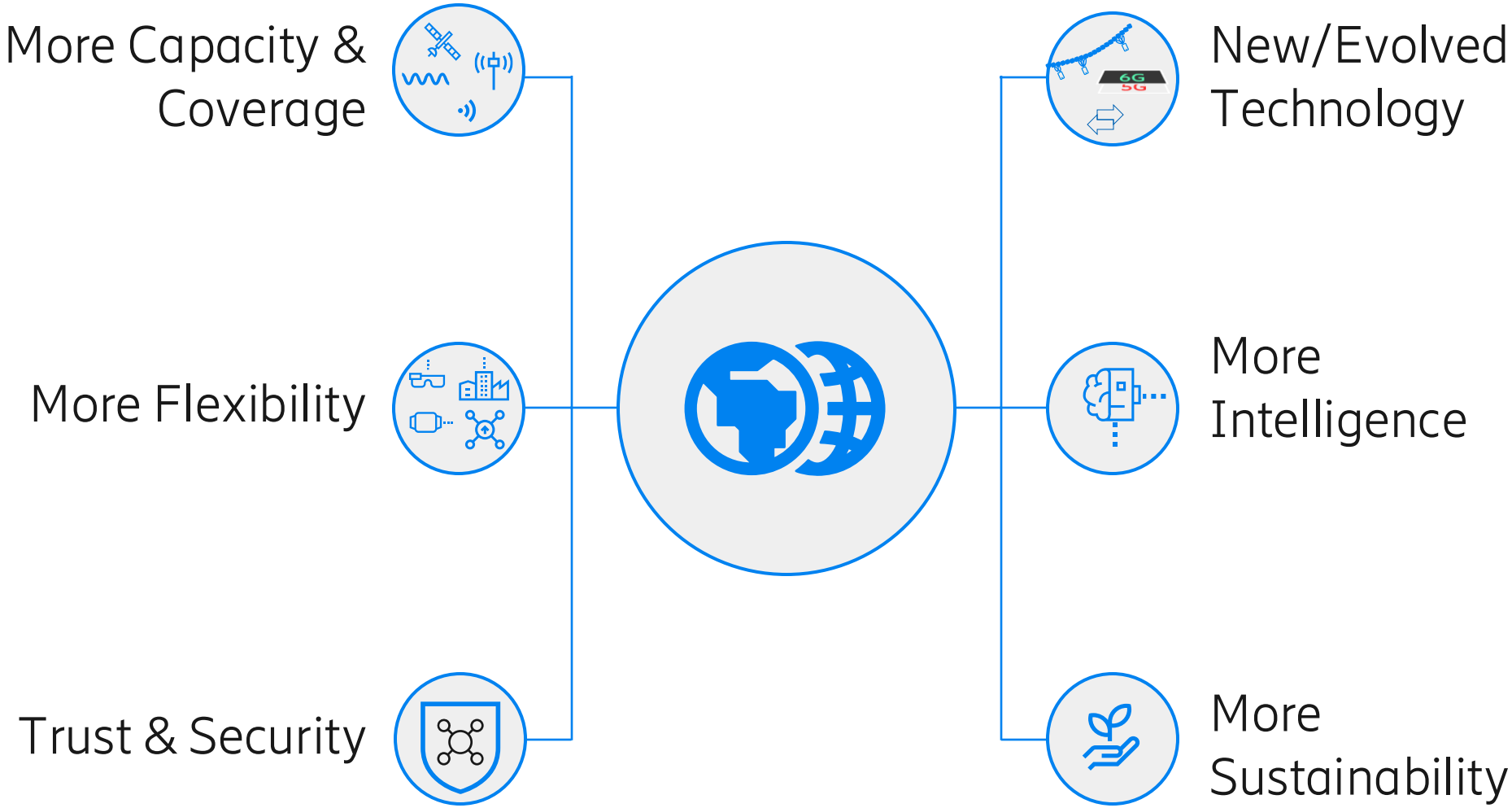
- Step-wise technology adoption
- Build on 5G
- Smooth migration from 5G->6G
- Strong foundation for continued evolution

What is 6G?


Enhanced Mobile
BroadBand
Massive
IoT
Ultra-Reliable
Low Latency
Communication


Immersive
Communication
Integrated
sensing
Integrated
Compute & AI
Massive
communication
Critical
Communication
Global Broadband
Communication

What can 6G bring to the Networks of 2030



What can we do with 6G?

For Consumers, Society, Industries in 2030+

Massive Merged Reality
- Immersive XR for Mass Market -

Global Broadband
- 100% coverage -

Massive Digital Twinning
- Data Collection & Modelling -

Autonomous Mobility
- Smart Transport -

Resilient Connectivity
- Priority Emergency Communication -

Spatial Data Engine
- Coordinate-based Data Exposure -

6G use cases and technologies

Massive Merged Reality
- Immersive XR for Mass Market -

Autonomous Mobility
- Smart Transport -

Much better energy performance

Native AI & intelligent automation

More data, faster upload/download

Predictable and guaranteed services

Integrated Sensing & Spatial Locating

Evolved Differentiated connectivity and APIs

Massive numbers of devices – more device types

Wide Area XR, Massive IoT, Zero energy sensors

Global Broadband
- 100% coverage -

Resilient Connectivity
- Priority Emergency Communication -

Massive Digital Twinning
- Data Collection & Modelling -

Spatial Data Engine
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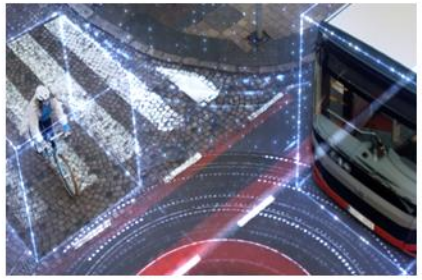
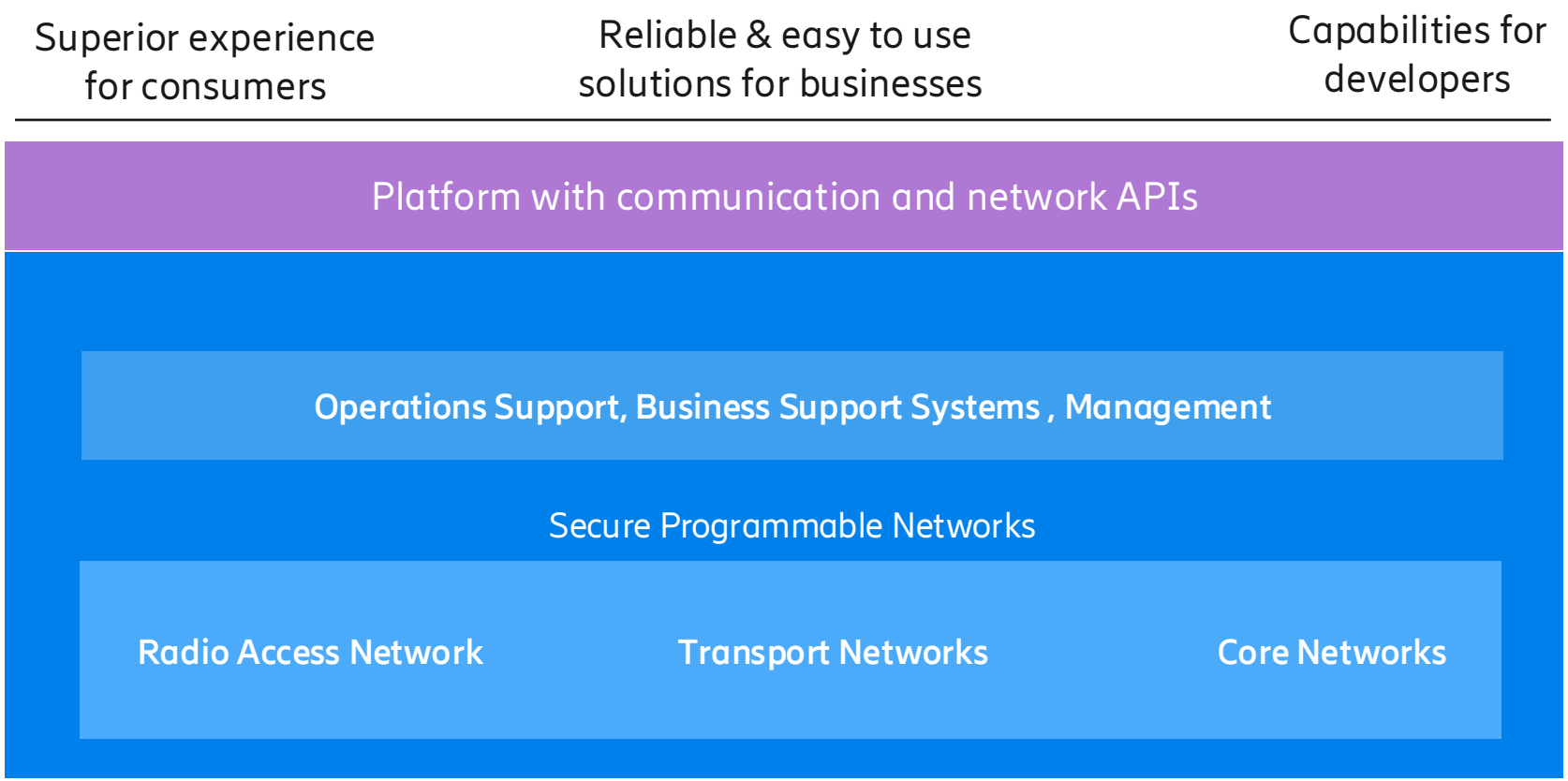


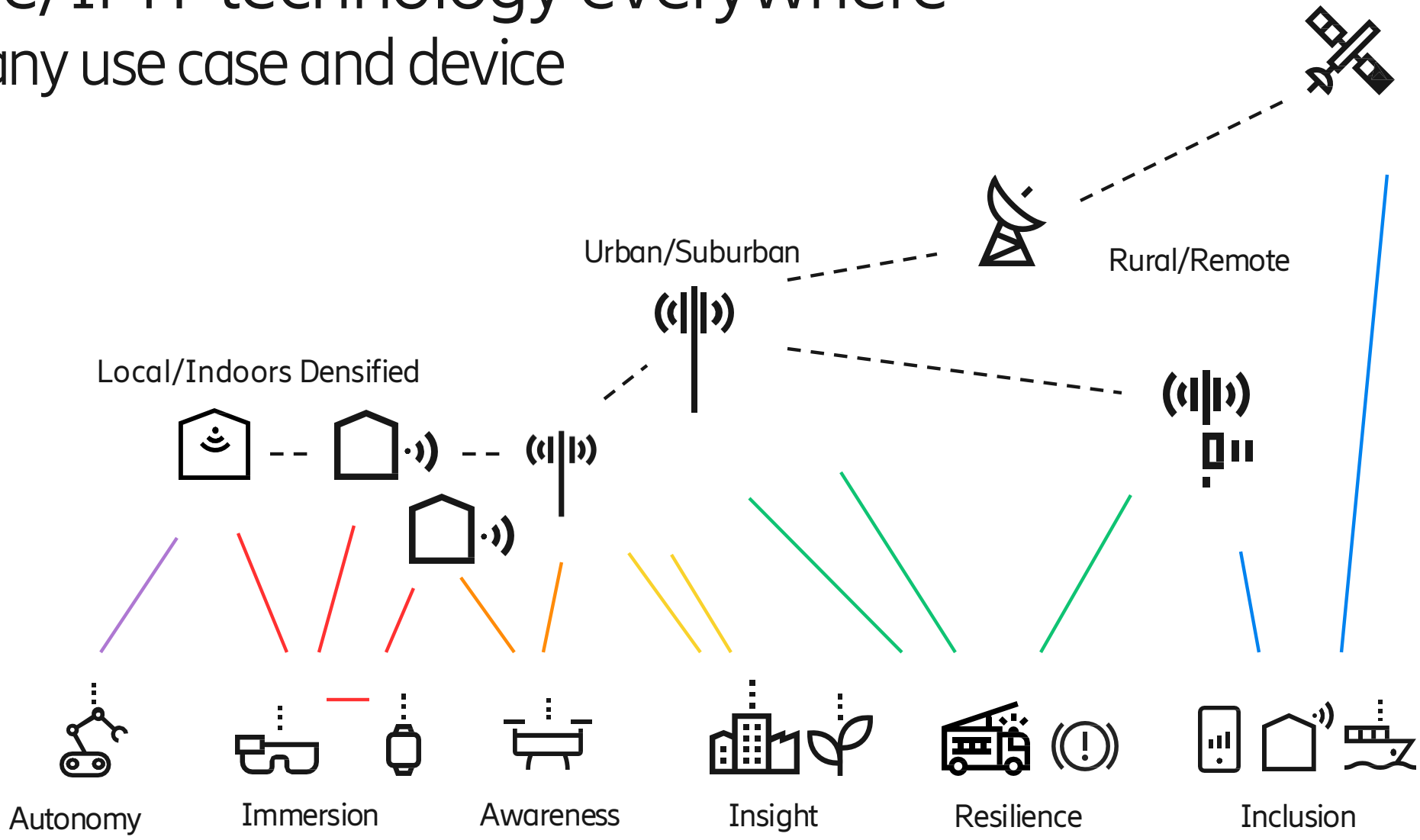
Networks – the foundation for the digital eco-system



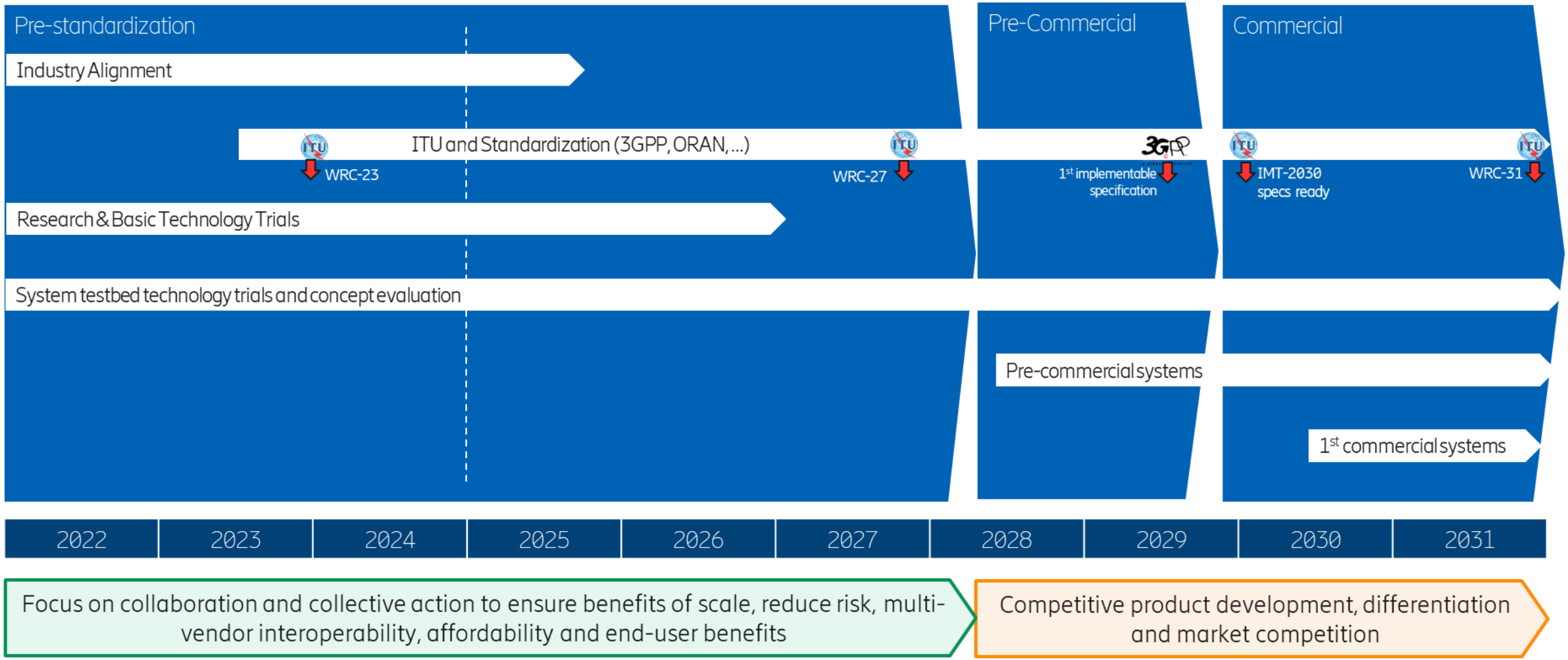
API: Application Programming Interface

Mobile/IMT technology everywhere

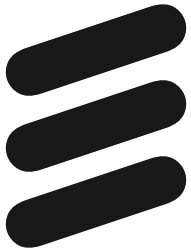
Serve any use case and device



6G Timeline


Pre-standardization
Pre-Commercial
Commercial
Industry Alignment
ITU and Standardization (3GPP, ORAN, ...)
WRC-23
WRC-27
1st implementable specification
IMT-2030 specs ready
WRC-31
Research & Basic Technology Trials
System testbed technology trials and concept evaluation
Pre-commercial systems
1st commercial systems
2022
2023
2024
2025
2026
2027
2028
2029
2030
2031
Focus on collaboration and collective action to ensure benefits of scale, reduce risk, multi-vendor interoperability, affordability and end-user benefits
Competitive product development, differentiation and market competition

Global collaboration for the Techade ahead



#ImaginePossibleWith6G