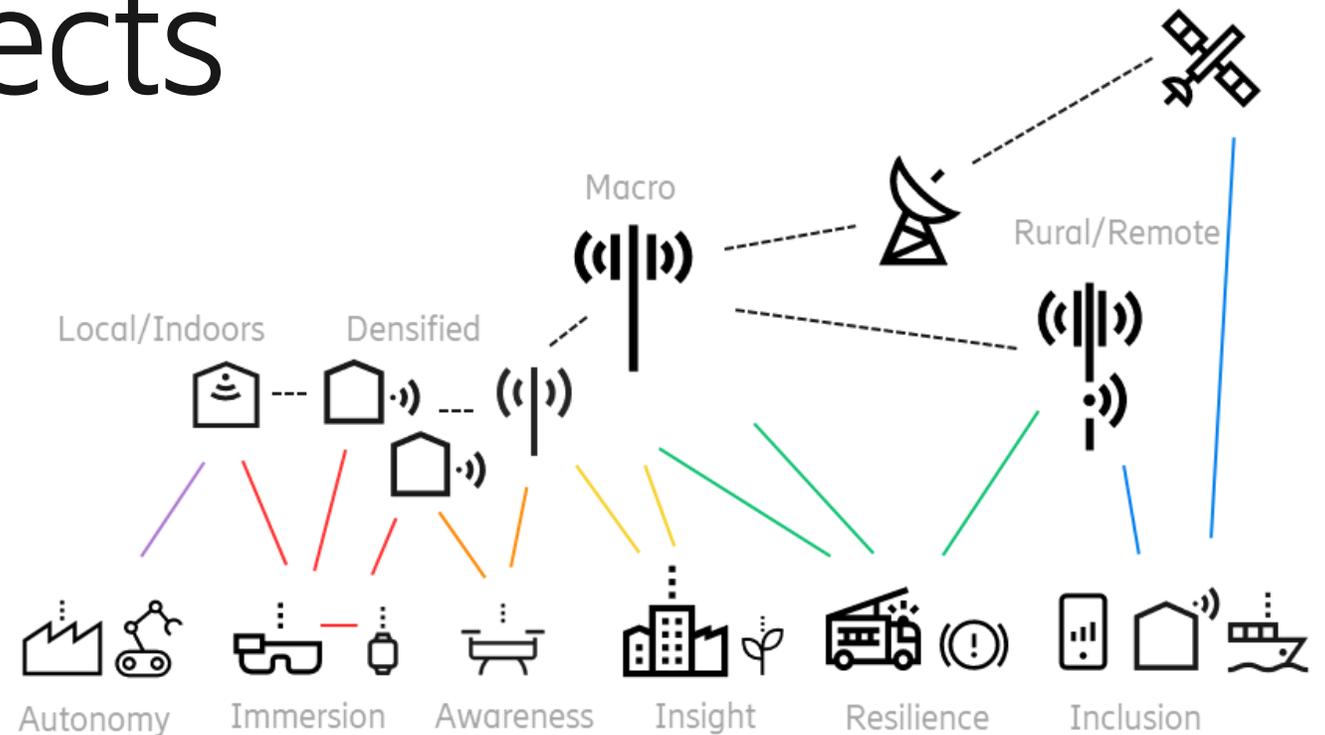




Ericsson's view on 6G use cases and operational aspects

Ericsson contribution
3GPP SA1 #106



Needs & drivers in the 2030's



Inclusion & integrity

Connectivity as an enabler for equal opportunities, social and economic development in increasingly digitalized societies, while protecting personal and enterprise data.

Sustainability & resilience

Communication and network enablers for energy efficient dematerialization and sustainable development, but also important to create resilience in a climate impacted future

Security & trust

Trusted, dependable communication and computing for industry and society relying on critical information.
Secure robust solutions that withstand cyber threats.

Digitalization and application demands

Networks serving increasing demands from new device types and services.
Massive use of AI across systems for optimal assistance and efficiency.

Mixed Reality – Immersive shared experiences



- Differentiated connectivity
 - Capacity (high user density) and UL/DL high rates
 - Latency needs to be robust
- Wide-area contiguous service
- Using Spatial data & DT for spatial mapping, and compute/AI offload
- Interworking with app platforms

B2C / B2B2X

Autonomous Mobility – Supporting smart transport



- Predictable time-critical communication and high service availability
 - E2E service guarantees (SLA)
 - Resilient & observable service delivery
 - Ubiquitous 3D connectivity
 - Inter-machine communication
- Using Spatial data & DT for spatial mapping, and compute/AI offload

B2B2X

Digitalization and application demands

Security & trust



Global Internet – Digitalization for everyone everywhere



- Bridging the digital divide with a ubiquitous NW of NWS
- Remote with satellite, basic MBB
- Rural with high towers, basic MBB
- Hot-spots & homes with FWA, high-speed internet
- Cost efficiency important

B2C / B2B2X

Resilient Connectivity – Priority emergency communication



- E2E service guarantees (SLAs)
- Efficient service-tailored resilience
- Seamless coverage including fallback NW (e.g. NTN)
- Recovery – self-healing NW using AI-powered automation
- Observability for SLA tracking and prediction/automation

B2B2X

Inclusion & integrity

Sustainability & resilience

Enabler services beyond communication



Spatial Data – Exposing data related to coordinates



- Using ISAC, Positioning & Compute/AI
- Platform service B2B2X offered as API to e.g. Mixed Reality apps or assisted vehicles

B2B2X

Digital Twin – Data collection, management and modeling



- Using native Massive IoT & Compute/AI
- Platform service B2B offered as API to Enterprises, supporting e.g. Collaborative Robots & Connected processes

B2B2X

Digitalization and application demands

Security & trust

6G - a platform for more than communication, able to solve more problems, deliver services E2E and enter new businesses

Principles when designing 6G

Operational aspects



Scope

- 6G to support both existing and evolution of 5G use cases, as well as new 6G use cases
 - Requirements to be well motivated from use cases, not e.g. 100 x 5G
- High level of feature parity with 5G, but simplification shall be strived for
 - Support of voice telephony service and SMS
 - Support of LPWA, FWA, NTN

Migration

- Possible to migrate smoothly from 5G to 6G
 - Possible to deploy 6G in existing and new bands, 6G to be able to co-exist with 5G
 - Support of seamless mobility between 5G and 6G



One 6G TR

Suggested ways of working:

1. Introduce new use cases in Annex A "Proposed Use Cases"
 2. When several use case are considered to deemed important → move to chapter 5 under relevant heading
- **Proposed Use Cases:** Here all use cases are collected →

Drafted SA1 Rel-20 TR skeleton

Release 20

3

3GPP TR 22.XYZ V0.0.0 (2024-05)

Contents

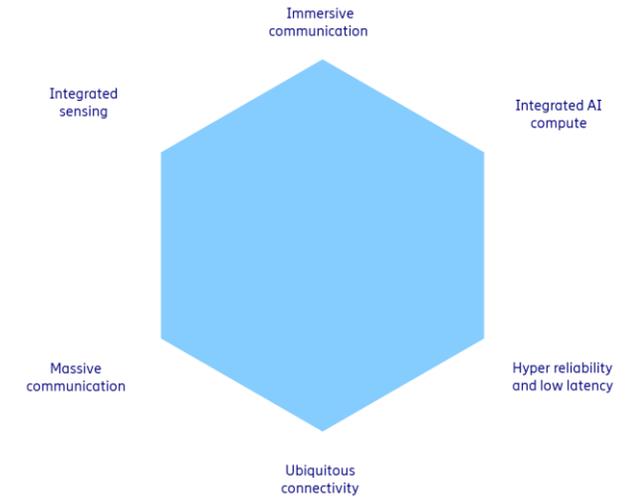
Foreword	4
Introduction	5
1 Scope	6
2 References	6
3 Definitions of terms, symbols and abbreviations	6
3.1 Terms	6
3.2 Symbols	6
3.3 Abbreviations	7
4 Overview	7
5 Use Cases	7
5.1 <Use case family 1>	7
6 Considerations	7
7 Consolidated potential requirements and KPIs	7
8 Conclusions	8
Annex A (informative): Proposed Use Cases	8
A.1: <Group 1>	8



Mapping to IMT-2030 usage scenarios



	Mixed Reality	Global Internet	Autonomous Mobility	Resilient Connectivity	Spatial Data	Digital Twin
Immersive Communication	Dark Green	Light Green	Light Green	Light Gray	Light Gray	Light Gray
Hyper Reliability and Low Latency	Light Green	Light Gray	Dark Green	Light Green	Light Green	Light Green
Massive Communication	Light Gray	Light Green	Light Green	Light Green	Light Gray	Dark Green
Integrated AI Compute	Dark Green	Light Gray	Dark Green	Light Green	Dark Green	Dark Green
Ubiquitous Connectivity	Light Gray	Dark Green	Light Green	Dark Green	Light Green	Light Green
Integrated Sensing	Dark Green	Light Gray	Dark Green	Light Gray	Dark Green	Light Gray



Expected B2C/B2B2X services build on combinations of capabilities

KVIs and KPIs

Sustainability considerations



- An overall ambition in 6G is to complement performance-driven development (KPIs) with value-driven development (KVIs)
- The wish is to capture considerations of sustainability in R&D and the 6G impact on key values
- But how to? SA1 to agree on a model

