

6G Standardization



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Group Function Technology, Standards and Industry Initiatives

Welcome to 2030

Imagine walking on the street

- wearing your 6G connected AI native AR glasses ...
- sensing your environment with 6G radio waves ...
- communicating with 6G base stations, satellites and drones



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2030 is less than 4 years away!



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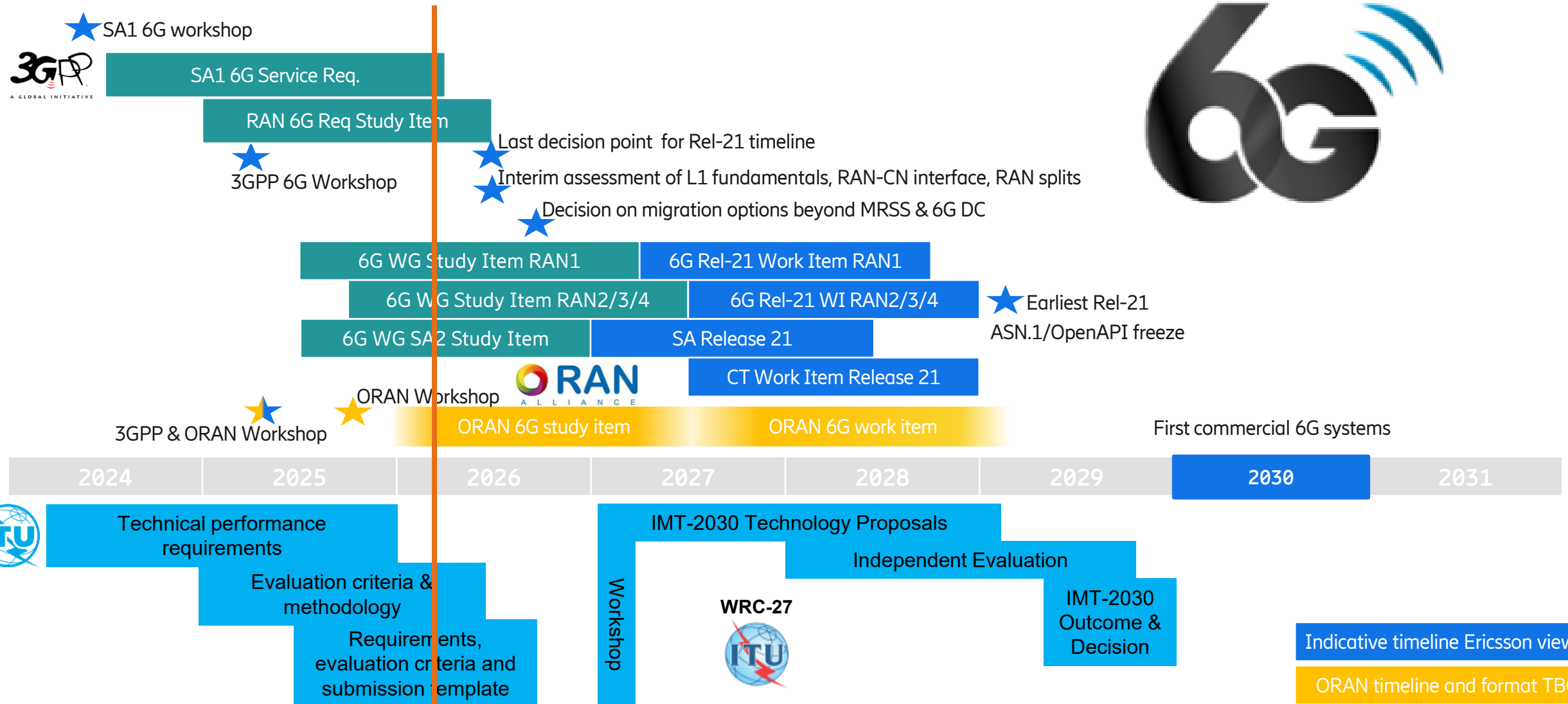
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I guess we all know this is **not** how 6G will look like in 2030



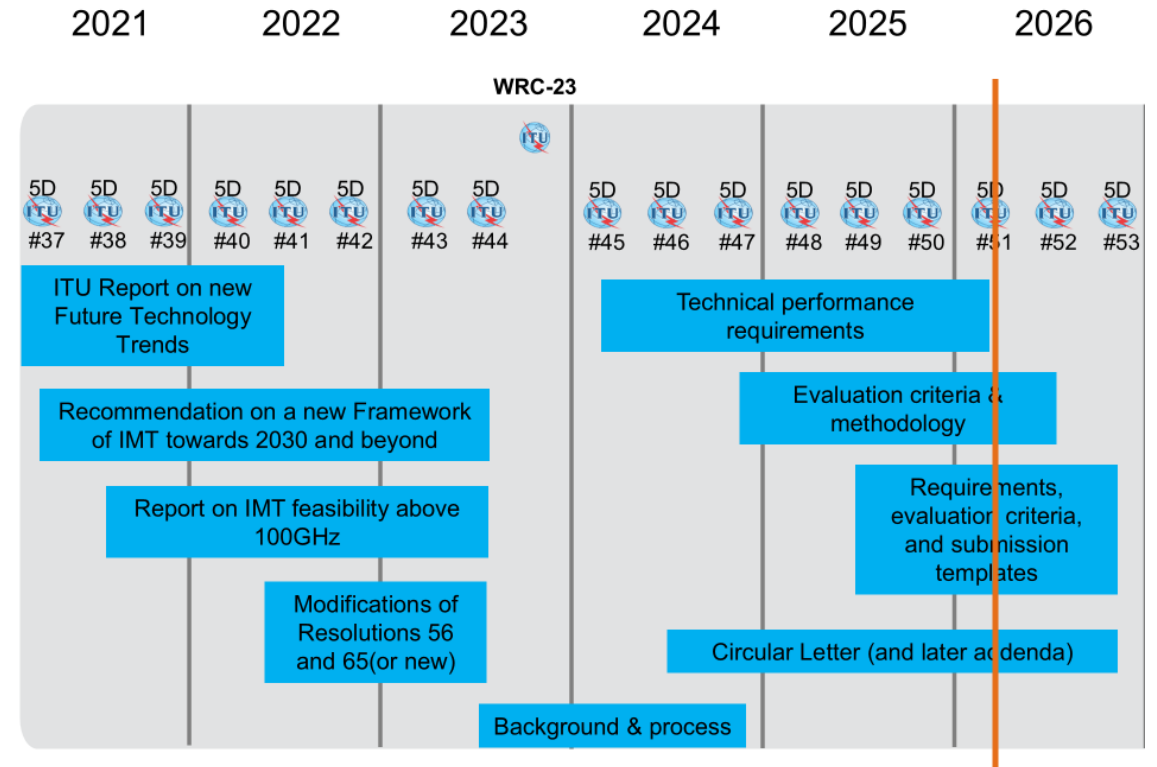
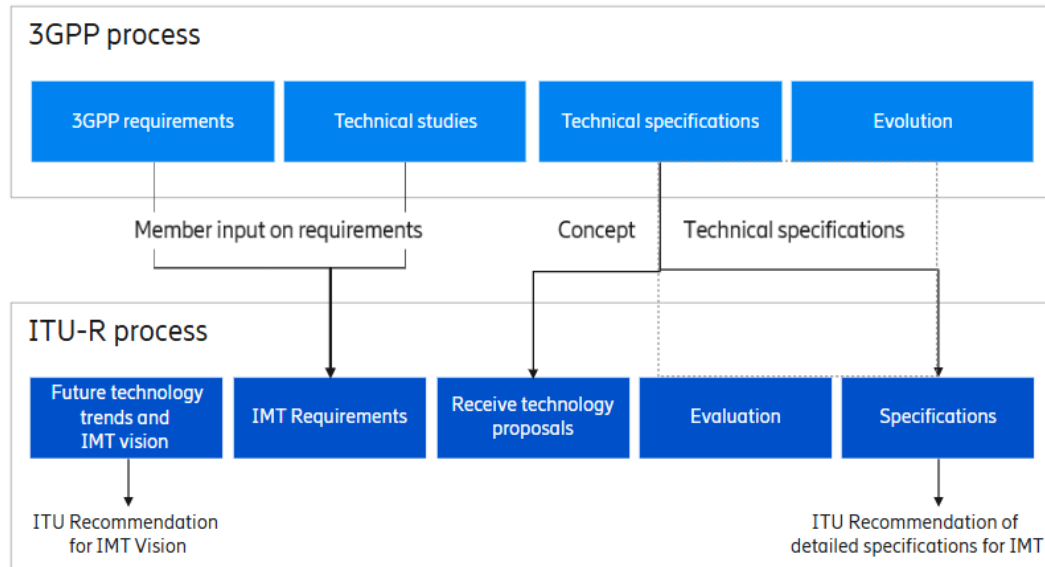
6G Standardization Timeline

Including Ericsson Projection



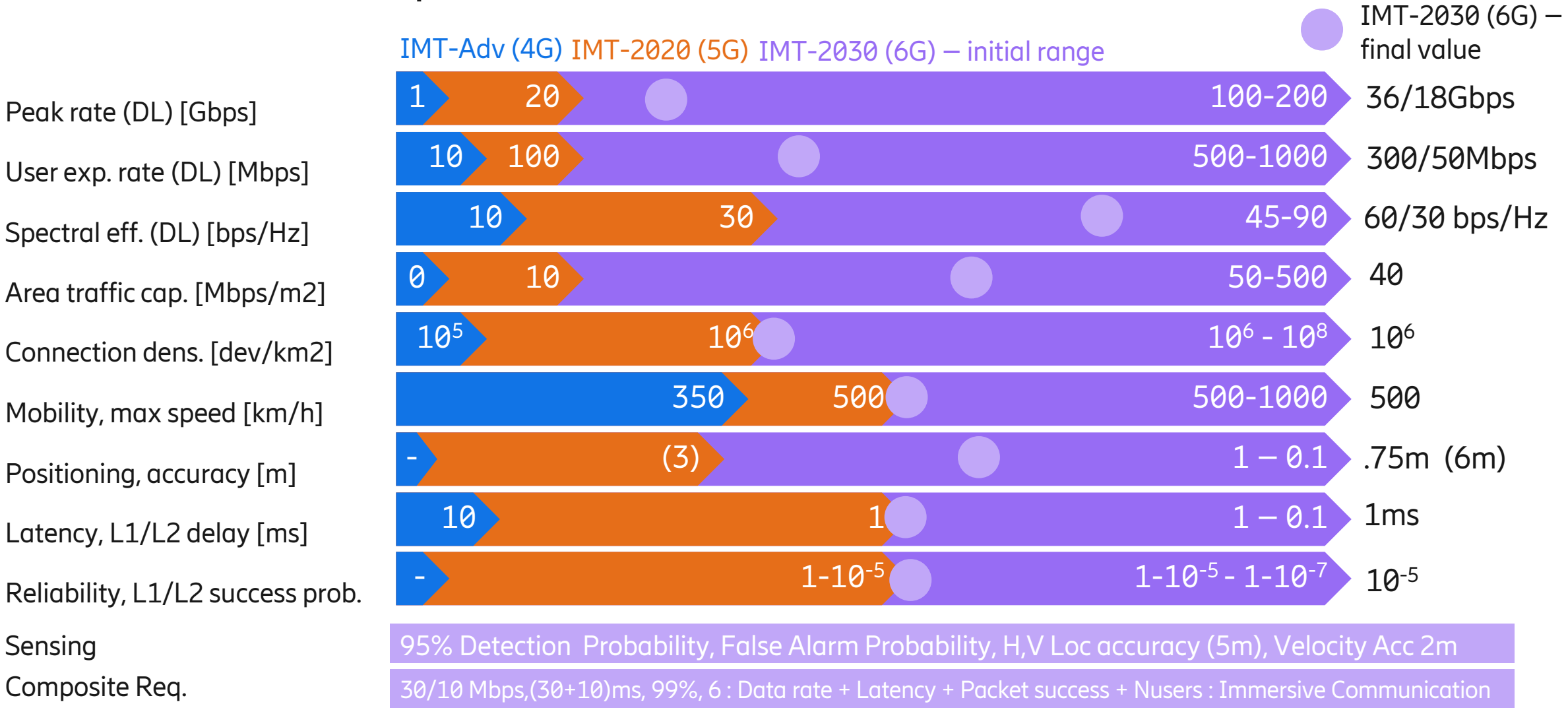
WP5D progress so far

- Future Technology Trends (2022)
- Framework for IMT-2030 (2023)
- WRC'27 agenda item for 6G spectrum (2023)
- **Technical performance requirements (2026)**



IMT-2030

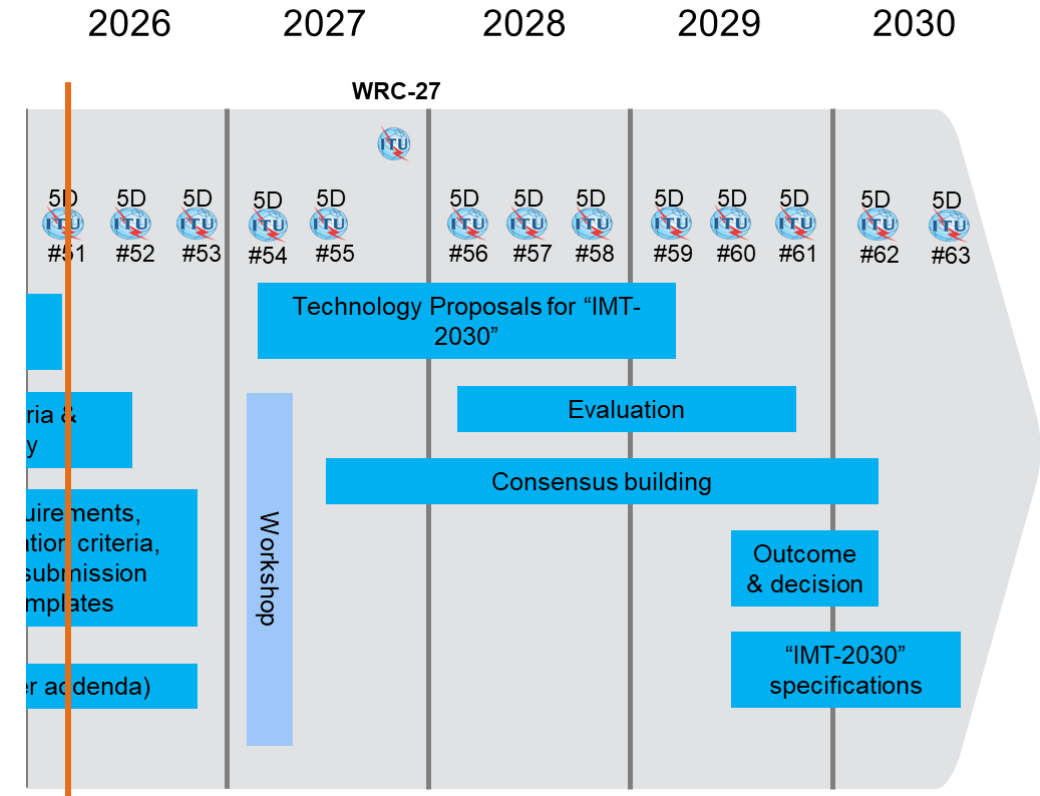
Technical Performance Requirements



Other Capabilities Expected & Reported: **AI, Energy Efficiency, Resilience & Extended Connectivity, Link Distance**

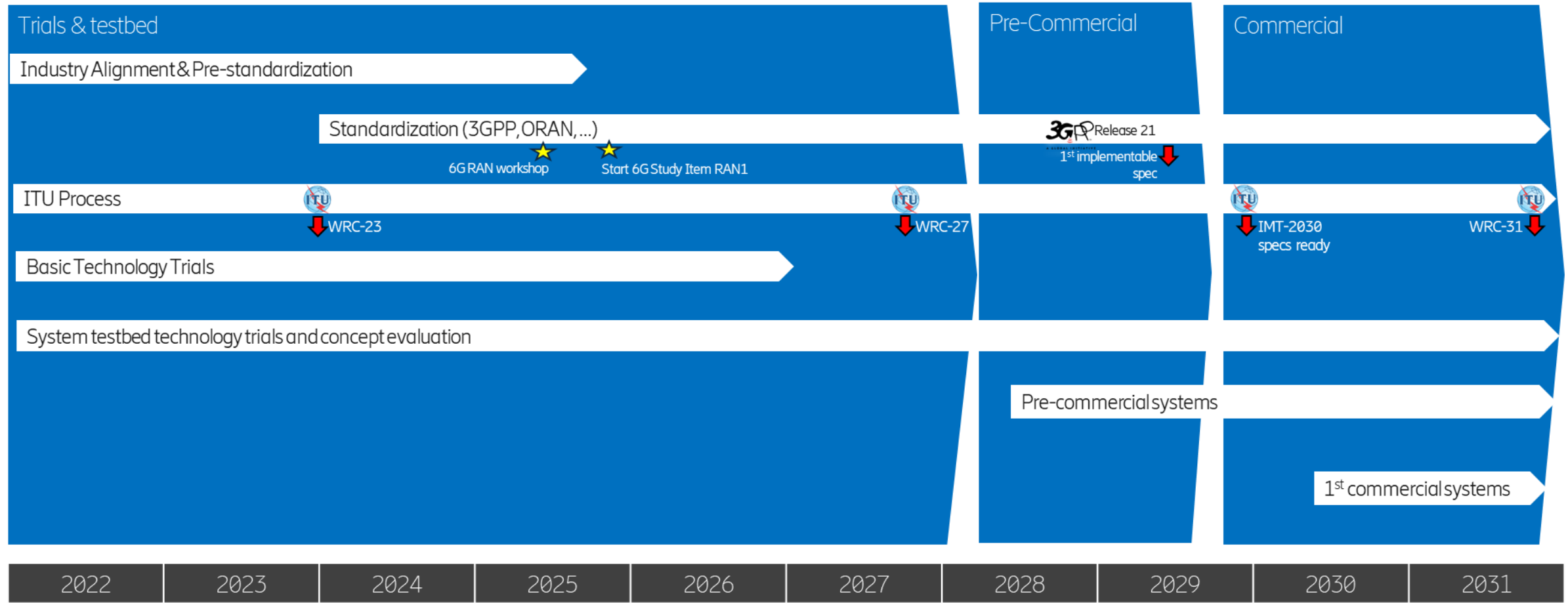
WP5D next steps

- Requirements, evaluation criteria, submission templates (2026)
- **Proposal submissions (2027-2029)**
 - Expect **first 3GPP submissions mid-2027**
- **WRC'27**
- Evaluation (2029)
- Final decision and IMT-2030 specifications (2030)



6G Timeline

High-level 6G timeline



What will 6G deliver?

Reduced Total Cost of Ownership

Improved End-User Performance

Support for New and Evolved Services

Handling data growth

6G performance potential – some early examples

Energy efficiency	Capacity and throughput	Uplink performance	New service opportunities
Up to 77% reduction in network energy consumption at low loads by reducing the transmission of always-on signals	Up to +200% downlink capacity increase by adding cm-wave M-MIMO on the existing site grid	Up to +56% experienced uplink data rates for small packets by redesigning and streamlining scheduling and control signaling	Up to +23% positioning accuracy using AI-based positioning algorithms capable of learning and exploring the environment
Up to 35% reduction in modem energy consumption by wake-up signals and other power-saving mechanisms	Up to +25% uplink throughput by using AI native channel estimator	Up to 10X uplink throughput for cell-edge users at low load by selecting the frequency band independently for uplink and downlink	2-3m average error in ISAC drone tracking in horizontal location using a live test communication network
5G-6G spectrum sharing with <3% overhead			

Intelligent multi-layer co-ordination in 2030+

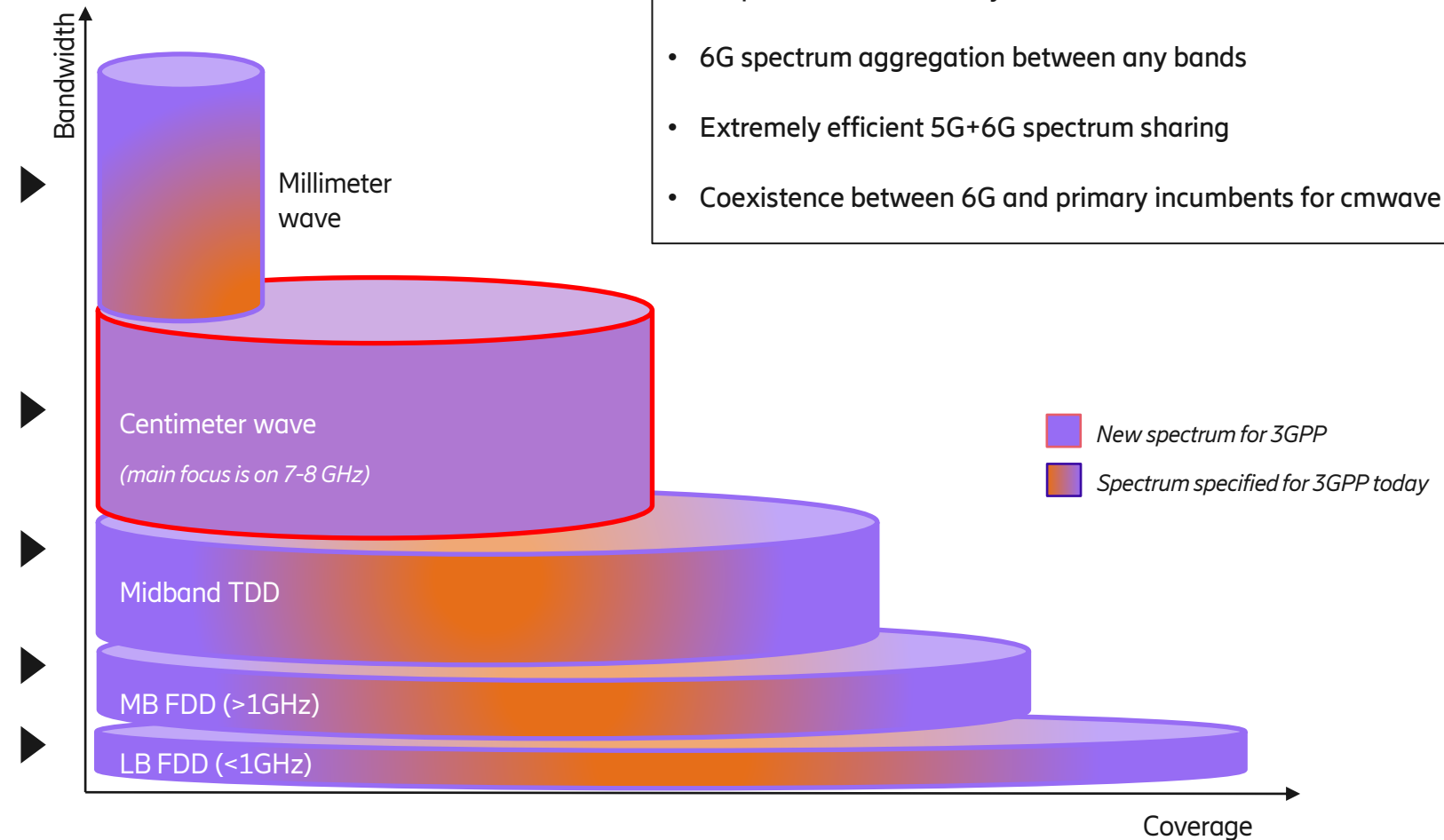
mmWave (24...47 GHz) : High-speed, very low latency in localized areas,

cmWave (7...15GHz) : Good coverage, good capacity (the lower the spectrum , the better)

Midband TDD (2.3...<7 GHz) : Wide area coverage and good capacity

Midband FDD (1.. 2.7 GHz) : Nationwide coverage

Lowband FDD (<1 GHz) : Nationwide coverage and deep indoor penetration



Role of ORAN

High level principles on 6G collaboration

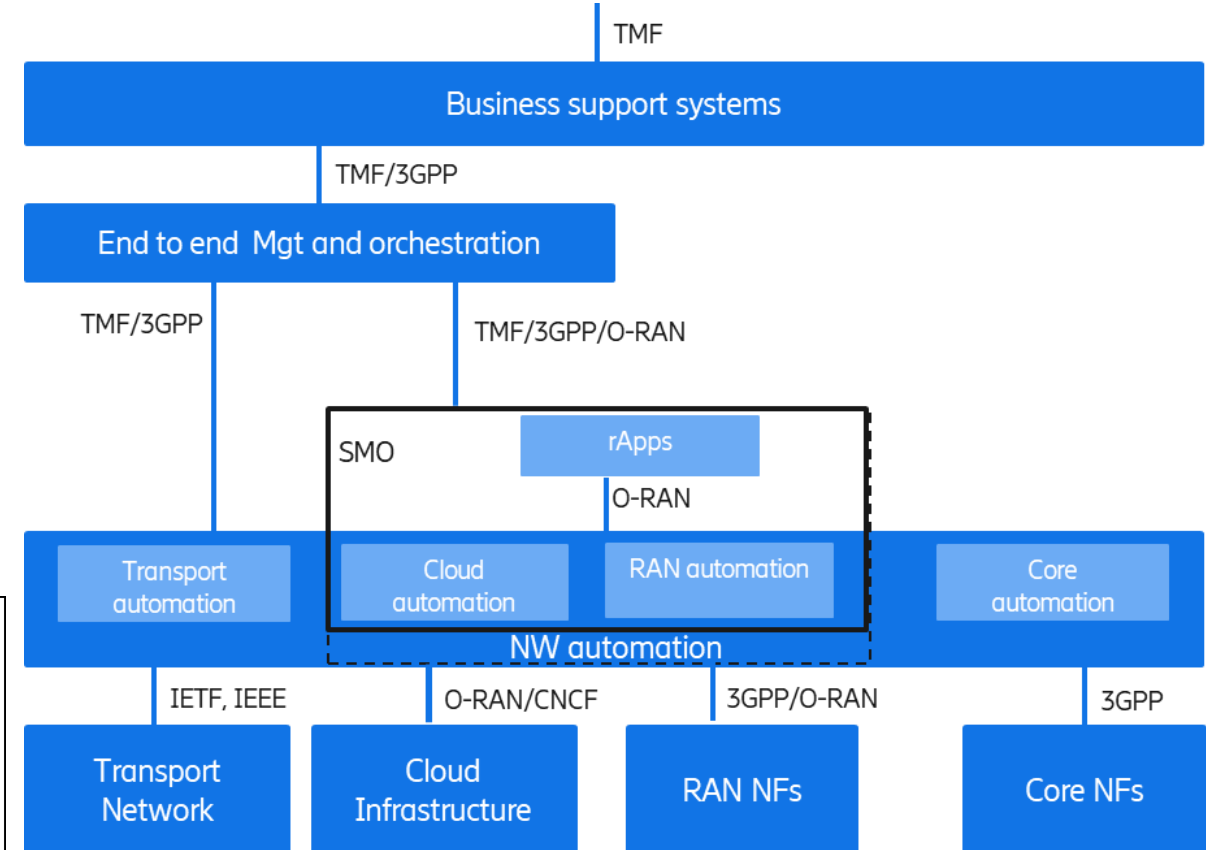
- 3GPP defines the 6G Specifications. O-RAN will complement 3GPP 6G specifications to support its use cases.
- 3GPP defines the overall 6G architecture. O-RAN updates/creates O-RAN specifications related to 6G based on 3GPP 6G architecture decisions in parallel, where feasible.

3GPP shall capture the following text *in italic* in a normative Annex of TSxx.401 or TSxx.300 (RAN3):

- *6G NodeB architecture includes a distinct logical Radio Unit (RU).*
- *The functions hosted by the RU as well as the interface between RU and other parts of 6G NodeB are not specified in 3GPP.*

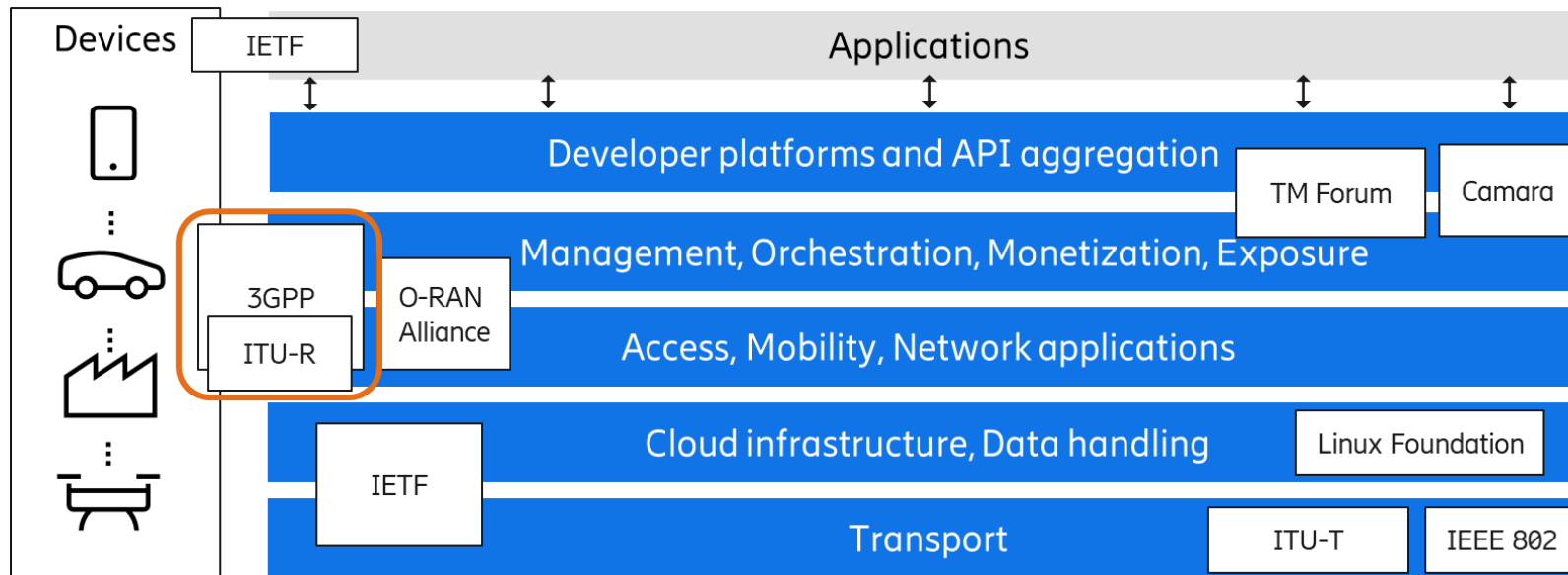
Note-1: This interface can be implemented according to O-RAN ALLIANCE specifications for multi-vendor interoperability.

Note-2: This interface can be implemented according to e.g. (e)CPRI-based or fully proprietary solution(s)



Call to action

- Engage **now**, not later
 - Technical foundation for 6G will be set during 2026 and 2027
- Engage in the right forums
 - ITU-R for spectrum
 - 3GPP for technical specifications
 - Other forums for APIs, management, exposure





ERICSSON