

A hand with dark nail polish is reaching out towards a glowing digital network of purple and blue lines. The lines are arranged in a grid-like pattern that recedes into the distance, creating a sense of depth and connectivity. The background is dark, making the bright lines stand out.

AI connected Networks

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Ericsson



Network technology trends

Defining the platform for next-level digitalization







- 1 Technologies that enable a cyber-physical world
- 2 The need for an open platform for business innovation
- 3 The high-performing network infrastructure



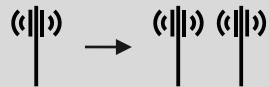



Intelligent networks deliver value



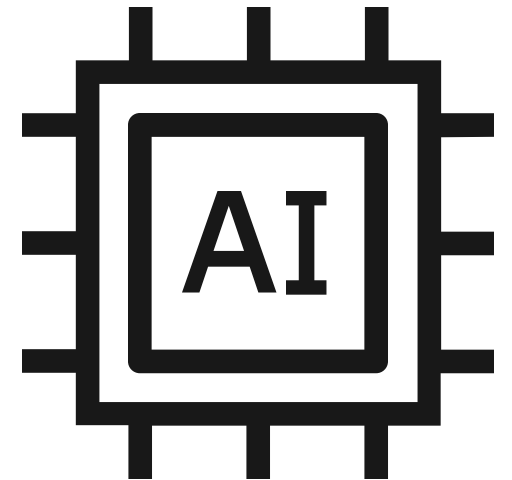
Complex demands

-  More use cases
-  Data growth
-  More devices
-  Security
-  Customer experience
-  New revenues

Capabilities necessary to meet demands

-  Modernization of RAN to deliver capacity
-  Virtualized to handle diversified needs
-  Edge computing to deliver new use cases
-  Network slicing for unique network setups

- 
- Advanced operations for experience & efficiency



AI is generating value in telecom networks today



18%

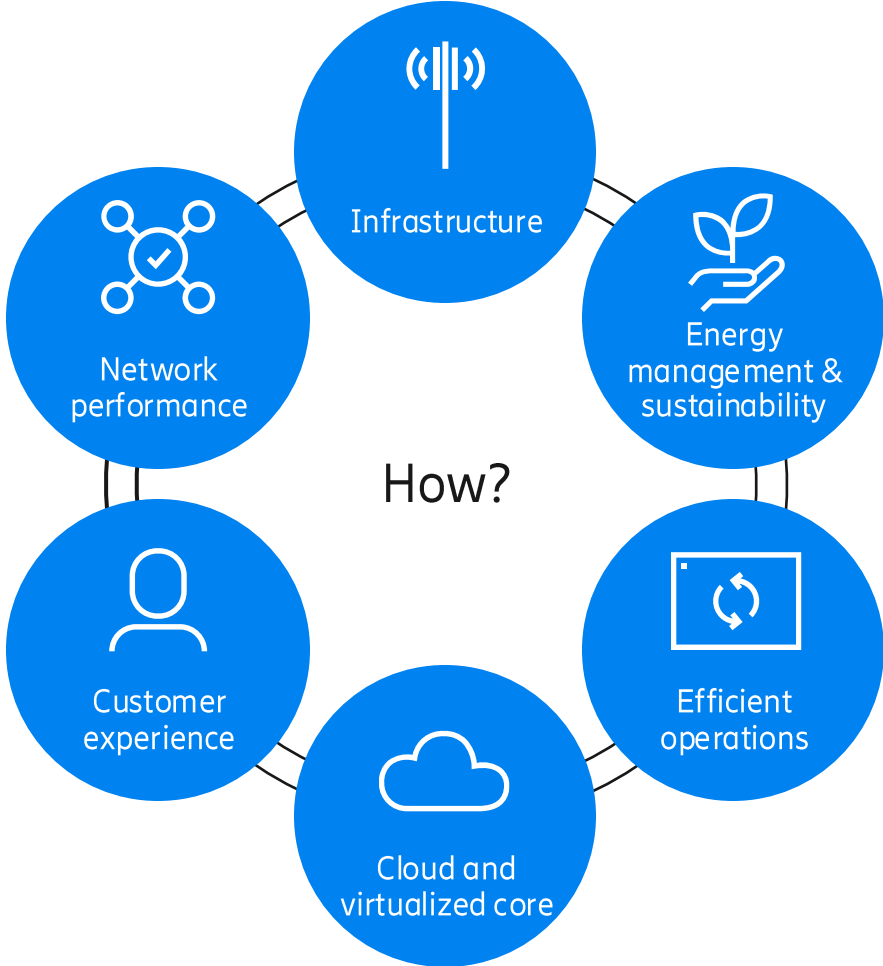
Network load redistribution – more efficient use of resources
Self-Organizing Network

15 min

vs 1 week
to automatically classify 100 000 cells
with Cell Issue Classifier

80%

Reduced signaling with Machine Learning assisted paging



25%

Better 5G coverage with 5G-aware traffic management

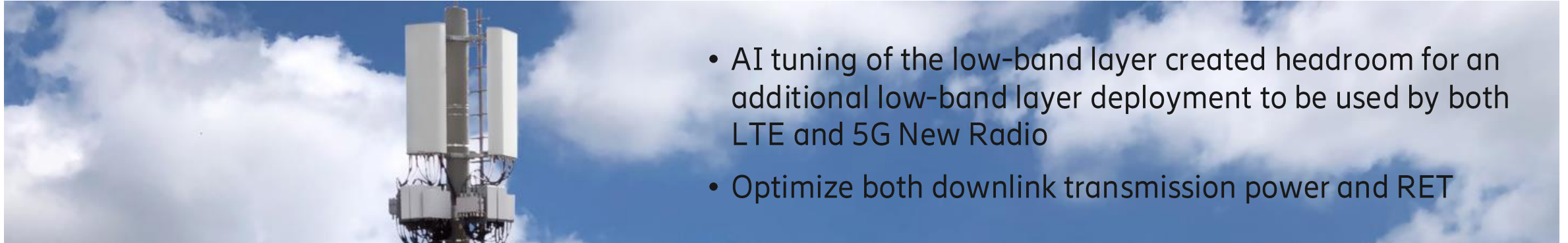
14%

Energy savings with Augmented MIMO sleep

>70%

incidents prevented
with RAN KPI degradation prediction

Swisscom – meeting strict regulations without compromising customer experience



- AI tuning of the low-band layer created headroom for an additional low-band layer deployment to be used by both LTE and 5G New Radio
- Optimize both downlink transmission power and RET

20%

Tx power reduction

5.5%

Downlink user
throughput gain

30%

Uplink user
throughput gain

3.4%

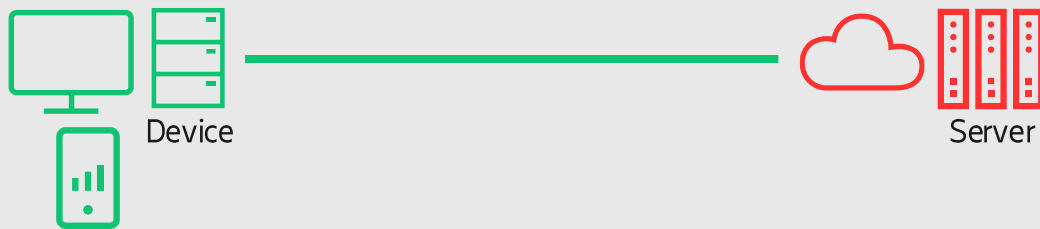
Energy consumption
savings per base station

New services and consumers drive new behaviours



Traditional

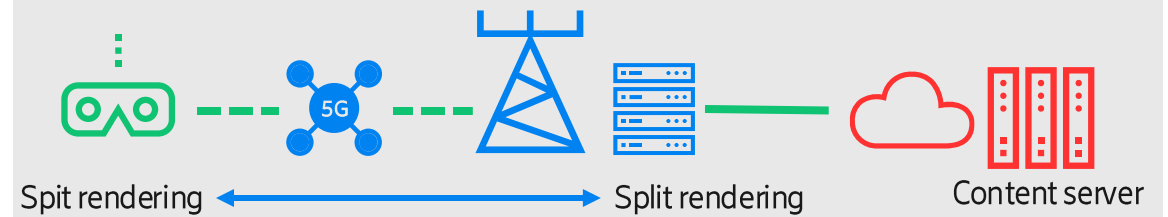
Typical digital consumption model, today



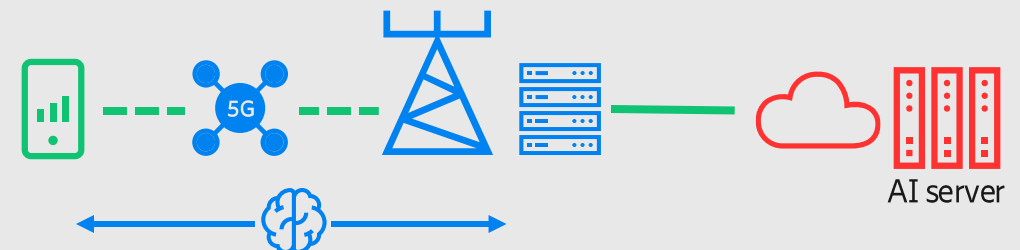
- Network off-load of devices, improves performance and battery life-time
- Differentiated services will benefit from high-performing networks

Mobile network assisted use cases

Split rendering and processing for XR devices



Network-enabled AI compute offloading









AI, Computer vision & Gaming services drive device offloading needs

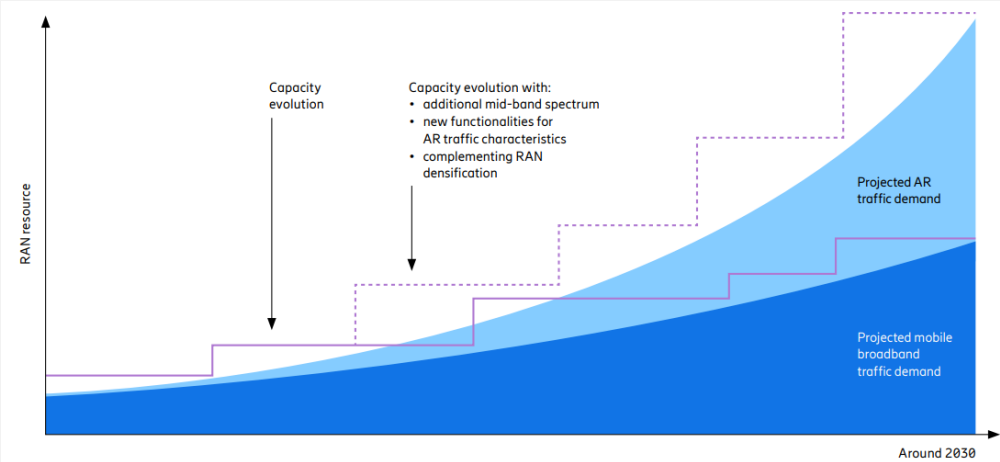
AI – a foundation for XR ecosystem opportunities



XR introduction in phases

VR to AR	XR takes lead	All day XR
Near term	Mid term	Long term
Head-Up-Display, blended information	Surrounding based, geo-specific	Fully immersive
		
 Network implications	 Uplink, bounded latency	 Uplink capacity

2030 uplink traffic @ ~ 10% AR penetration



The graph plots RAN resource on the y-axis against time on the x-axis. It shows two cumulative demand curves: a solid blue area for 'Projected mobile broadband traffic demand' and a dashed blue area for 'Projected AR traffic demand'. The total demand is shown as a stepped line that increases over time. Annotations include 'Capacity evolution' pointing to a step up in the total demand line, and 'Capacity evolution with: additional mid-band spectrum, new functionalities for AR traffic characteristics, complementing RAN densification' pointing to a further step up. The x-axis is labeled 'Around 2030'.

2-3× uplink traffic with AR vs. MBB (10-15% AR penetration)*

Industry-leading research and product development shaping superior solutions

XR device ecosystem snapshot, 2024 - Mirza



- Chipsets and software ecosystems driving device exploration
 - Qualcomm: Snapdragon® AR2 Gen1
 - Apps built on “Spaces” Developer Platform



Snapdragon AR2 Gen 1 Platform



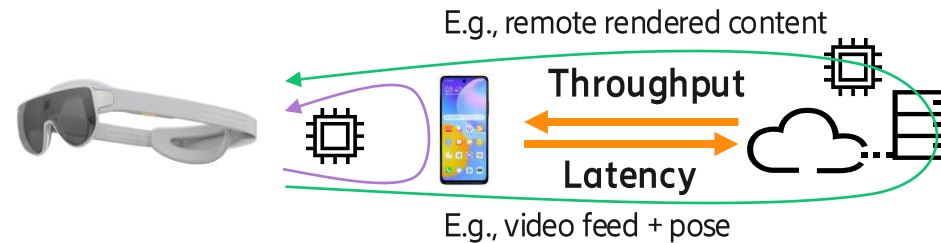
XR Compute offload drives network requirements



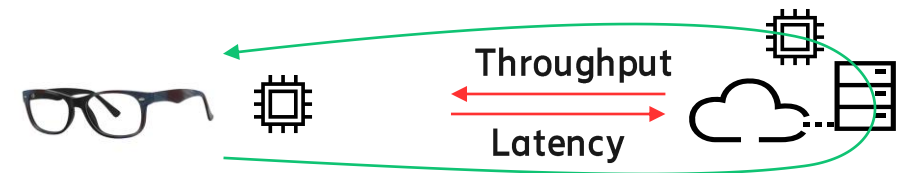
Processing in device + companion



Processing in device + companion + edge cloud



Radio modem and some processing in device + most processing in edge cloud

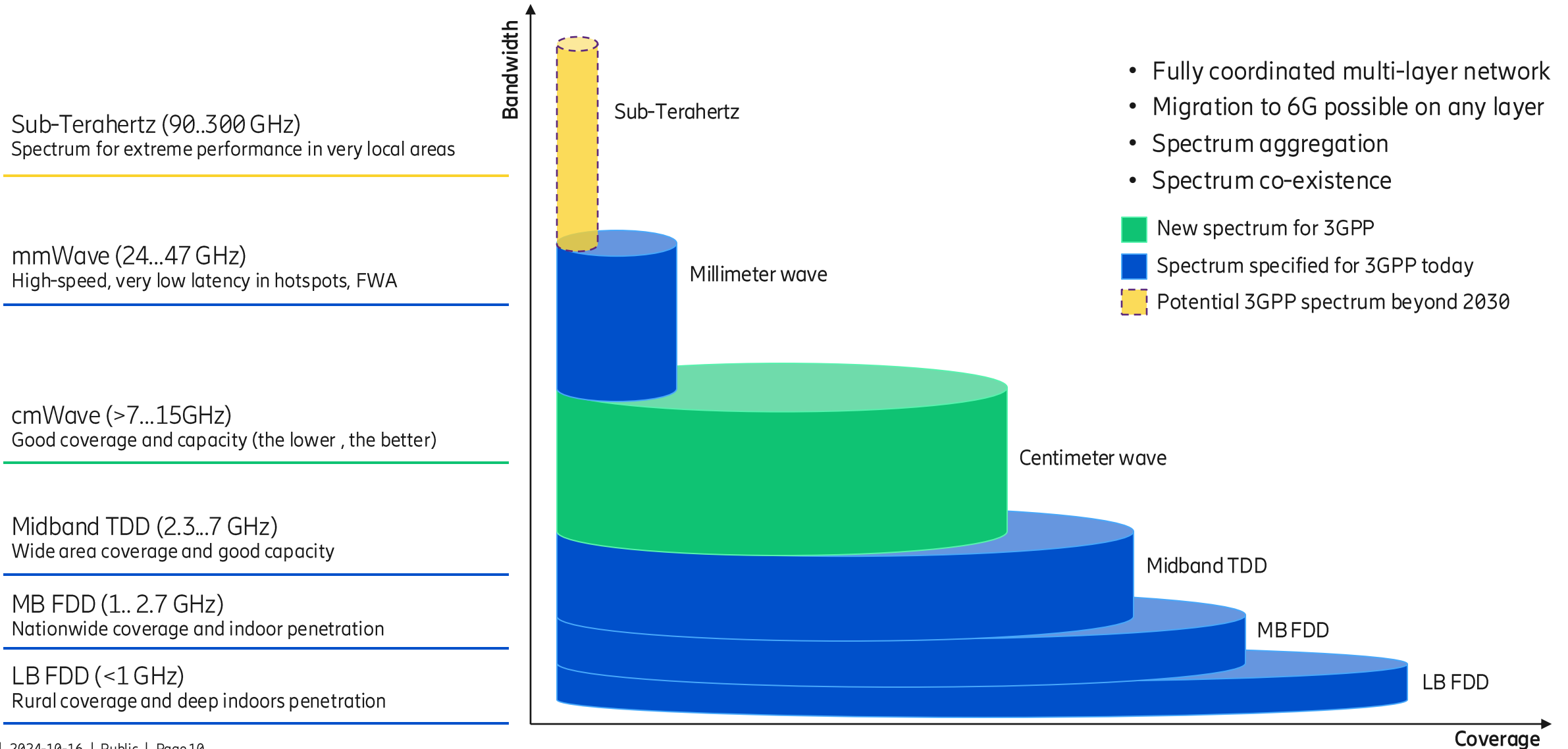


Spatial compute (localization, mapping, object detection) & rendering

Device-based

Cloud-based

Cohesive spectrum allocations needed through 2030+ ☰





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