



From Connectivity to Intelligence:

Rethinking the Operator Role for 6G

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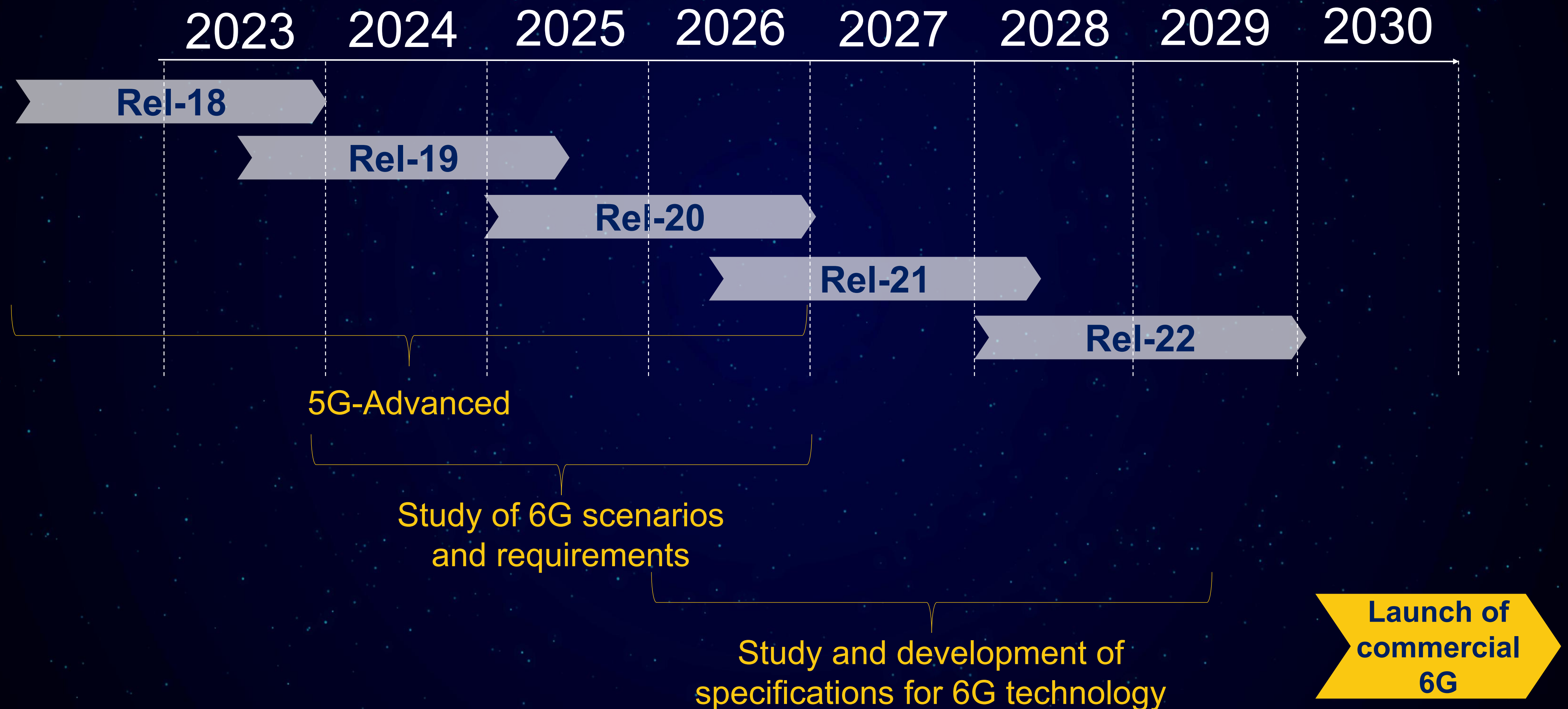
Turkcell Leading the 5G and Beyond

Highest Speed, Widest Bandwidth



WORLDWIDE ACTIVITIES

Standardization path to 6G





2026

**24+ billion
connected IoT devices**

~13% annual growth

2028

**15% AI-driven
decisions**

Virtually zero only a few years ago



Network for AI for Network



AI workloads demand predictable latency, distributed compute, and guaranteed SLAs.

Networks evolve from rule-based automation to intent-driven autonomy.

The network becomes a programmable platform for real-time intelligence.

AI becomes the control loop of the intelligent network fabric.

Network for AI

Verticals



Autonomous & Connected Mobility

AI Role:

- Real-time perception & edge inference
- Predictive traffic orchestration
- Network slicing optimization

Business Impact:

- Ultra-reliable low-latency services
- Tiered SLA-based monetisation
- OEM & mobility platform partnerships

Remote Industrial Operations

AI Role:

- AI-assisted remote control
- Edge-based computer vision
- Network slicing optimization

Business Impact:

- Private 5G + AI bundle offering
- Outcome-based enterprise pricing
- Reduced downtime → measurable ROI

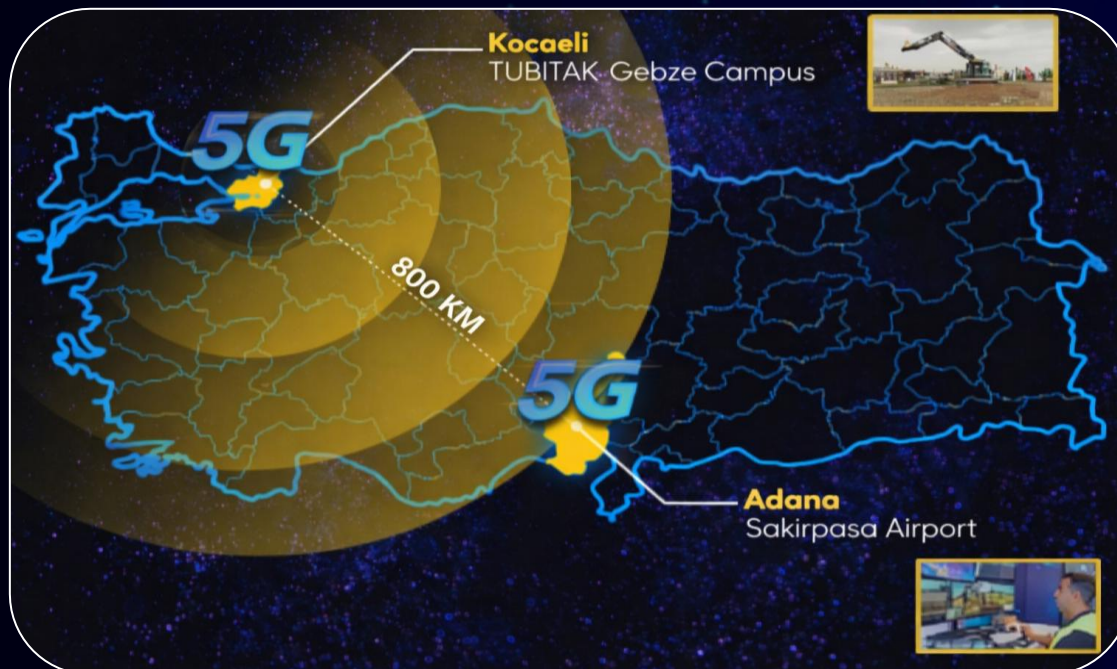
Smart Network Infrastructure via ISAC

AI Role:

- Real-time high-resolution target detection
- High-accuracy target classification
- Tracking of multiple target

Business Impact:

- Sensing-as-a-Service
- Supported 3rd parties to provide services for various vertical applications



Network for AI

Future AI Infrastructures



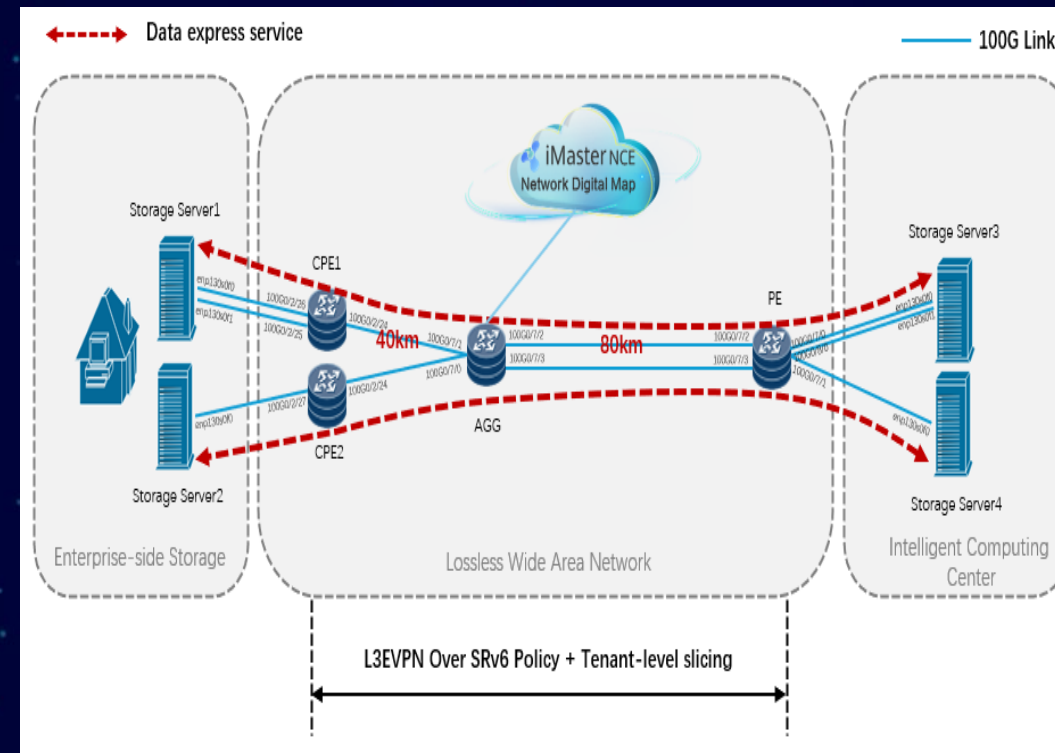
Saturation Protection for AI Traffic

90GE private line by RDMA

	no SPFC	SPFC	
Rate (Gbps)	52.26	85.93	1.6x ↑

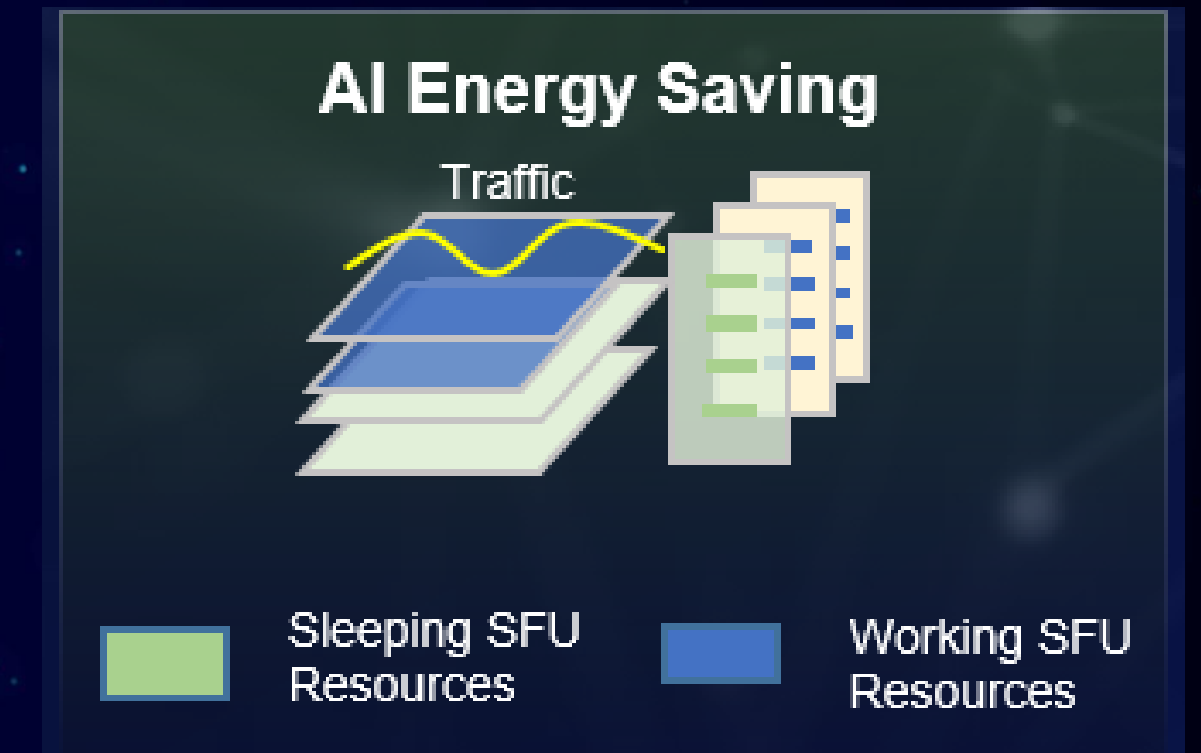
- Lossless RDMA transmission up to 120 km DC
- Saturation protection with AI-based Flow Control
- Reducing AI packet losses by up to 90% in case of saturation

Equal Load Balancing of AI Traffic



- AFR (Adaptive Flow Repathing) feature
- Equal distribution of AI traffic across links between DCs
- Ensuring capacity efficiency
- Reducing saturation risk

Energy Efficiency with AI



- Optimizing power consumption per bit: 0.7 W/Gbit → 0.3 W/Gbit
- Dynamic energy savings based on traffic forecasts: 7–10%

AI for Network Intelligent Operations



Energy management



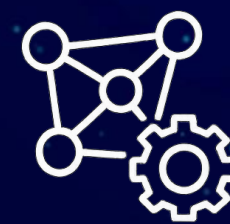
- AI-based energy forecasting & optimization
- Resilient operations under dynamic conditions

Anomaly detection



- Intelligent root-cause analysis
- Predictive service continuity

Radio planning & Optimization



- Automated RAN performance assurance
- Proactive anomaly & change detection

Customer experience



- AI-driven customer experience analytics
- Proactive churn & quality management

From Network Capabilities to AI Revenue

Monetizing AI Outcomes

01

PREMIUM AI CONNECTIVITY

Guaranteed latency, uplink,
reliability and quality

Connectivity-as-a-Service

02

DISTRIBUTED INFERENCE

AI execution at telco edge or
regional infrastructure

Inference-as-a-Service

03

AI COMPUTE

GPU / compute capacity
closer to demand

Compute-as-a-Service

04

ENTERPRISE AI PLATFORMS

Private connectivity + compute +
security + managed AI

Managed AI Services

What AI value can operators uniquely deliver — and monetize?



6G: From Connectivity to Intelligence



CONNECT

Ubiquitous and
reliable networks



COMPUTE

Distributed and scalable
infrastructure



INTELLIGENCE

Real-world
AI outcomes

The operator evolves from a connectivity provider into an intelligence enabler.

