



# **AI-Native Access Networks** **From Disaggregation to Distributed Intelligence**

Murat Ünlüsan  
Network Architecture Director, Turkcell

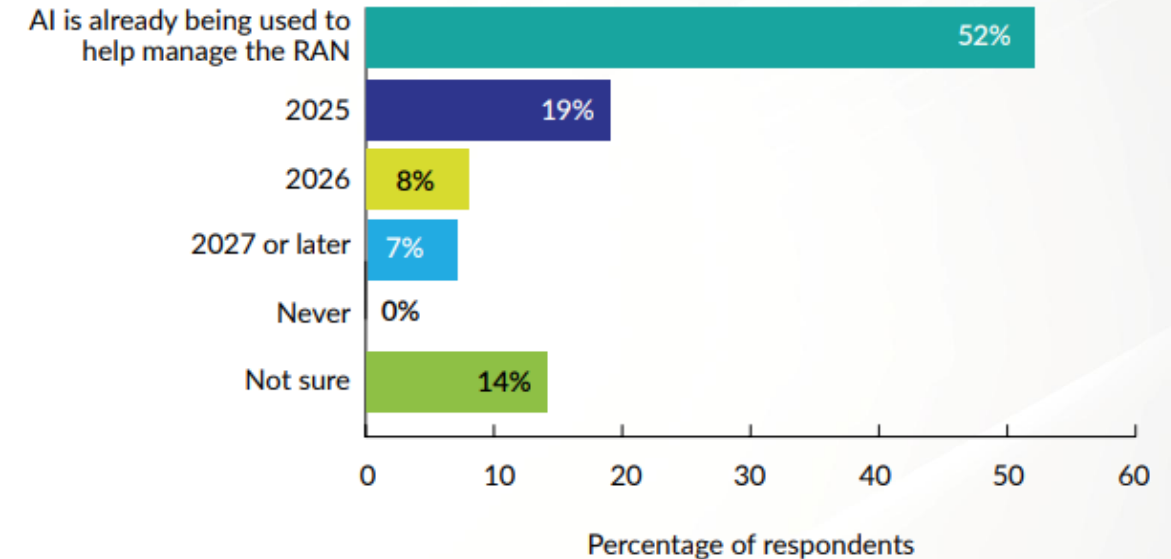
09.07.2025



# AI Promise vs. Reality in Telecom



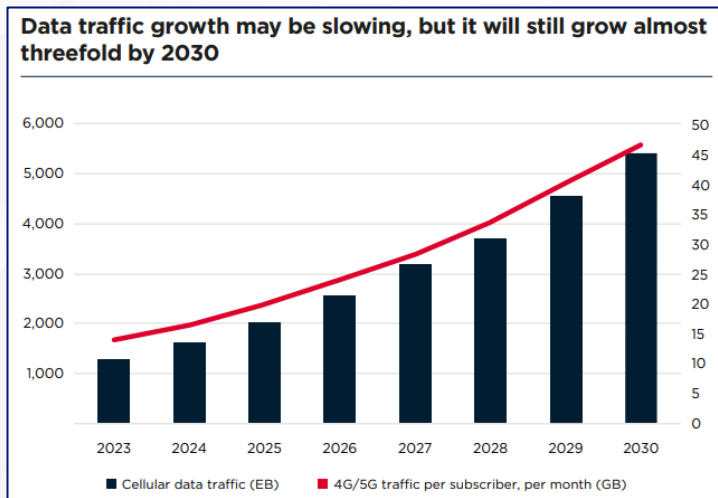
AI/ML promises huge potential when it comes to **optimizing** and **automating** mobile networks.



However, **many operators are still in early stages of AI adoption**, with only isolated use cases demonstrating significant gains.

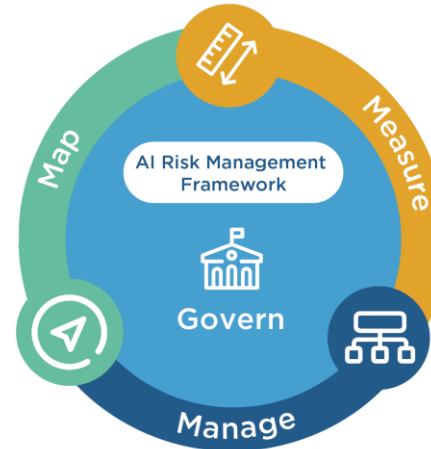
# What's Missing Today: Bottlenecks to AI Impact

## Data



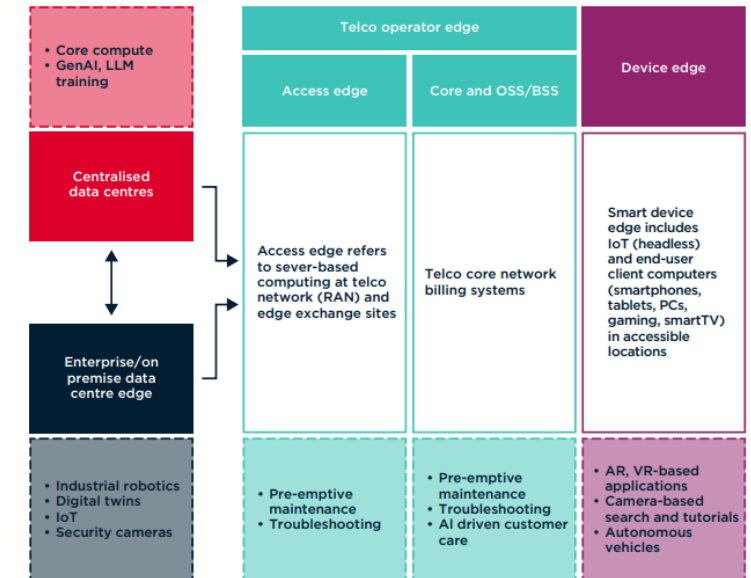
- Data harnessing
- Data quality
- Data accessibility

## Reliability



AI systems behave like black boxes

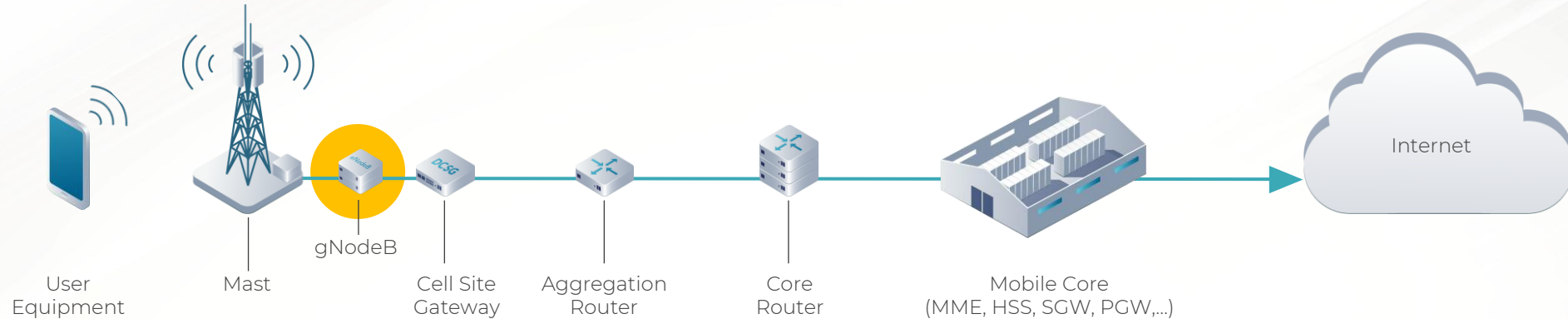
## Integration



Current network frameworks **lack native support** for AI-driven functions



# Constraints of Traditional Access Networks



## Legacy/Traditional Architecture

- Monolithic system design
- Hardware-Centric Design
- Limited Data Visibility and Sharing
- Centralized Decision-Making

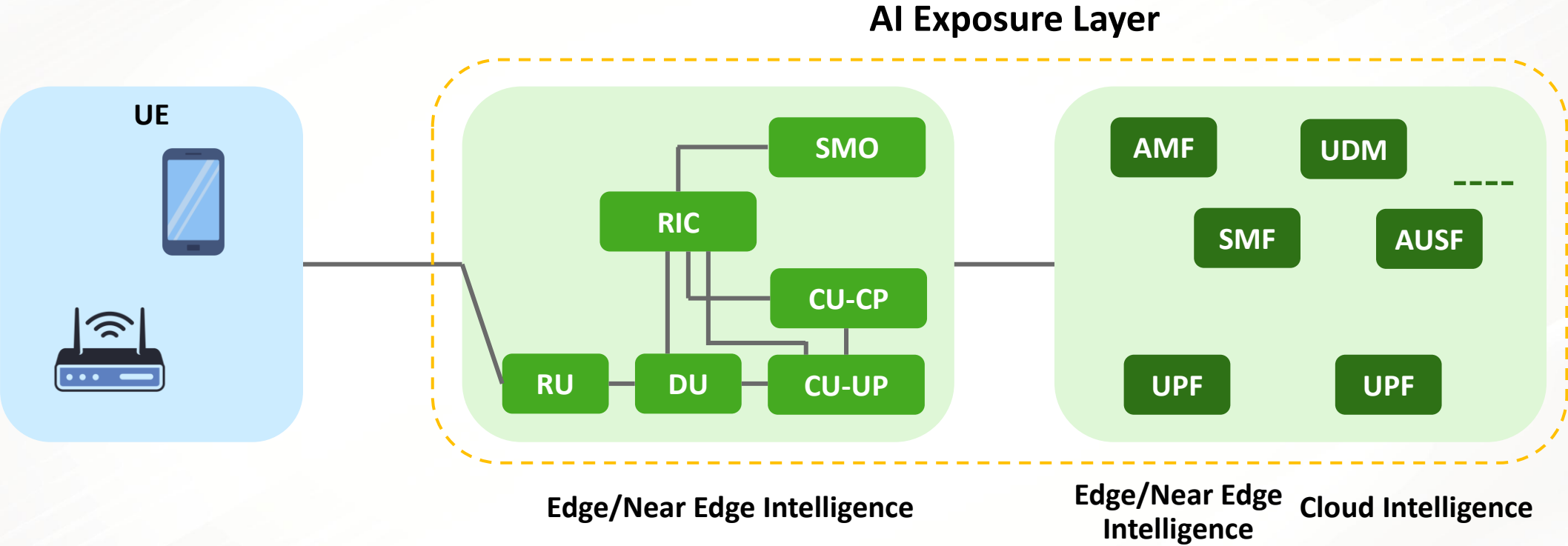


## Virtual/Open Architecture

- Flexible system design
- Software-Centric Design
- Improved Data Visibility and Sharing
- Decentralized Decision-Making

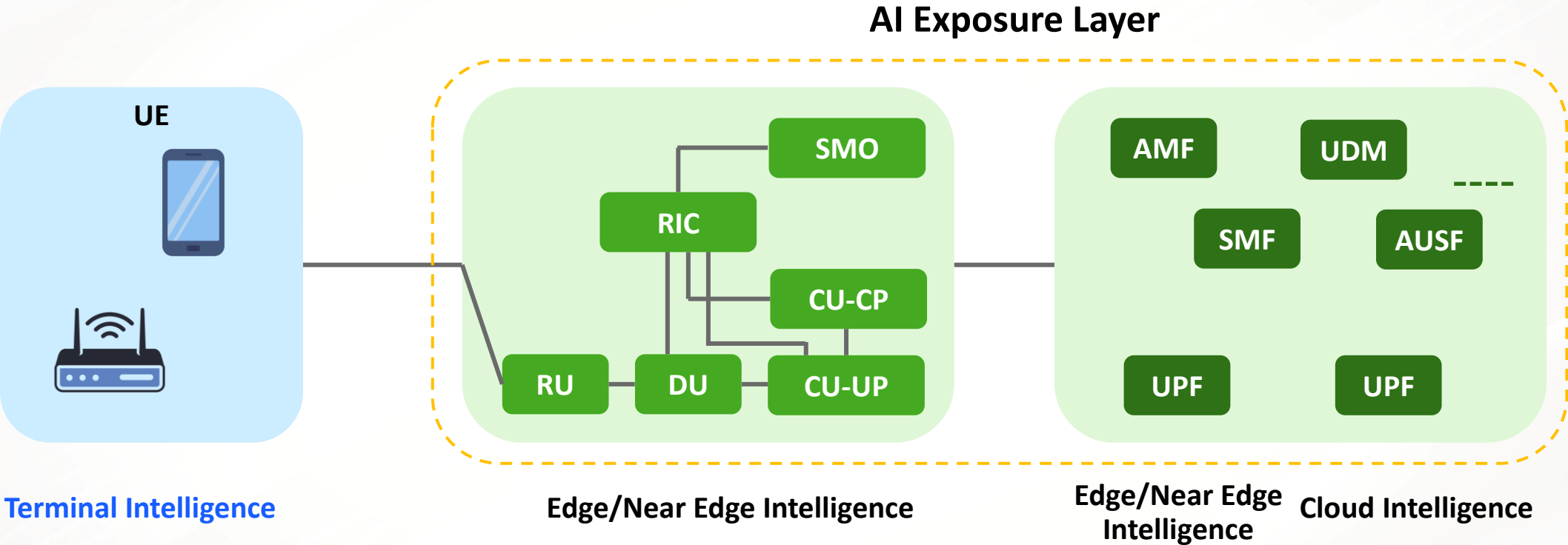


# The Role of Virtualization in AI Enablement





# The Role of Terminal Intelligence in AI Enablement

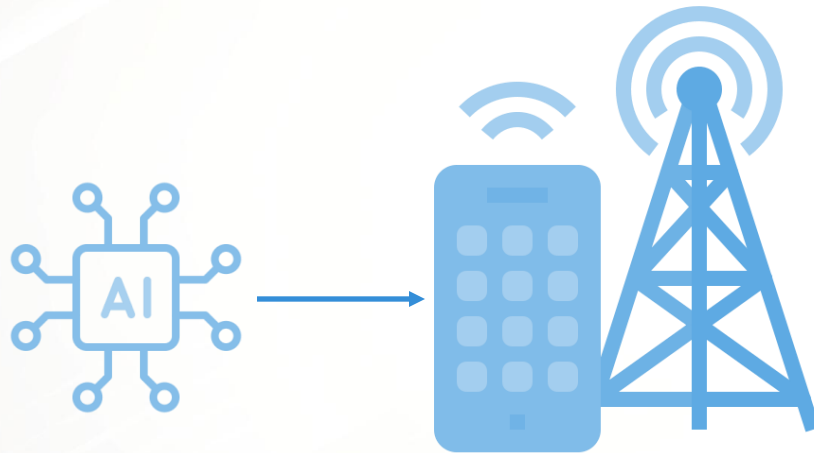




# Autonomous Networks – Decision and Analysis

## AI for Networks:

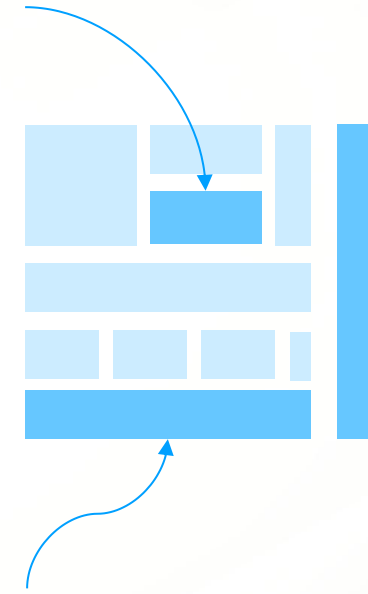
- Predictive maintenance
- Intelligent decision making
- Energy management



**A.I.**

**Network**

Replacing existing  
systems with AI-  
powered versions



Integration of a  
new AI-based  
model

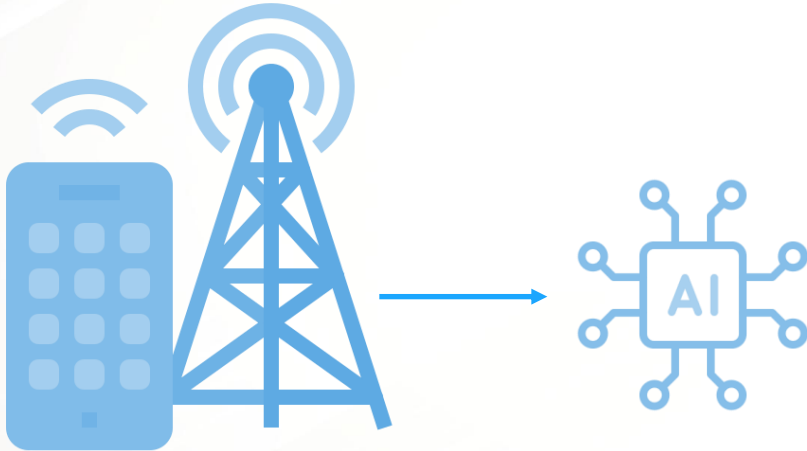
Integration of AI-  
based management  
systems



# Autonomous Networks – Decision and Analysis

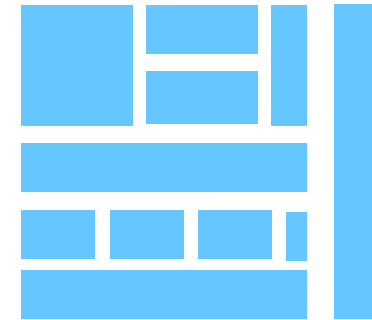
## Networks for AI:

- AI-native network design
- Provisioning High-Performance Connectivity
- Supporting Distributed AI Processing



**Network**

**A.I.**



**AI everywhere!**





# AI Native Autonomous Network



AI for Networks

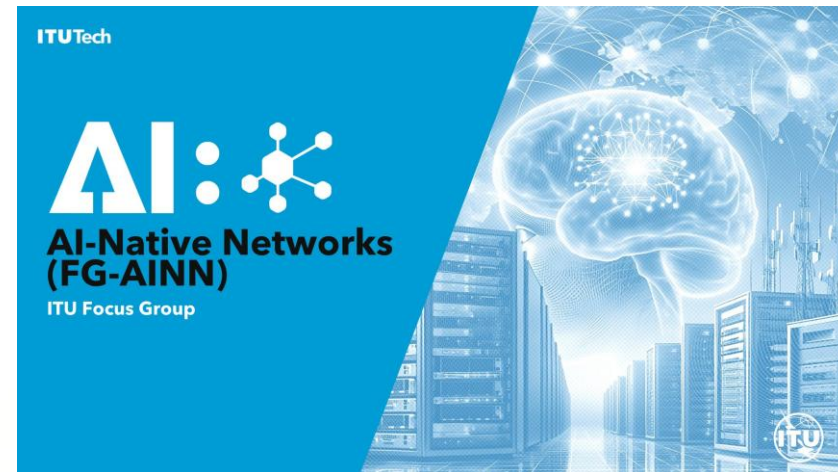
Networks for AI





# Conclusion & Call to Action

«Fully Autonomous» «AI Native» «Networks for AI»





**THANK YOU**