AI in Networks

Agenda

01

AI in Networks: Future networks | CXI | Fiber build

02

Digital Construction Management



Alexander Jenbar

03

RAN Guardian



Armin Sumesgutner

04

MINDR



Arash Ashouriha

05

Conclusion: AI impact in Networks

The network of the future will be defined by four forces at play

Intelligence moves to the edge:
AI moves closer to end users and becomes physical

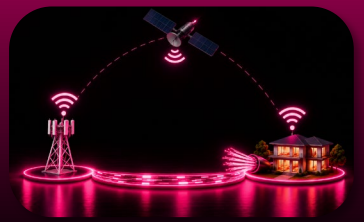
6G is not just another G:
it enables new capabilities like sensing



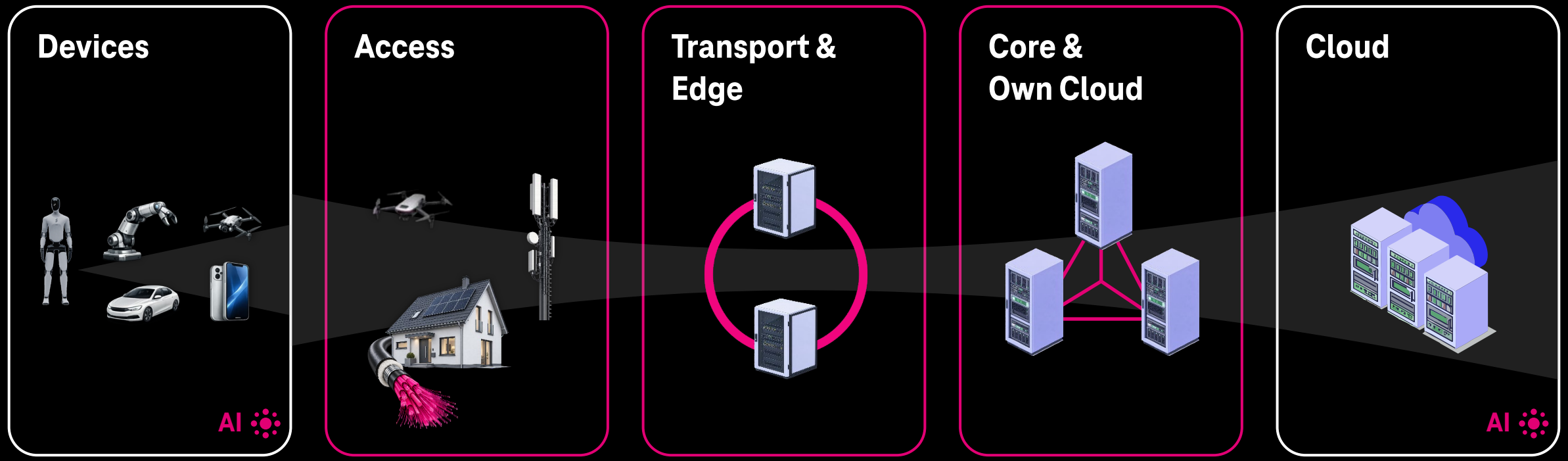
Trust and data sovereignty
become fundamental requirements

Network orchestration
seamlessly integrates multiple access technologies

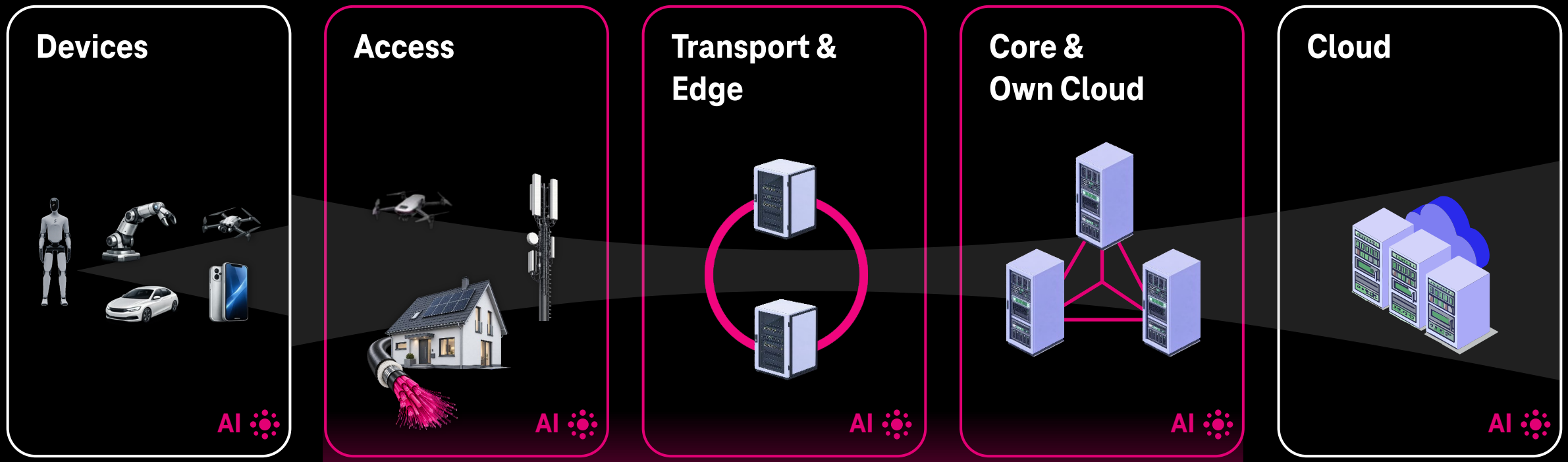
The network of the future will enable new use cases and services

	The Post Smartphone World	Physical AI	Network of Networks	Intent-based Services	Sensing
					
Description	A **new "iPhone" moment** is approaching with voice-based personal AI-agents and new devices	**From IoT to AIoT**	**Seamless connectivity** across networks and access technologies	The network **captures intent** and translates it into personalized services	The network **understands and interprets** the physical environment
Business Opportunities	Monetization opportunities beyond data (e.g., tokens)	Quality of Service (QoS) for Robots	Always connected to the best network proposition Secure connectivity	Hyper-personalized, intent-driven customer experience and services	Physical awareness in industrial environments Defense and public safety

The network of the future becomes more intelligent as AI workloads move closer to the edge



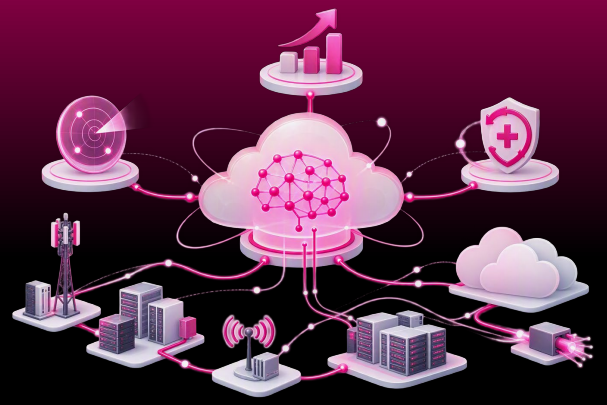
The network of the future becomes more intelligent as AI workloads move closer to the edge



The network becomes the AI execution layer: AI will increasingly run in the network, wherever execution is fastest, most efficient and most secure

Network operations of the future: the emergence of fully autonomous networks

Our Vision: a fully autonomous network



- AI orchestrates end-to-end
- The network anticipates, adapts, and self-heals in real time
- Humans act by exception

1 Improved customer experience

BEST NETWORK

2 Scope for efficiencies

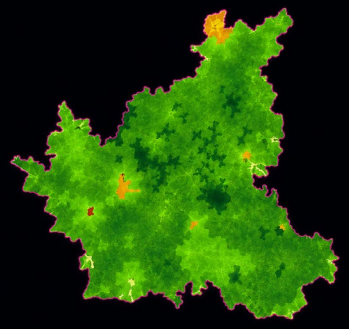
Network Operations Opex[1]	Network Capex[2]
€4.3 bn	**€5.8 bn**

[1] 2025, DT ex US, excl. cap labour [2] 2025, DT ex US

1 End user experience data as the foundation for the network operations and roll-out

Real-time customer network experience measurement

CustomerExperience Index (CXI)



1 2 3 4 5
Poor Excellent

96%
mobile users > 3.5 in Germany today

Network CX data driven roll-out and operations

Plan

CX-driven Roll-out

Identify areas with low CX and high number of customers

Build

Automated Validation

Monitor CXI before and after network changes

Run

Individual Offers for better CX

Identify customers with upgrade potential (cross- & up-sell) or churn risk

↑ **CAPEX Efficiency**

↑ **NPS / Customer Experience**

↓ **Churn**

↑ **Revenue up- & cross-selling**

Best network



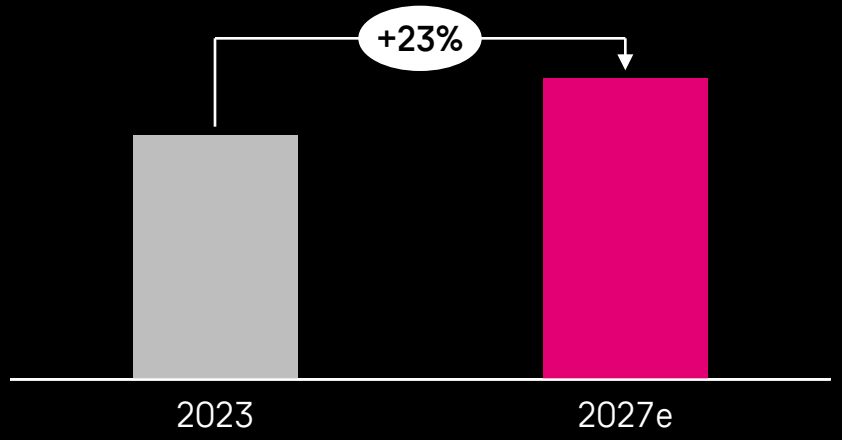
Most consistent mobile network in Europe

2 We are already capturing significant efficiencies in fiber roll-out

Fiber Capex[1]

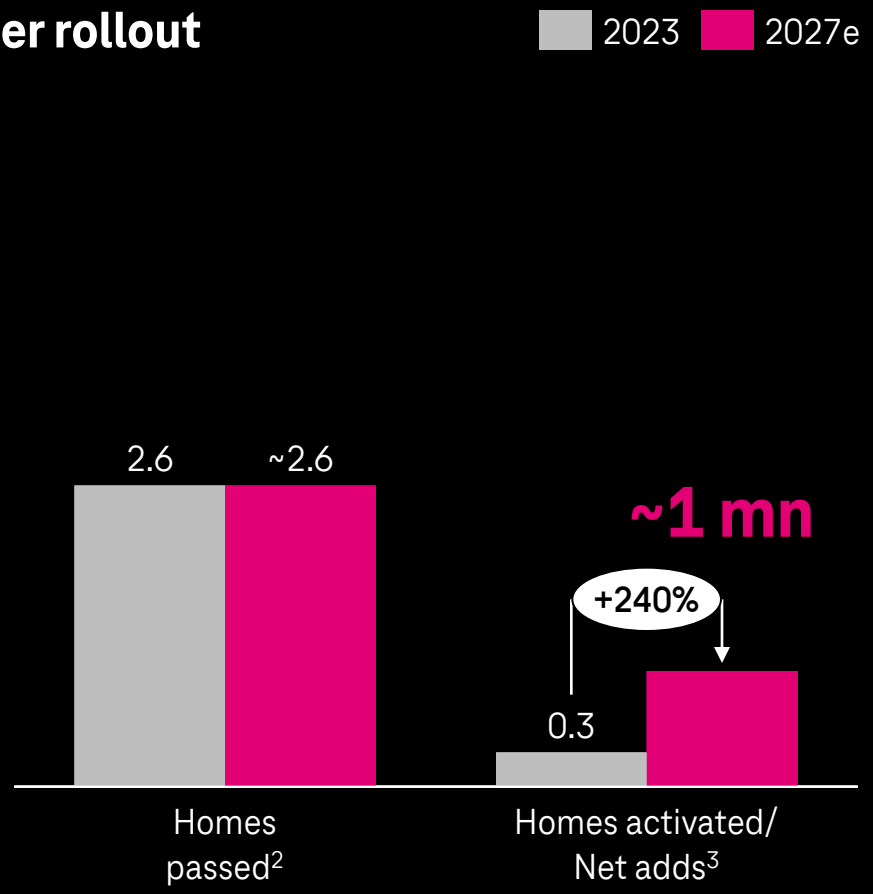
in €bn

€100–150 mn
p.a. savings in fiber roll-out via digitalization and AI



Fiber rollout

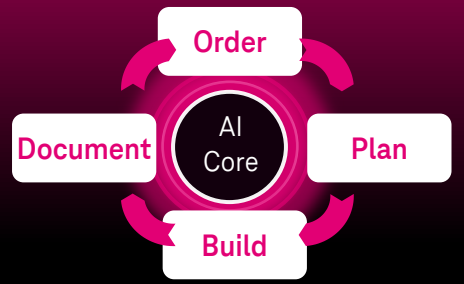
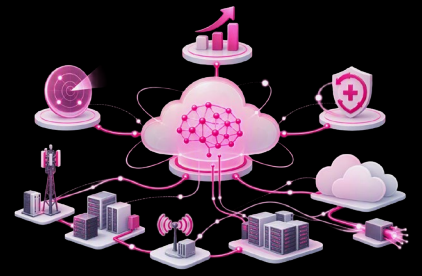
mn



[1] FTTH Capex (book w/o leases) [2] incl. JVs and cooperations [3] Retail and Wholesale

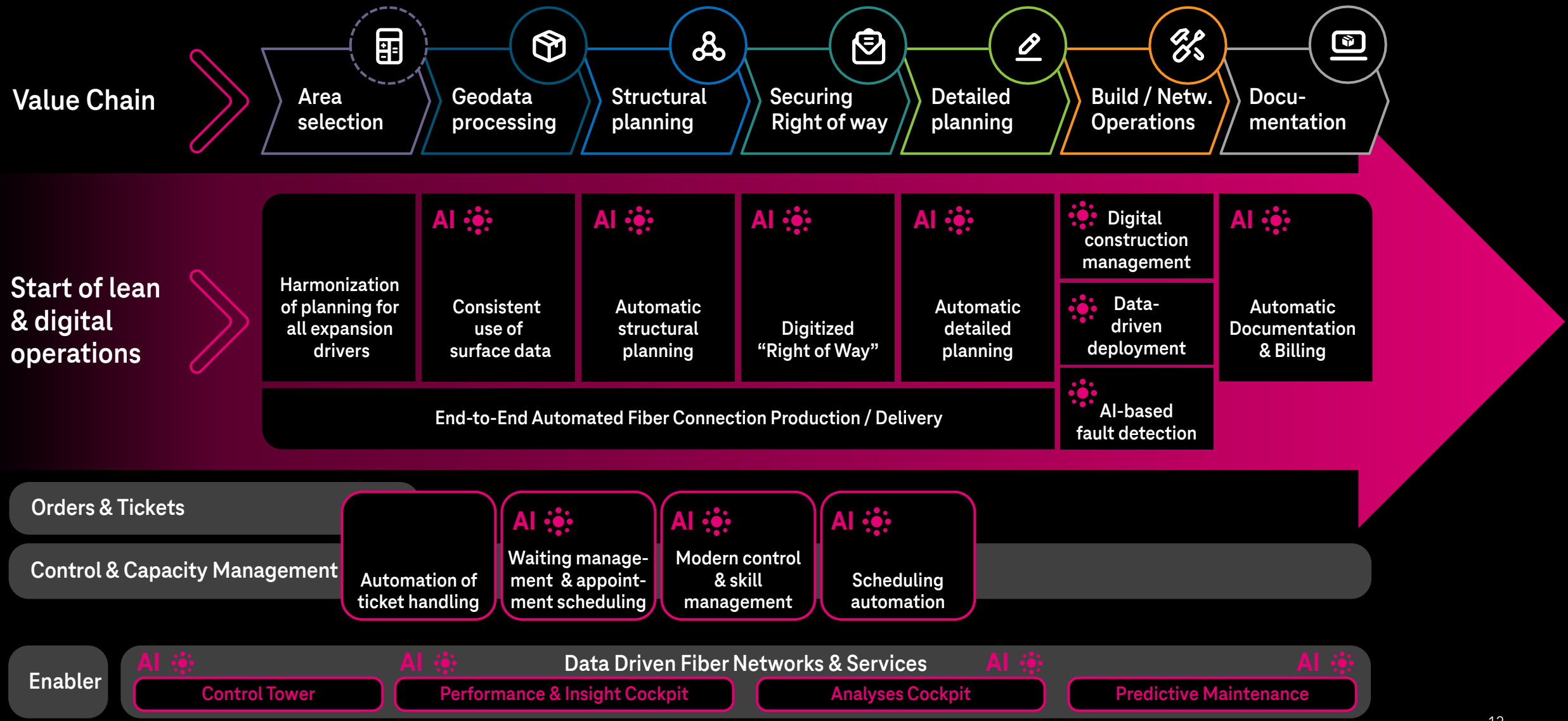
We are already building the network of the future

SHOW CASES TODAY

	TODAY	2027/28	2030+
Fiber Rollout	**Digital Construction Management** **AI Apprentice** observes and automates processes **AI Voice Bot** automates fiber appointments	Alexander Jenbar  **AI-based Order Management** automates ticket handling and orchestrates orders end-to-end **Automated Billing & Documentation** without human intervention	**Autonomous Value Chain** 
Network Operations	Armin Sumesgutner  **RAN Guardian** **Cell fails, Network heals** (cSON) **Traffic sleeps, Network sleeps** (RAN Energy savings)	Arash Ashouriha  **MINDR Platform & Agents** **Agentic FachCAB** orchestrates autonomous change management **OLT Swap** automates planning and execution of changes	**Fully Autonomous Network of Networks** 

Digital Construction Management

Fiber: Digital and AI levers transform every step of the value chain



We are already building fiber at a massive scale

We achieved this...



14.1 mn

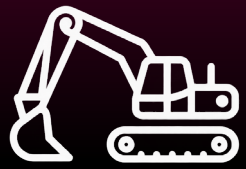
Homes Passed[1]

...with great effort in 2026.



2,000

Construction crews working in parallel



16,000 km

Trenches built

With **the highest quality and reliability,**
we are the preferred partner for most German municipalities.

[1] Total FTTH Homes passed footprint Germany as of 08/2026

Our experts set the standard for top-quality fiber build

We have a good foundation

Highly qualified construction supervisors managing every construction site

>90%

digitally recorded trenches

We still face challenges though

Quality assurance remains a key priority



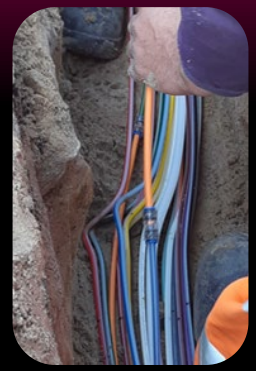
Missing markers



Insufficient depth



Incorrectly connected pipes



Kinked or damaged pipes

Causing

- Costly rework
- Lower first-time-right
- Billing mismatch
- Higher lifetime costs

Even our experts cannot be everywhere at the same time

Our solution

AI powered

Digital Construction Management

Digital Construction Management creates the control layer for fiber rollout

From planned work to verified reality, in one digital chain.

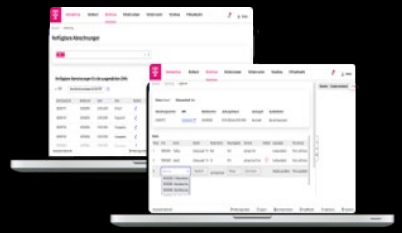
AI powered



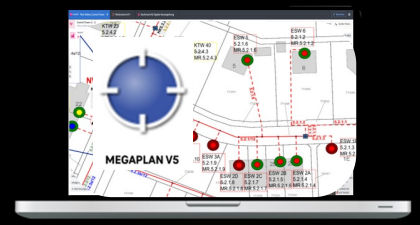
Capture the build



Detect defects and solve directly



Verify billing



Automated Documentation

Create transparency

Increase build quality

Pay as built

Faster customer activation


But see for yourself...
... and let me take
you to one of our
construction sites!

With Digital Construction Management we create measurable impact

100%
Transparency over construction progress & quality

15%
Improvement of construction quality

20%
False invoices corrected

100%
Automated documentation



Scalable platform for DT's European footprint
Leveraging AI capabilities

RAN Guardian

RAN Guardian – Problems to solve

Reactive & Manual operations

Issues are detected only after degradation, requiring time-consuming manual data correlation



Too rigid to keep up

Limited number of events can be tracked and managed manually



Scalability & Awareness gaps

Teams cannot monitor or understand high number of events, missing critical degradation signals



Multi-Agentic Approach

People Event Agent

Identifies events & gathers relevant details for a comprehensive overview

Actions

- Creates a comprehensive list of events across a country (e.g. Germany)
- Size, localize and categorize the event
- Verify the list of events based on a second verification angle and store it in a confidence factor

Monitoring Agent

Links event locations to radio sites, analyzes data, and assesses issue severity

Actions

- **Preparation phase:** checking the sites associated with an upcoming event up to 3 month in advance for: performance issues and Capacity sufficiency
- **During the event** monitors a set of KPIs
- Traffic jams congestion monitoring
- Recommend the best config choice in real time

Remediation Agent

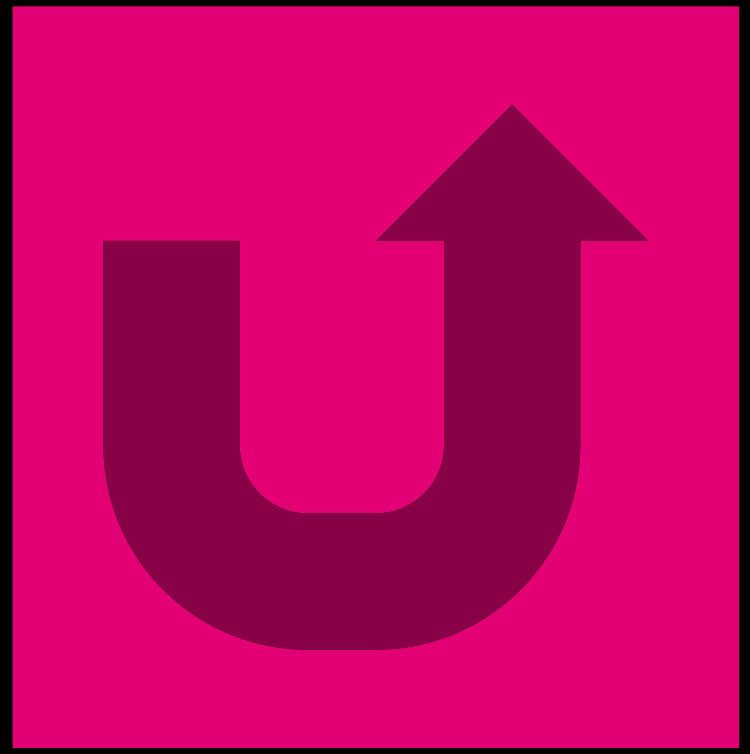
Evaluates degradation types and executes targeted corrective actions

Actions

- Execute the recommendation
- Notifies a human for action if required
- Stores experience and logs all actions for future learning

RAN Guardian Demo

Click Icon to move to demo



What have we achieved to-date?

>95%
Faster execution

From 1 hour to 1 min

>100x
From 1 k to 100 k events covered

Tracking >100 k events with more than 1,000 attendees

>24 mn
customer minutes
Protected against congestions in events

Major events that required RAN guardian autonomous actions

RAN Guardian – in Action

MINDR

Our path to autonomous networks

While in a strong position

Leading telco driving network automation

Many automation solutions in place

We still face 3 challenges though

Scaling automation remains a key priority

1

Use case by use case

Siloed solutions, built one by one does not scale easily

2

Growing complexity

Growing network and tooling landscape

3

Autonomous network barrier

We need to cross the barrier to autonomous networks L4 and beyond

Point solutions alone will not get us to autonomous networks

Our solution

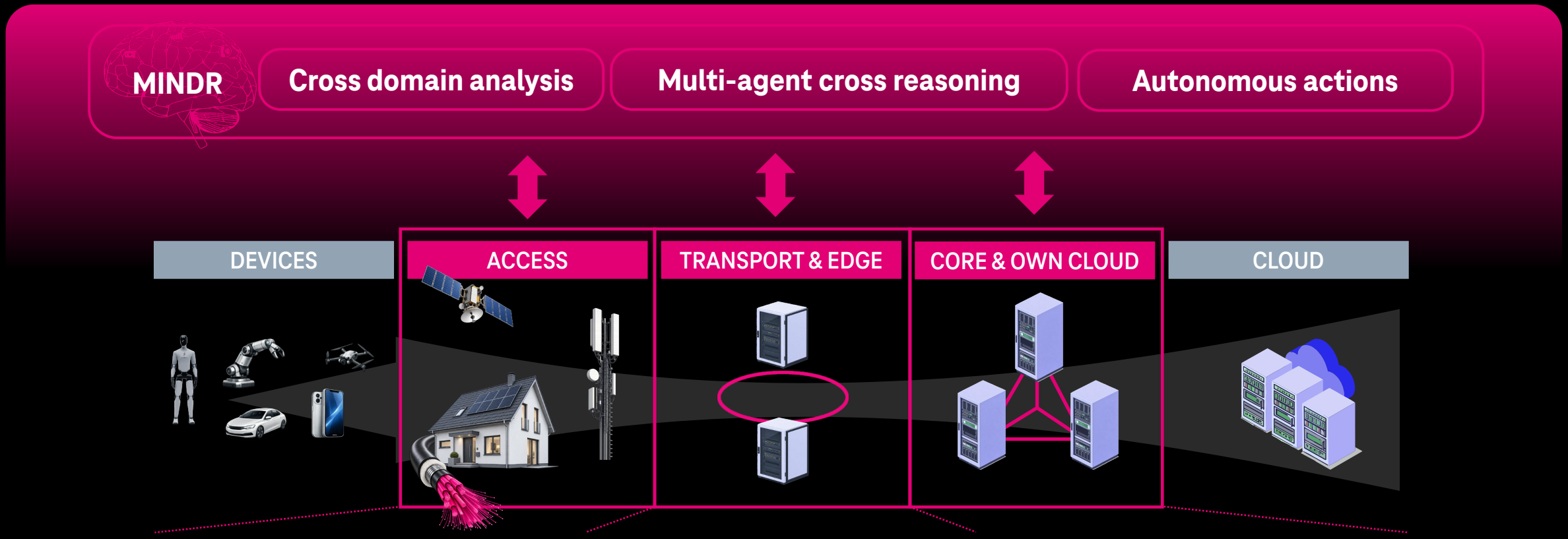
Agentic AI

powered

Scalable platform across the network

1. Beyond single use cases
2. Tames complexity
3. Scales to autonomous networks

MINDR: Our multi-agentic AI platform



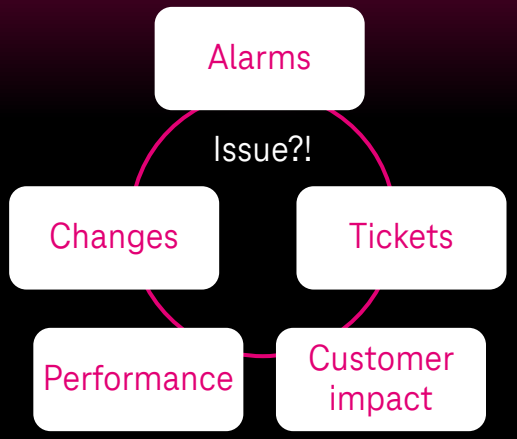
A modular observability & incident management platform that anticipates & acts autonomously

Multi-Agentic Intelligent Network Diagnostics & Remediation

The 4 stages of MINDR

Detect & Correlate

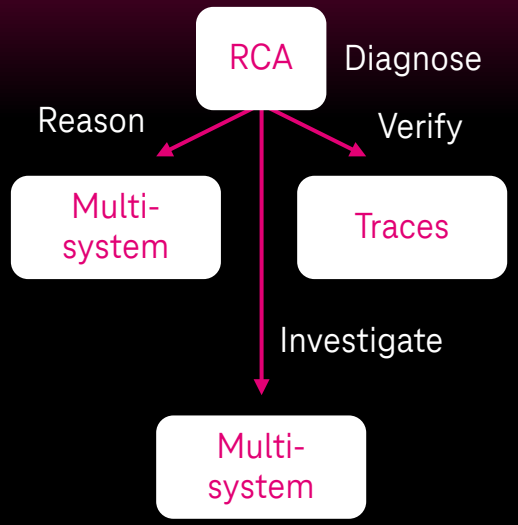
Autonomous correlations



1

Diagnoses & Reason

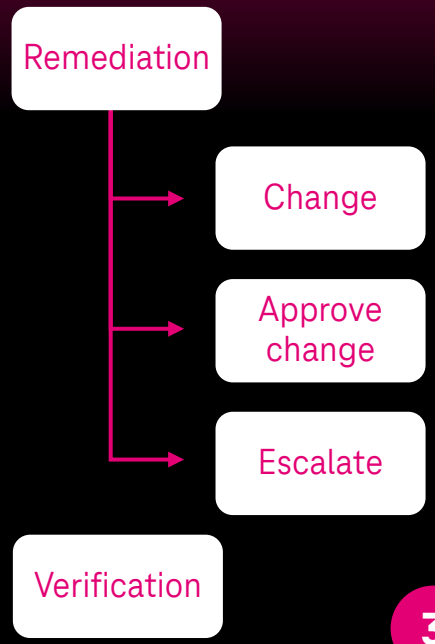
RCA agent



2

Resolve

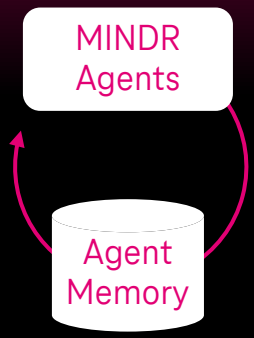
Remediation agent



3

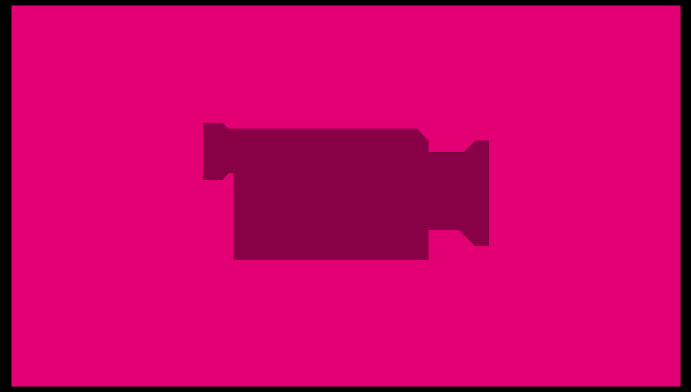
Learn

Self learning system



4

MINDR demo



https://demo-mindr.vercel.app/overview

MINDR is a key contributor to autonomous network ambitions

MINDR and other ongoing programs are targeting the achievement of these KPIs

>90%

Tickets managed automatically

AI agents handle the full resolution cycle

<15 min

Qualifying the issue

Powered by autonomous operations and limited human intervention

<1 hr

Incident resolution

Network restored within 60 min of any incident

30%

Productivity gain

Productivity gain in field service

Mobile CXI 4+

Customer experience for >90% of the customers

New KPI

MINDR acts on all the above KPIs for the integrated domains



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Conclusion: AI impact in Networks

AI in Network: 2030 targets

Fully autonomous network

Level 4

for high-value use cases

Best network experience in Europe

Mobile CXI
>4 for >90%

of the customers

Network efficiencies

Network gross savings[1]

10–15%

[1] % of IDC AL, vs. 2023, DT ex US, excl. token costs, incl. cap. labour

AI in Networks