AI Odyssey:
From Rules to Reasoning to Autonomy

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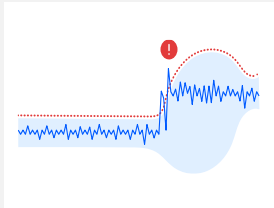
AI decision element to networks that sense, think and act

AI use cases for access using network data

Detect network anomalies

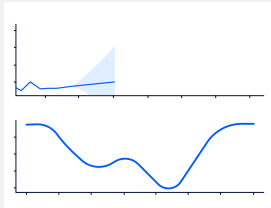
Smart threshold crossing alarm

Accurately identify patterns that represent real issues



Trend prediction

Detect events before they become service affecting



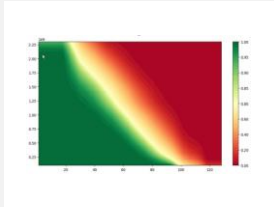
Outlier detection

Proactively find issues by comparing performance

Analyze network utilization

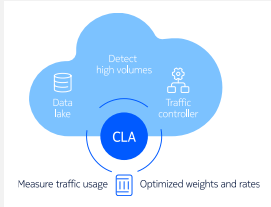
Digital twin for capacity planning

Run what-if analysis to provide better QoS to users



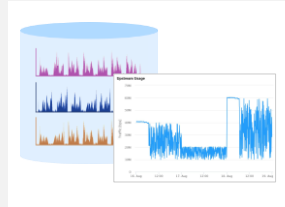
Bandwidth management

Ensure fair peak rate availability for all users



Subscriber Profiling

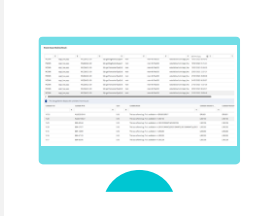
Identify subscribers limited by PIR
Targeted upsell campaigns



Assist human operators

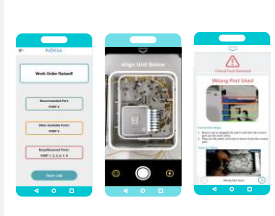
Automated troubleshooting

Suggest the next best action for resolving an issue



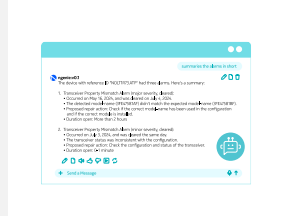
Guidance for field installation

Automatically validate physical installations



Gen AI chatbot for NOC

ChatGPT-like interface to enhance user experience



But wait, is there more?

Operators need to tackle FTTH problems early on

What are the pain points in today's operations?

No real-time updates to keep inventory data up-to-date

20%

of network inventory is inaccurate

Incomplete view and testing leads to return visits and cost overruns

>10%

failed FTTH intervention rates

Inaccurate fault isolation, no early warnings cause prolonged downtimes

>60h

Average time to repair network faults in FTTH

How do we address them?

Making the fiber plant observable in the controller

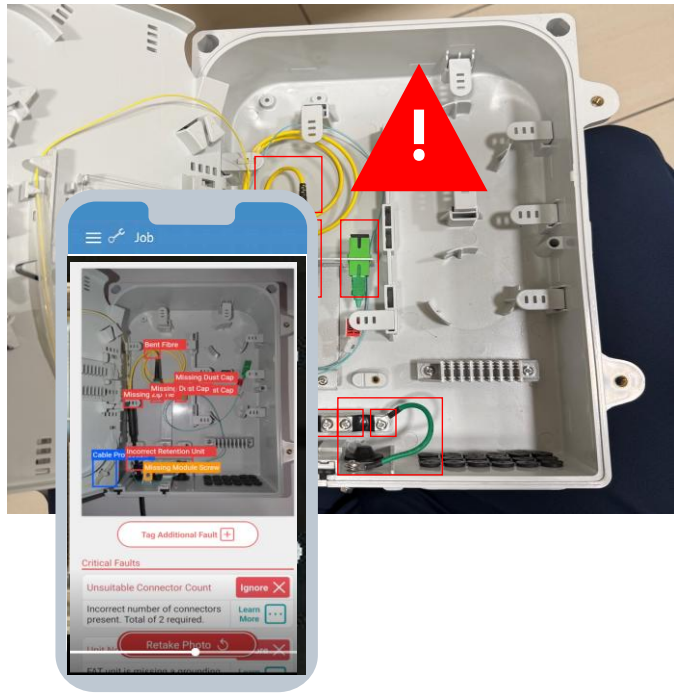
Broadband Easy: Design, Build, Connect

1

Digitalization of the FTTH lifecycle

Integrate with field automation tools to keep inventory accurate

Build Connect Operate



- Validate installations
- Certify optical links
- Activate subscribers
- Keep inventory up-to-date

Making the fiber plant observable in the controller

Digital inventory twin in Altiplano

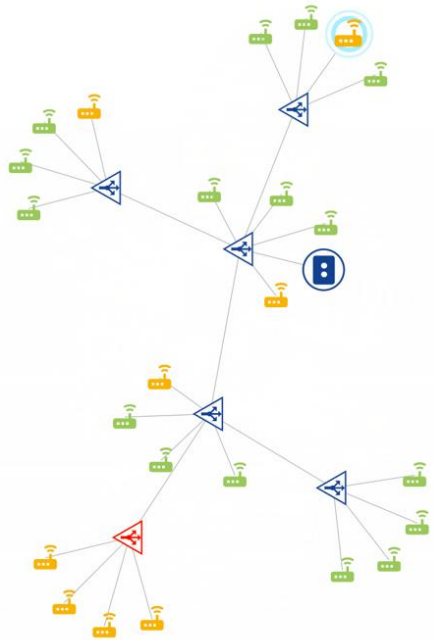
2

Import topology in the controller

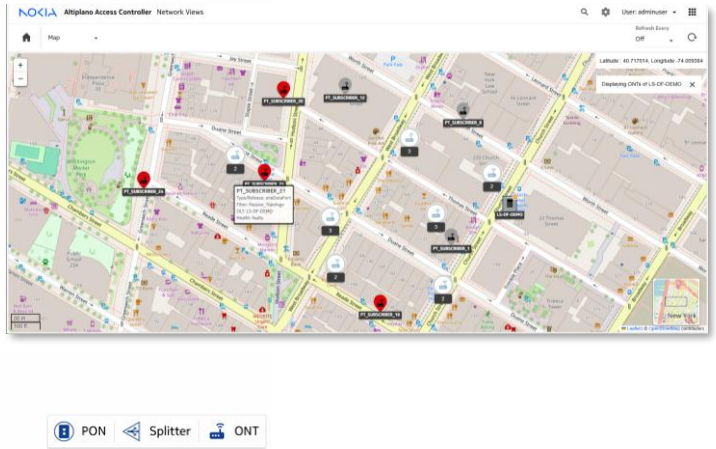
Build a digital twin for active and passive elements in the FTTH network

Network

Digital twin



- Import birth certificates
- Import as-built files
- Real-time inventory
- Topology view



Making the fiber plant observable in the controller

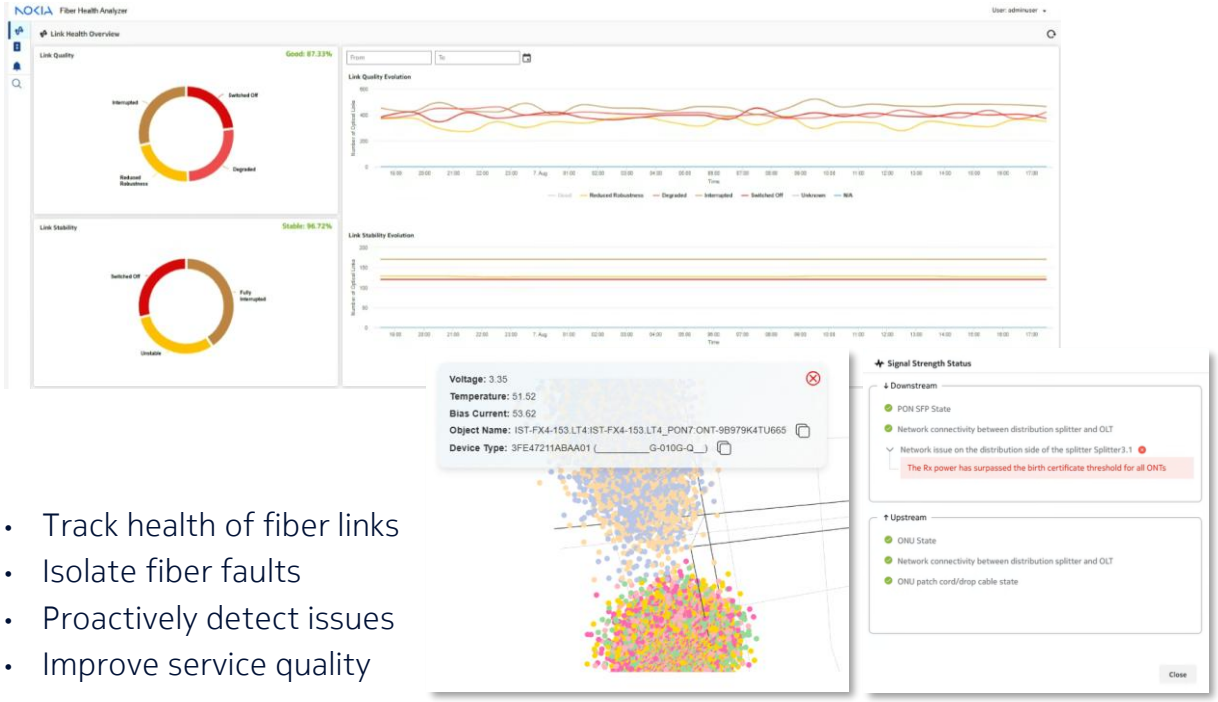
Fiber Heath Analyzer App

3

AI-powered fiber insights

Improve fault handling, predictive care and capacity planning

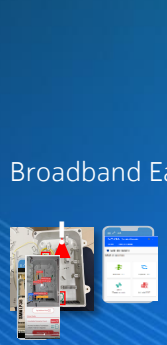
AIOps → FTTH



- Track health of fiber links
- Isolate fiber faults
- Proactively detect issues
- Improve service quality

AI decision element to networks that sense, think and act

Including real-time passive inventory updates!



Broadband Easy

Certification, Activation

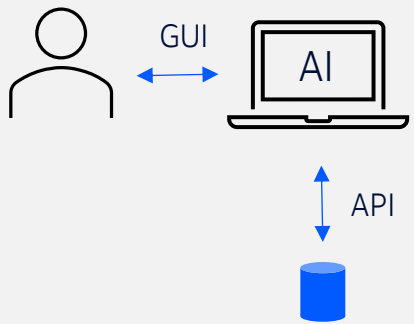
\Topology

What is the next evolution?

AI agents

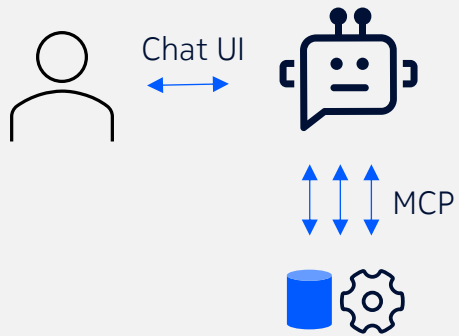
License to Automate!

AI helps human decision making



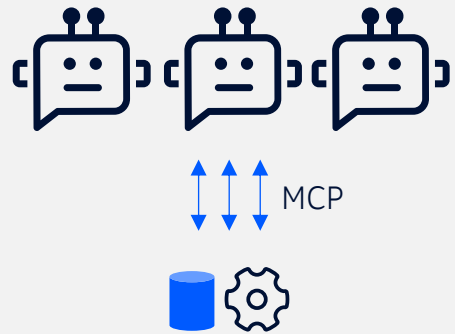
Predictive AI: use AI to learn patterns from data

AI reaches human reasoning



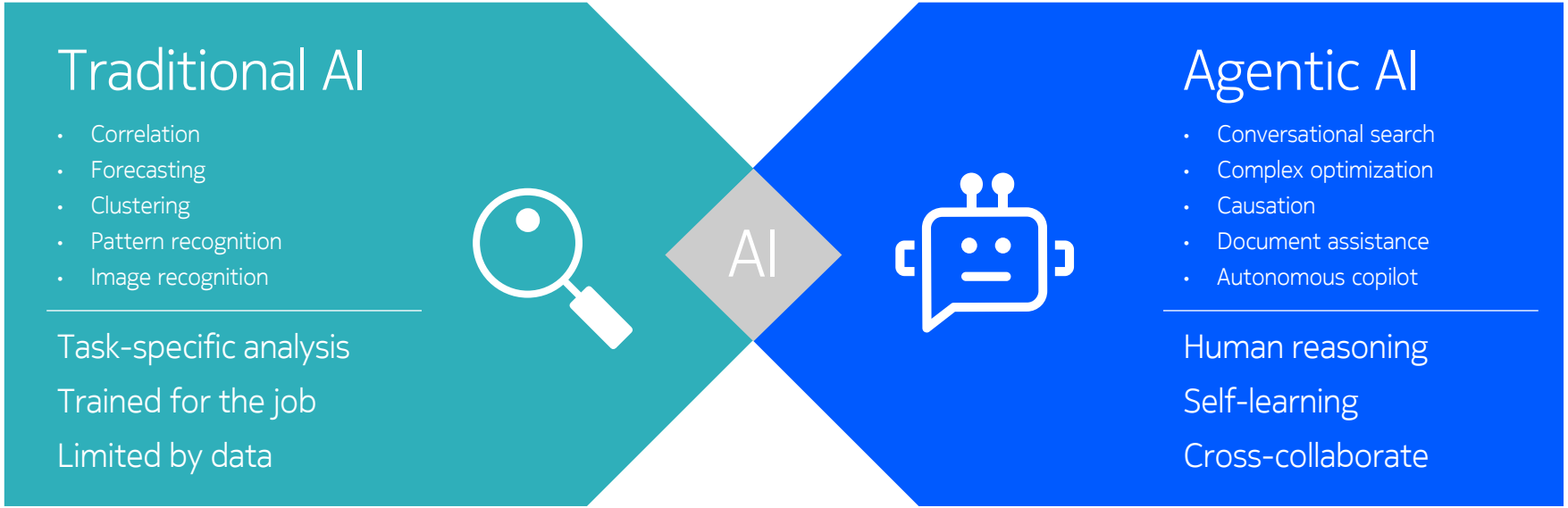
AI Agents: conversational, self-learning and collaborative

AI acts autonomously



Agentic AI: completes complex E2E tasks under human supervision

Agentic AI improves reasoning and decision making in the NOC



Includes GenAI

AI decision element to networks that sense, think and act

Including real-time passive inventory updates!

Our Altiplano open framework, consumable for AI

Key take-aways

Rule-based AI automates the predictable

Machine learning enables foresight

Agentic AI adds reasoning and self-learning


NOKIA