FutureNet World Webinar

Unlocking Autonomous Networks – The Power of Knowledge-Driven AI to Deliver Level 4

Highlights with Audio Link

A panel of experts discussed knowledge-driven AI and the journey to automated resolution, self-healing, and reaching level 4 automation. The panel included:

Charlotte Patrick, Independent Industry Analyst, Charlotte Patrick Research
Afnan Ahmed, Director Technology Strategy & Architecture, Telenor
Assen Golaup, Senior Manager Mobile Access Strategy, Liberty Global
José María Ramón Pardo, Autonomous Networks & AI Senior Manager, Telefónica
Dale Skeen, CTO & Co-Founder, Vitria Technology

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Charlotte Patrick


Afnan Ahmed


Assen Golaup


José María Ramón Pardo


Dale Skeen

KNOWLEDGE-DRIVEN AI

Knowledge-driven AI refers to AI enhanced with structured knowledge. Structured knowledge is machine readable and shareable between humans and AI and often represented by a knowledge graph. With the addition of structured knowledge, AI agents get smarter and produce more accurate results with fewer hallucinations. Dale Skeen of Vitria claims, "Knowledge is crucial to building trust and accuracy in AI. Knowledge is more than an enabler; it's an accelerator to your journey to level four."

AI KNOWLEDGE NEEDED FOR TELCOS

Dale Skeen of Vitria indicated that: "Knowledge for Telcos needs to include dependencies between layers in the networks topologies including both learned and inferred dependencies such as failure patterns between components; diagnostic knowledge about the key symptoms and likely fixes; and contextual knowledge about the physical facilities, the geographic locations, the environmental and weather conditions."

KEY BENEFITS IN REACHING LEVEL 4 AUTOMATION

Afnan Ahmed of Telenor summarized the key benefits as improving efficiency to reduce opex and becoming more energy efficient. He continued to elaborate on three other value dimensions expected in reaching level 4: new services, growth in existing services, and better customer experience. He claims that "If the level four story is just built around efficiency, we will struggle to invest and succeed in the boardrooms and investment committees."

José María Ramón Pardo of Telefónica reported: ""We have an objective to reach level four in 2030." "We all know that it is difficult. We also know that it may not be worth reaching level four in every operational area."

AI/ML DEPLOYMENT BY PANELISTS

Telefonica: Early fault detection, degradation prediction, root cause analysis, capacity planning, demand forecasting, improving energy efficiency and aligning consumption with real traffic demand

Liberty Global: Fault management and run optimization

Telenor: RAN assurance, fault management, and energy efficiency.

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PLANS NEEDED TO SUPPORT KNOWLEDGE-DRIVEN AI

Assen Goloup explained Liberty Global's plans around three themes. "First is data readiness, having the right framework in place so that you can centralize your data, cure it and have AI ready data sets. The second is knowledge driven AI, capturing operator knowledge so that the AI can be more effective. Third is getting a representation of your network." Assen indicated that the key to knowledge-driven AI is capturing operator know-how into machine-usable structures.

Afnon Ahmed of Telenor described the need to manage data and correlate it in a better way across domains, within service levels and at the business levels.

Dale Skeen of Vitria endorses a practical sequenced approach, using knowledge to organize and enrich data, knowledge-mining to discover undocumented/dynamic dependencies, then automating with higher confidence.

PILOTS AND DEPLOYMENTS AROUND KNOWLEDGE-DRIVEN AI BY PANELISTS

Telefónica described degradation prediction, RCA, capacity/demand forecasting, and energy optimization as being the most mature. Additionally, he indicated that they are continuing to scale ML, intelligent agents and digital twins across domains.

Liberty Global described progress in cross-domain Service Impact Analysis within the change management process, Root Cause Analysis beginning in the core, and an end-to-end VLAN orchestration with self-healing.

Telenor reported deploying self-healing in IP/transport, bespoke RAN energy-savings models, and piloting AI agents for first-line NOC.

IN SUMMARY

Panelists agreed that success in knowledge-driven AI depends on strong data foundations, digital and knowledge twins, and focusing on high-value use cases. Moderator Charlotte Patrick emphasized grounding AI models in factual knowledge to prevent hallucinations and improve decision-making. Vitria's Dale Skeen stressed that knowledge-driven AI—yields smarter, more explainable, and more trustworthy automation.

ABOUT VIA AIOps

VIA AI powers VIA AIOps to deliver the process automation capabilities required to transform operations and dramatically lower cost. VIA delivers intelligent automation from a powerful platform that combines AI, analytics, and machine learning in real time. VIA provides Telcos with a modern operating model that enables a superior customer experience and supports a leaner, more efficient, and effective operations staff.