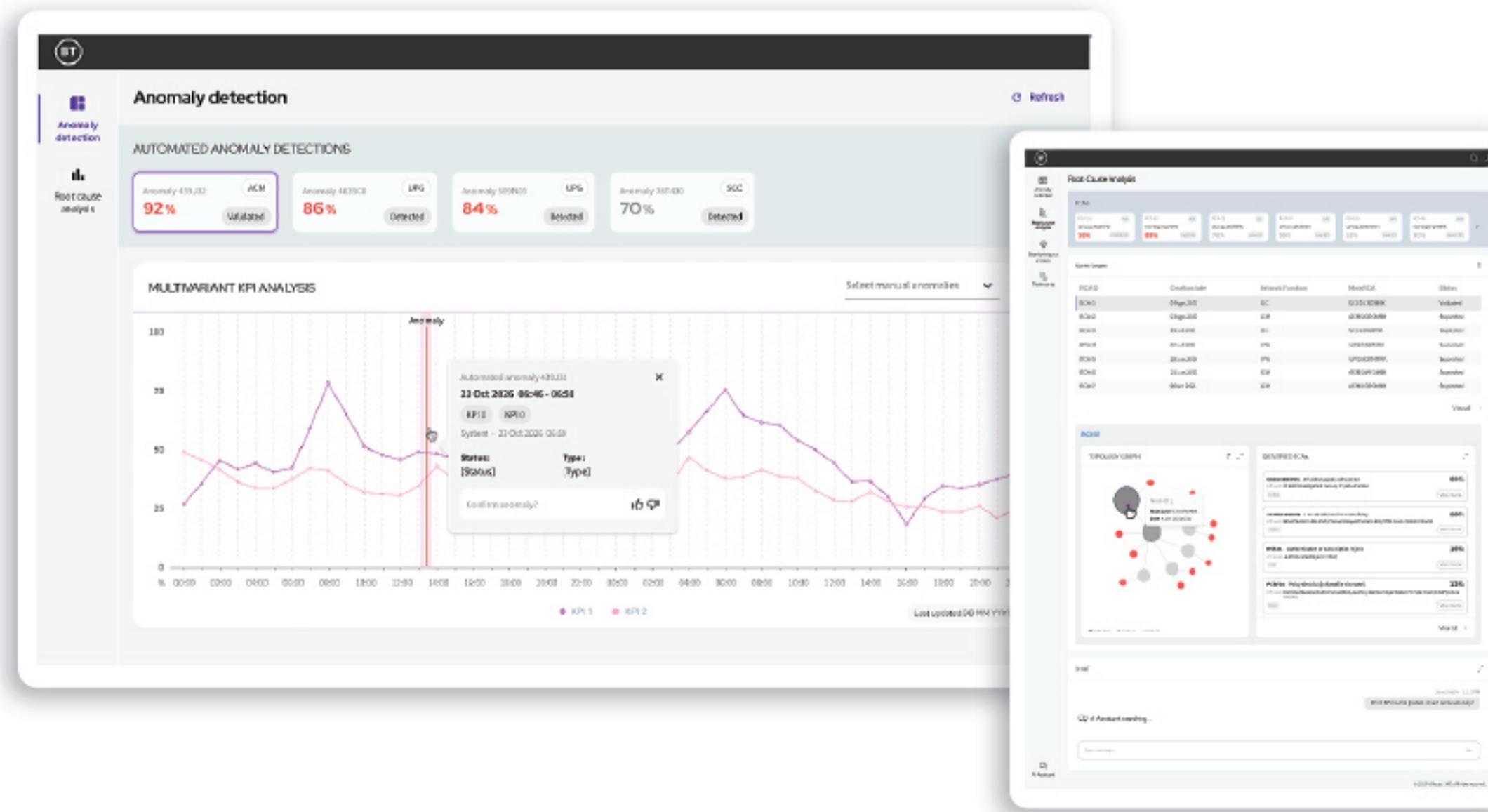


# Streamlining CORE and RAN Network Operations with Digital Twins & Agentic AI

BT, AWS, and Celfocus have joined forces to deliver a **unified assurance platform** that correlates **performance, fault, and topology data in near real time**, predicting anomalies, accelerating root-cause detection, enabling proactive network healing, and revealing customer impact during network faults.

This initiative is transforming BT's 4G/5G CORE and RAN assurance through graph-based analytics and AI-driven automation.



## CHALLENGE

BT faced disconnected network tools and siloed KPIs that caused **alarm fatigue, reactive troubleshooting, and slow fault isolation**, with limited visibility across OSS domains and vendors. Manual root-cause analysis prolonged Mean-Time-To-Repair (MTTR), while the lack of correlation between performance degradation and service impact hindered prioritisation. Repetitive, low-value alarms and reliance on costly, domain-specific tools further reduced operational efficiency.

## BENEFITS

 **100% L1/L2 Reduced MTTR**  
AI-powered anomaly detection automates 100% of temporal anomaly scoring across datasets, accelerating issue identification and reducing MTTR.

 **-50% Proactive Service Management**  
Predicts performance degradation before SLA breaches occur, enabling proactive intervention and protecting service levels.

## SOLUTION

BT, Celfocus, and AWS delivered an integrated solution combining advanced analytics and AI-driven automation. Multivariate KPI models built with Amazon SageMaker and AWS Glue enable **early anomaly detection**. Agentic AI-driven reasoning over an AWS Neptune graph supports rapid, cross-domain **root-cause analysis** by identifying causal nodes and dependencies.

The platform **delivers end-to-end Anomaly Detection, Root Cause Analysis, and Service and Customer Impact Analysis**, linking network events to services and customers via explainable AI, enabling BT's faster and accurate incident communication.

 **-30% Dark NOC Operational Efficiency**  
Streamlined workflows and reduced dependency on domain tools lower OPEX and minimise the need for human intervention.

 **Vertical & Horizontal Causation**  
AWS Neptune and Agentic AI deliver precise RCA by identifying vertical causation within the same datacentre and horizontal causation across datacentres.

**Making Data Actionable.**

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