

AI-POWERED PREDICTIVE ANALYTICS IN ACTION WITH Q-KON

ABOUT THE CUSTOMER

- Q-KON is a technology services company that supplies solutions based on satellite, wireless and VoIP technologies.
- Delivers products, turn-key solutions, managed services and professional services throughout Africa based on innovative technologies.
- Underwritten by over 30 years of system engineering expertise.

PAIN POINTS

Q-KON is a leading provider of satcom solutions in Africa and a long-standing ST Engineering iDirect customer. Always striving to stay ahead of the technology curve, the company wanted to enhance its customer experience by reducing instances of service disruptions that result in reduced network availability and performance. For network operators and service providers, network optimization and reliability are essential, as is the ability to detect anomalies as early as possible so that issues can be rapidly resolved.

There are various factors that can potentially affect services such as increased maintenance costs and weather-related issues, both of which lead to diminished customer experience.



APPROACH

As a long-time user of ST Engineering iDirect technology, Q-KON was an early adopter of the AI-powered network analytics platform and has collaborated on the development of a proof-of-concept offering features that detect anomalies affecting network performance.

THE SOLUTION: IDIRECT AI-POWERED ANALYTICS PLATFORM

ST Engineering iDirect's AI-powered network analytics platform proof-of-concept is redefining how real-time insights, predictive analytics, and anomaly detection are reshaping satellite network operations. The platform enables operators to anticipate and resolve network issues before they escalate. It achieves this by leveraging both historical and real-time data to predict throughput, identify network anomalies, and drive proactive interventions.

By enabling operators to resolve issues early, optimize resources, and boost workforce efficiency, our network analytics platform advances both business outcomes and customer satisfaction.

THE OUTCOME

Leveraging Q-KON network data to help train the models and predict performance has enabled the platform to optimize resource allocation which resulted in:

- Improved network efficiency and reduced downtime.
- Enhanced customer satisfaction through better service quality.
- Cost savings by aligning resources with peak usage demands.
- Greater scalability to handle fluctuating traffic patterns.

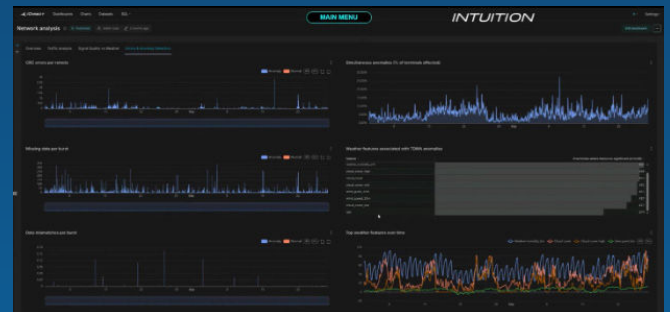
The collaboration with Q-KON highlighted two interesting findings and real-life demonstrations of the impact that the predictive analytics platform has had upon the network.

The first was the early identification of a recent suboptimal antenna installation.

In the lower left-hand corner of the dashboard, the blue prediction line was gradually trending down. This was eventually matched by the actual data points that are shown here in orange. This validated that the predictions made were correct and Q-KON was alerted. Action could then be taken to repoint the antenna which improved the performance, demonstrating that Q-KON's corrective action avoided gradual service degradation before any noticeable impact on the network, directly improving customer experience and operational performance.



Another interesting insight became evident when upstream CRC errors (errors occurring in the data sent from a device to the network) were correlated with weather data. Perhaps surprisingly, the highest correlated anomaly was humidity, rather than rain, cloud cover or wind speed. Humidity can cause issues with the encroachment of moisture into connectors, cables and other hardware and over long periods it can cause persistent problems, especially in early morning, until the sun dries the moisture. This highlighted the importance of the ability to monitor humidity and mitigate the issues associated with it.



STRENGTH IN PARTNERSHIPS

Through working with our valued partners such as Q-KON, we can identify where AI can be most impactful. Access to historical and current network data is imperative as it trains AI platforms to be highly effective, empowering operators to meet customers' expectations and to deliver exceptional service by ensuring uninterrupted connectivity. The platform will help operators and service providers to cut operational expenses, streamline resource management, and transition from manual to autonomous workflows, driving greater customer satisfaction and operational efficiency.

We'd like to thank the Q-KON team for allowing us to leverage their network data and to enable us to refine our predictive analytics platform so that it can be highly effective in identifying issues before they become problems.



The insights gained from ST Engineering iDirect's network analytics platform will be transformative. The ability to predict and prevent issues before they impact service will raise our operational standards, ensure reliable connectivity for our customers and enable us to offer advanced service packages.

Dr. Dawie De Wet
CEO of Q-KON



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