TycheTools for Telco Operators Edge Data Centres

TycheTools is the first AI-driven, SaaS predictive analytics platform for data centre (DC) operators. Our award-winning solutions work out-of-the-box to increase operational productivity and efficiency through edge connectivity, real-time visibility, operational analytics and AI driven predictive and prescriptive alerts. We make possible data driven data centres.

With TycheTools, Telco operators can solve critical pain points in their edge data centres associated with the deployment of the 5G network that current market solutions fail to address adequately.

Pain Point 1

You can’t optimize what you can’t measure. Most sensors on the market today are not fit for purpose for critical infrastructure environments:

• Outdated SNMP or Modbus protocols mean that data may be insecure.
• Limited sensor precision restricts line-of-sight regarding the data points needed to deliver on SLAs, anticipate problems and optimize operations.
• Limited scalability implies low network density, single points of failure and little ability to pinpoint the micro-variations in operating environments that generate costs and systemic risks.
• High prices and difficult installation processes limit ROI.

Tychetools sensors are proper eyes purpose-built for critical infrastructure monitoring:

•Unmatched **accuracy with no extra calibration.**
•**Ultra-easy network provisioning and deployment** of thousands of sensors with a single Gateway.
•A sensor network **designed for critical infrastructures**: secure, reliable even in the worst-case scenario and with no single point of failure.
•**Ultra-low power consumption** enabling uninterrupted operation for more the 3 years with a button battery.
•Much **better value** at a much **better price.**

Pain Point 2

IT insights are critical to understanding DC operational environments and optimizing cooling needs. However, Telco operators cannot access customer servers.

• With TycheTools, **Telco operators can understand and predict** the energy consumption of their customers through externally placed non-intrusive sensors.
• **TycheTools uses AI** to accurately **estimate and predict** power IT consumption, average server load, cooling energy consumption, PUE, Performance Indicator, and many other **key metrics.**

Pain Point 3

Telco operators need to protect their data against emerging threats.

• TycheTools delivers a **higher standard of security** that avoids single points of failure, an essential value proposition for critical data centre infrastructures.
• Our **wireless sensors** use **mesh networking** to ensure fault-tolerance.
• **Network security, application security, and device security** are addressed independently. Different applications use different cryptographic keys to minimize information access rights.

Pain Point 4

Telco operators need to fully automate edge data centre operations. Accelerating 5G rollout, along with growing demand for low-latency and high-bandwidth services and their associated edge data centres, mean the current operational model is no longer viable.

TycheTools' AI-driven, data-rich models **allow operators to:**

• **Automate cooling setpoints** adjustments to minimise total energy consumption according to the demand for services at any given time via predictive models of server workload and power consumption.
• **Optimize clustering of virtualized services** in physical servers via the modelling of services demand and energy consumption profiles.
• **Identify infrastructure improvements** based on resource utilisation under actual workloads.
• **Pinpoint anomalies with no user configuration**, thereby ensuring that abnormal workloads, misconfigurations, attacks or hardware failures are discovered before they impact service delivery.
•Automate mitigation responses for any **detected anomaly to avoid service disruption** and to minimize SLA violations.

How we do it

SECURE SMART SENSOR NETWORK – enables monitoring, collection and local analysis of an unprecedented variety of data about DC activity (cooling, power, servers).

PRESCRIPTIVE AND PREDICTIVE ALERTS – enhance operational optimization and reduce risks with AI-driven alerts based on customized behaviour modelling for each DC rack and room.

INTUITIVE DASHBOARD – provides operators with real-time insights into the most critical drivers of operational efficiency (anomalies, key decisions, etc.).