TycheTools for Colocation Providers

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.

SENSOR NETWORK - Is secure and collects an unprecedented quantity of data about data centre activity (cooling, power, servers).

AI-DRIVEN ALERTS - To analyse the data collected by sensors to drive prescriptive and predictive alerts.

INTUITIVE DASHBOARD - Enables operators to stay informed in real-time, through highlight of the most critical drivers of operational efficiency (anomalies, key decisions, etc.).

You can't optimize what you can't measure.

Current sensor networks in the market are not good enough (bad precision, faulty, expensive, difficult to install, not scalable, low density, insecure).
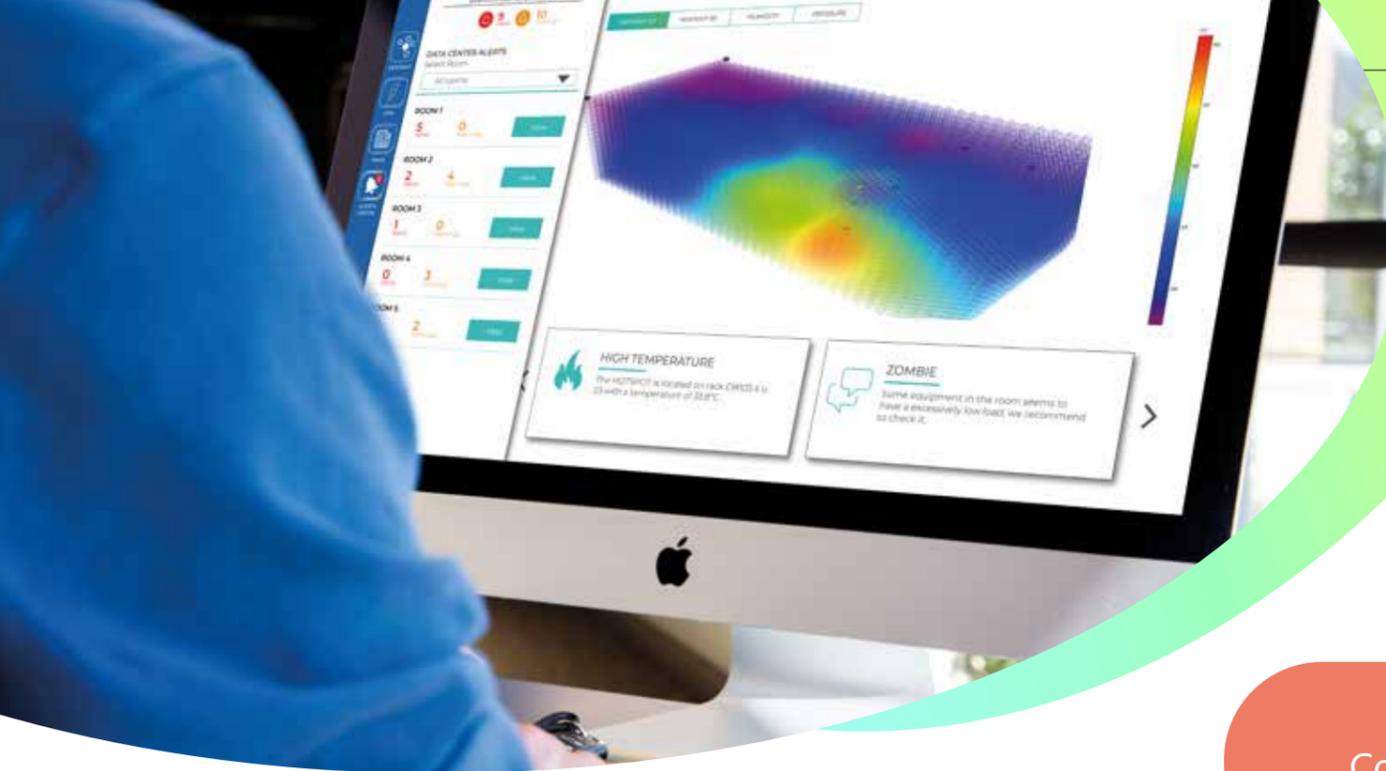
TycheTools' AI-driven, data-rich models allow hyperscalers to:

• **Optimise server** selection for their workload by assessing performance and consumption of both IT energy and cooling energy.

• Globally **manage low-power** modes of **physical servers** (DVFS and/or standby and/or power-off) by **predicting** the implications of such changes in service quality and total energy consumption.

• **Consolidate virtualised services** into physical servers in an optimal way to **minimize IT hardware needs and total cooling requirements** while ensuring SLA compliance.

• **TycheTools lets** colo providers to **understand and predict** the **energy consumption** of their customers through externally placed **non-intrusive sensors.**

• Using AI techniques **TycheTools** can accurately **estimate and predict power IT consumption**, average server load, cooling energy consumption, PUE, Performance Indicator, **and many other key metrics.**

Colo providers cannot access their customers' servers, and this is key to understand and optimise cooling needs.

Security

• TycheTools offers **higher security and avoids single points of failure**, key value propositions for critical data centre infrastructures.

• Even 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.

Efficiency is key for colo providers and data-driven operation is key for the operation team to cope with the ever-changing hardware and application requirements that scale over time.

Predictive models

• TycheTools can use **predictive models** of the servers workload and power consumption to adjust the cooling setpoints to minimise the total energy consumption during low-load periods.

• The energy consumption profiles modeled by TycheTools allow **optimum clustering of customers** in rooms or containers and optimal customer allocation.

• TycheTools can also **provide recommendations for infrastructure improvements** accounting for resource utilisation under their actual workload.

• TycheTools also **highlights anomalies with no user configuration**, allowing abnormal workloads, misconfigurations, attacks or hardware failures to be quickly discovered before they have an impact on service delivery.