

AI for turning IoT data into insights and actions

INF<sup>XL</sup> offers a pair of complementary AI solutions for tackling the IoT data overload: Cloud-based IoT servers are receiving too much data, too frequently, from too many edge devices

EDG<sup>XL</sup> for ultra-low-power edge inference

CLD<sup>XL</sup> for high-throughput cloud inference

EDG<sup>XL</sup> cuts down on the frequency and amount of data uploaded by edge devices. It does that on inexpensive hardware while operating on  $\mu$ Ws of battery power

CLD<sup>XL</sup> translates the insights received from a multitude of edge devices into decisions rapidly while employing a minimum of resources

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Ensure optimal machine performance and high availability by identifying developing faults before they become major failures

**Condition monitoring** gives early warning of impending machine failure, even before the symptoms become obvious.

**Condition monitoring** has the potential of preventing catastrophic failures and unexpected stoppages.

**Condition monitoring** makes critical decisions based on sensor data coming out of electronic, electrical, mechanical and electro-mechanical systems. Our advanced AI looks for suspect patterns in that data and notifies the operator in case one is found.

## CASE STUDY: Predict failure of a part in the air pressure system of heavy trucks

Predict the imminent failure of a safety-critical part in the air pressure system of heavy trucks.

Sensor data, consisting of 170 attributes (comprising single-element values and histograms), were used to train an EDG<sup>XL</sup> module for predicting imminent failures. The dataset used consisted of 76,000 instances.

EDG<sup>XL</sup> predicts failure in the air pressure system with 68% recall and 79% precision.

EDG<sup>XL</sup> machine health monitor for the air pressure system can run on an inexpensive MCU like the ARM Cortex-M0, requires only 133 kB of memory and can operate on as low as 93  $\mu$ W of battery power.

Contact us to find out how INF<sup>XL</sup>'s AI solutions can help in preventing catastrophic failures and unexpected stoppages