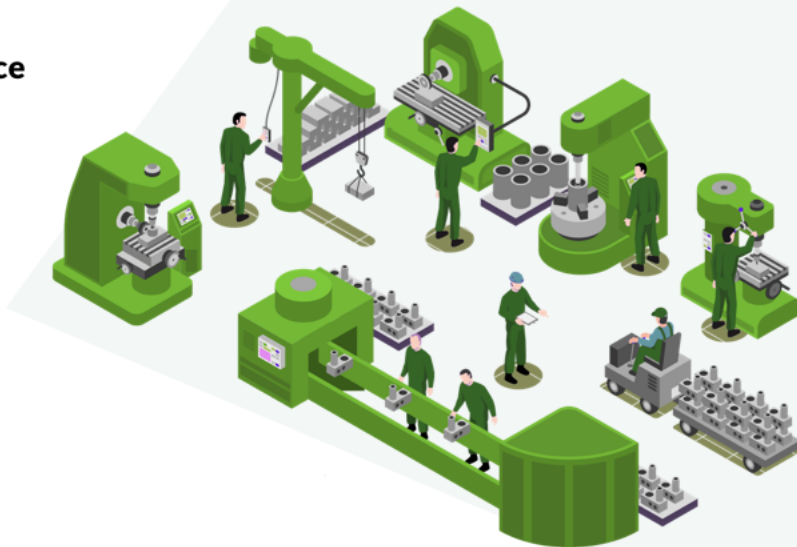


# SPECTRO CORE

## Component Health & Predictive Maintenance

SPECTRO CORE is an inspection AI SDK, designed for embedding machine vision and time series data analysis applications directly into manufacturing machines. It improves production yields, enables higher processing accuracy, and reduces defects rates by detecting errors and defects for a wide range of materials.



## SPECTRO CORE for Time Series-Analysis



Enables predictive maintenance



Provides component health insights



Frequency & Time Series Domain Data Analysis



Compatible with visual inspection cameras

## SPECTRO CORE & MACNICA SENSPIDER

Utilizing SENSPIDER, MACNICA's AI-ready IoT sensor hub combined with SPECTRO CORE's versatile algorithms, the joint solution can detect anomalies in vibration data. In the case study highlighted on the right, using data from industrial fans, the solution can detect anomalies over 200 times faster compared with a common k-Nearest Neighbors (KNN) approach, with 100% accuracy.

	KNN	SPECTRO
PREDICTION TIME	212,876 $\mu$ s	973 $\mu$ s
TRAINING TIME	33 sec	14.36 sec
ACCURACY	100%	100%
PRECISION	100%	100%
RECALL	100%	100%

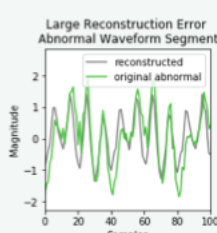
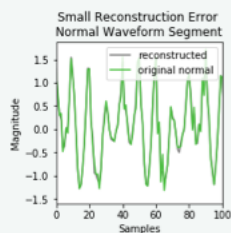
# MACNICA



Sensing + Edge Computing Unit

## Provides AI Analysis for both the Frequency and Time domains

### Time series Data (RAW data)



### Frequency Spectrum (FFT)

