REDNT

CO-OPERATION MODEL FOR THE JAPANESE MARKET

MICHAL KACZURBA

JETRO CEE ECONOMY MISSION TO JAPAN 2018

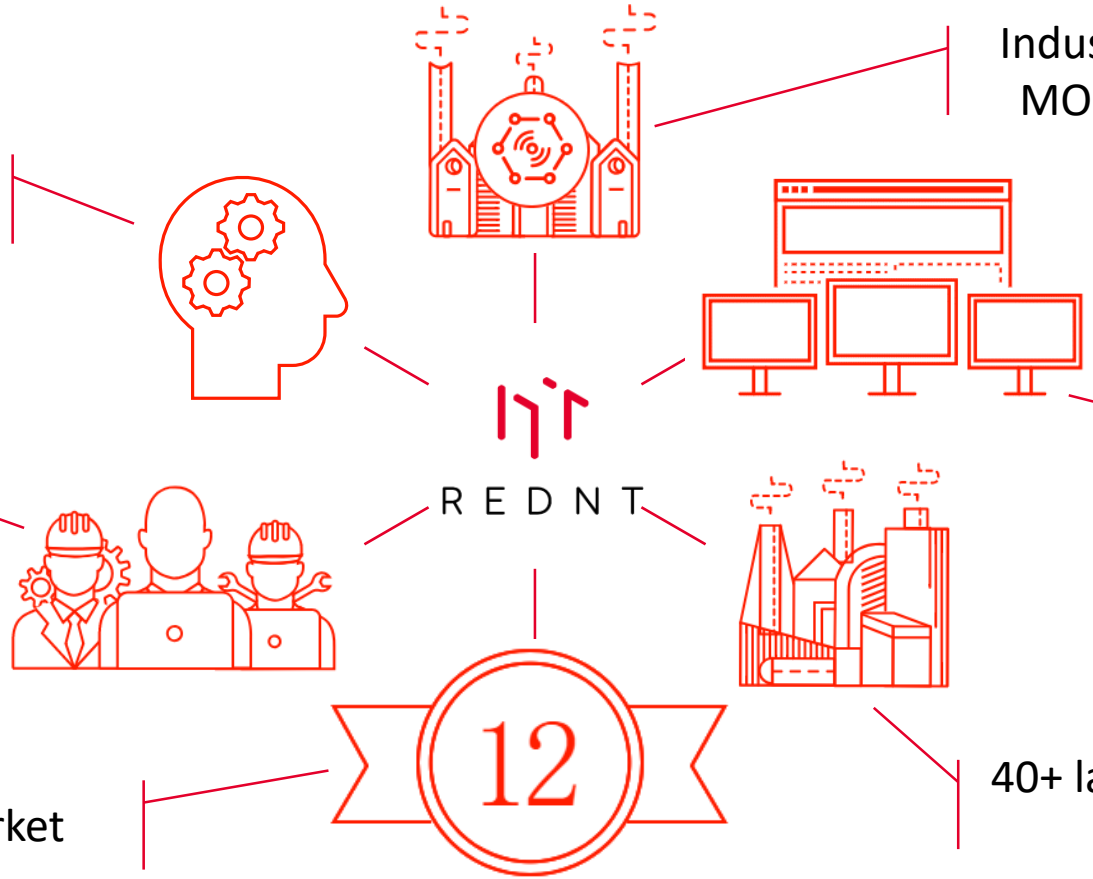
NTT DATA OPEN INNOVATION MEETING

REDNT

Who we are?

R&D innovating with the cloud, big data and industry focus

Industry & Energy IoT focused with MOLOS.CLOUD as a core product



Professional engineers, and developers team Microsoft ISV partner

IT/OT for industry & SCADA oriented

13+ years on the market

40+ large enterprise installations, millions of data points

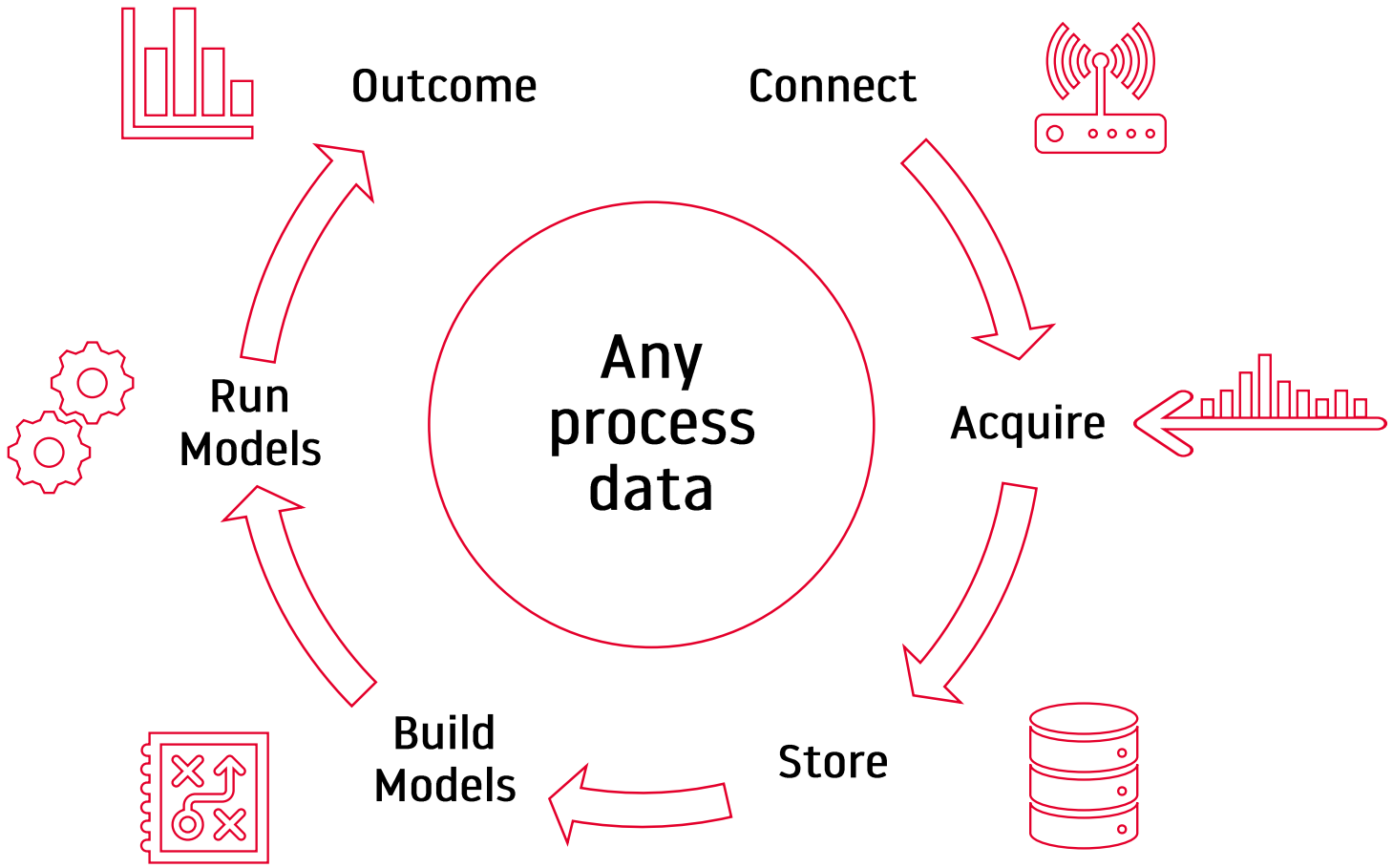
Idea / Approach

Maximize business benefits of available process data

- Connect to any OT / IT system e.g.: SCADA, BI
- Connect to any business system e.g.: ERP, Field service

- Real time on-line remote monitoring
- Predictive maintenance

- Predefined & custom
- Data science
- Expert methods
- Industry



Idea Turned into the Solution

MOLOS.CLOUD - IIoT monitoring and predictive maintenance framework

Visualization

Hardware

Basic scenarios

- Remote monitoring
- Predictive maintenance
- Energy optimization

MOLOS .CLOUD

IoT framework powered by Microsoft Azure

Analytics

Software

Data Acquisition

MOLOS.HUB i MOLOS.EXT

- MOLOS.HUB - industrial IoT device series designed to connect PLC controllers, robots and machines or sensor measurements with the Microsoft Azure cloud platform.
- MOLOS.EXT - additional extension functional modules.
- MOLOS.EXT/FFT – HW spectral vibration analysis
- Various communication options: LAN/WiFi/GSM/LoRa.
- SSL/TLS encrypted communication with the Microsoft Azure platform.
- Integration with MOLOS.CLOUD platform.
- Standard DIN mount.

Data Acquisition

MOLOS.ENERGY

- Noninvasive electrical energy measurement.
- Measurement of both real and reactive power.
- Separate measurement channels for effective values of phase voltages, phase currents and cos ϕ.
- Two modes: 1- or 3-phase network configuration.
- Powered from measured circuit.
- On-board transmission interface for PLC and BMS integration.
- GSM or LoRa communication interface.
- SSL/TLS encrypted communication with the MS Azure platform.
- Standard DIN mount.

Data Acquisition

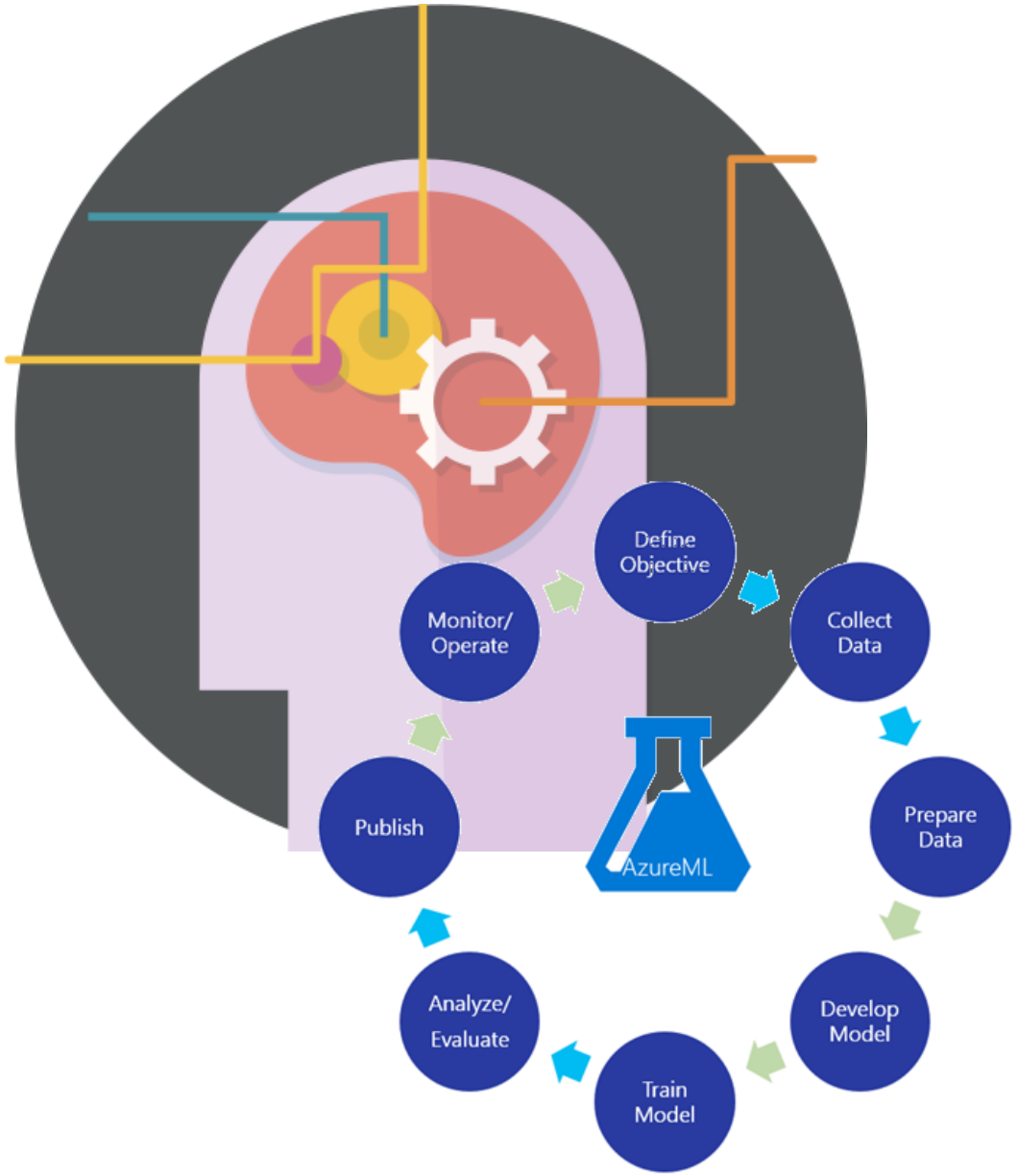
MOLOS.IoT - software

- Hybrid on-premise & cloud software.
- Connects existing HMI/DCS/SCADA/MES systems with the Microsoft Azure cloud platform.
- Collects the data from all connected systems, MOLOS devices and third party IoT enabled devices and IoT systems.
- SSL/TLS encrypted communication with the MS Azure platform.
- Fragile data anonymization
- Data normalization and storing
- On-line real-time raw data visualization and analytics with PowerBI.

Data Analysis

MOLOS.ANALYTICS

- Set of advanced analytics tools based on Microsoft Azure with Machine Learning and Deep Learning with ready to use algorithms library for business and engineering purposes.
- Big Data in the cloud scenarios for unprecedented scalability, analytics efficiency and fast time to market
- Failure prediction, detection of correlations between process variables and occurring anomalies, and hard-to-spot trends, root-cause analysis.
- Decision-making process support.



Visualisation & Reporting

MOLOS.SCADA

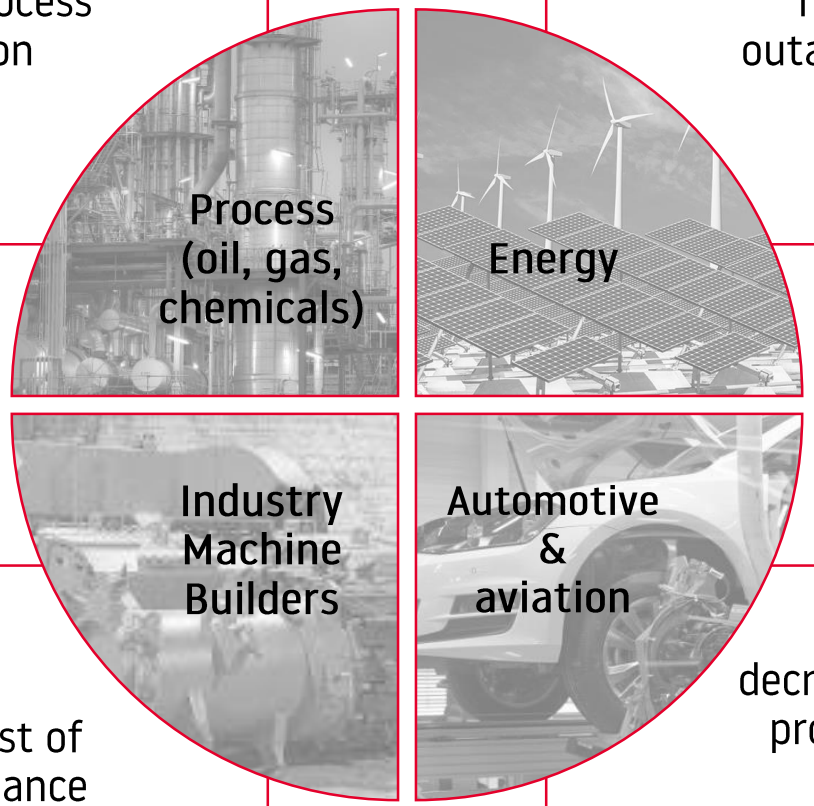
- Graphic visualization of industrial processes with interactive web browser based viewer/editor.
- Live monitoring of all operational machinery and processes in web browser and mobile application.
- Fully customizable, multi-variable based alarms mobile push notifications.
- Ease of use due to intuitive GUI and graphic editor.
- Advanced analytics and reporting functions.
- Providing reliability, scalability, fast time-to-market with Microsoft Azure cloud platform , CAPEX savings with SaaS model.

Market Needs

Safe, efficient, reliable and fast built solutions to:

e.g.:
- predict critical infrastructure failures
- optimize process control
- increase safety

avoid process disruption



minimize outages and blackout risk

e.g.:
- predict generation and distribution critical infrastructure failures
- DSR/DSM

e.g.:
- remotely monitor equipment efficiency
- introduce predictive maintenance as a service for customers

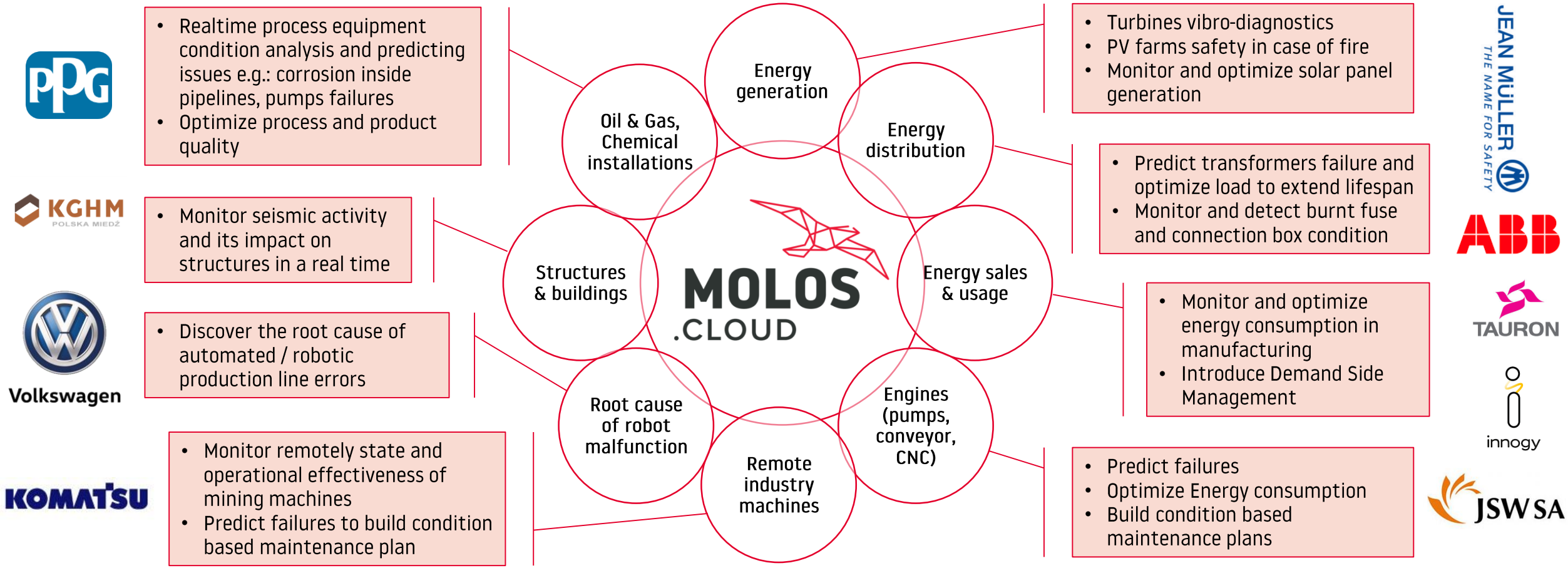
lower cost of maintenance

decrease car production cost

e.g.:
- reduce misassemblies
- introduce predictive maintenance & quality control in fabrication process

Solutions

MOLOS.CLOUD meets industry needs



- Realtime process equipment condition analysis and predicting issues e.g.: corrosion inside pipelines, pumps failures
- Optimize process and product quality

- Monitor seismic activity and its impact on structures in a real time

- Discover the root cause of automated / robotic production line errors

- Monitor remotely state and operational effectiveness of mining machines
- Predict failures to build condition based maintenance plan

- Turbines vibro-diagnostics
- PV farms safety in case of fire
- Monitor and optimize solar panel generation

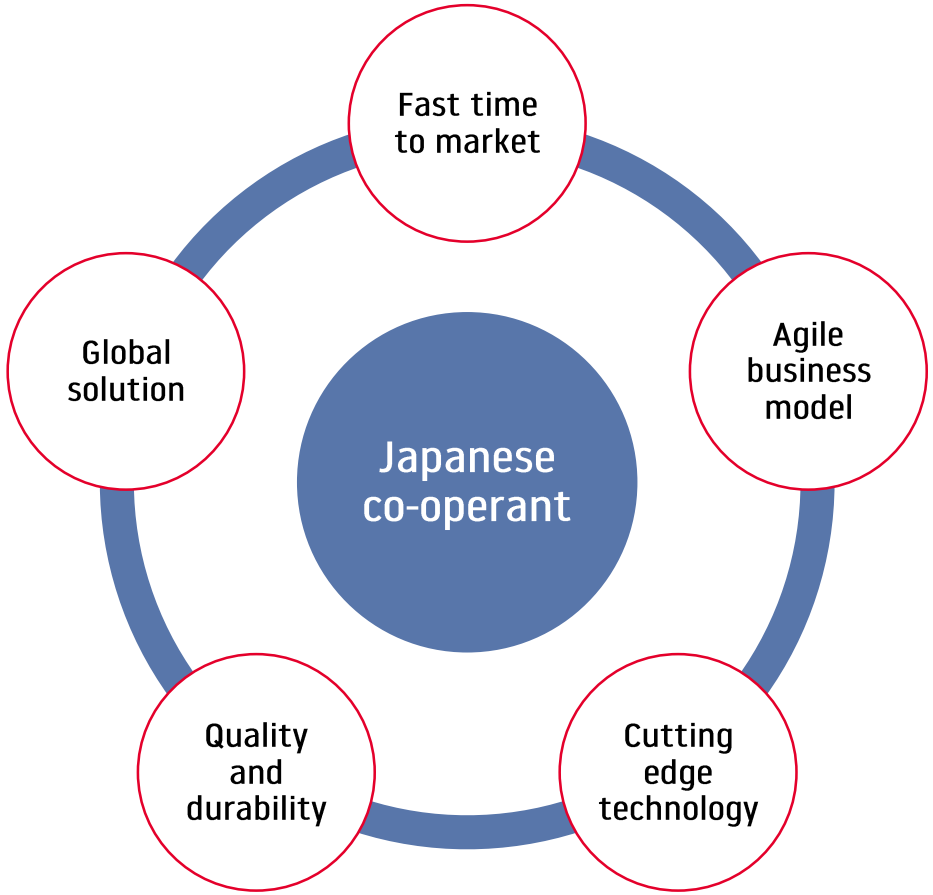
- Predict transformers failure and optimize load to extend lifespan
- Monitor and detect burnt fuse and connection box condition

- Monitor and optimize energy consumption in manufacturing
- Introduce Demand Side Management

- Predict failures
- Optimize Energy consumption
- Build condition based maintenance plans

Co-operating with Japanese companies

Where REDNT brings a business value in indirect model



- Define customer needs
- Design a solution
- Do a feasibility study
- Agree on a business model
- Build a prototype
- Address the market

We will be happy to cooperate!

Michal Kaczurba

Mail me: michal.kaczurba@rednt.eu

Connect with me on LinkedIn: www.linkedin.com/in/michalkaczurba

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