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Global IT Innovator

Overview of Monone™
An IoT solution to detect abnormal noises

IoT Business Section, AI & IoT Business Dept.,
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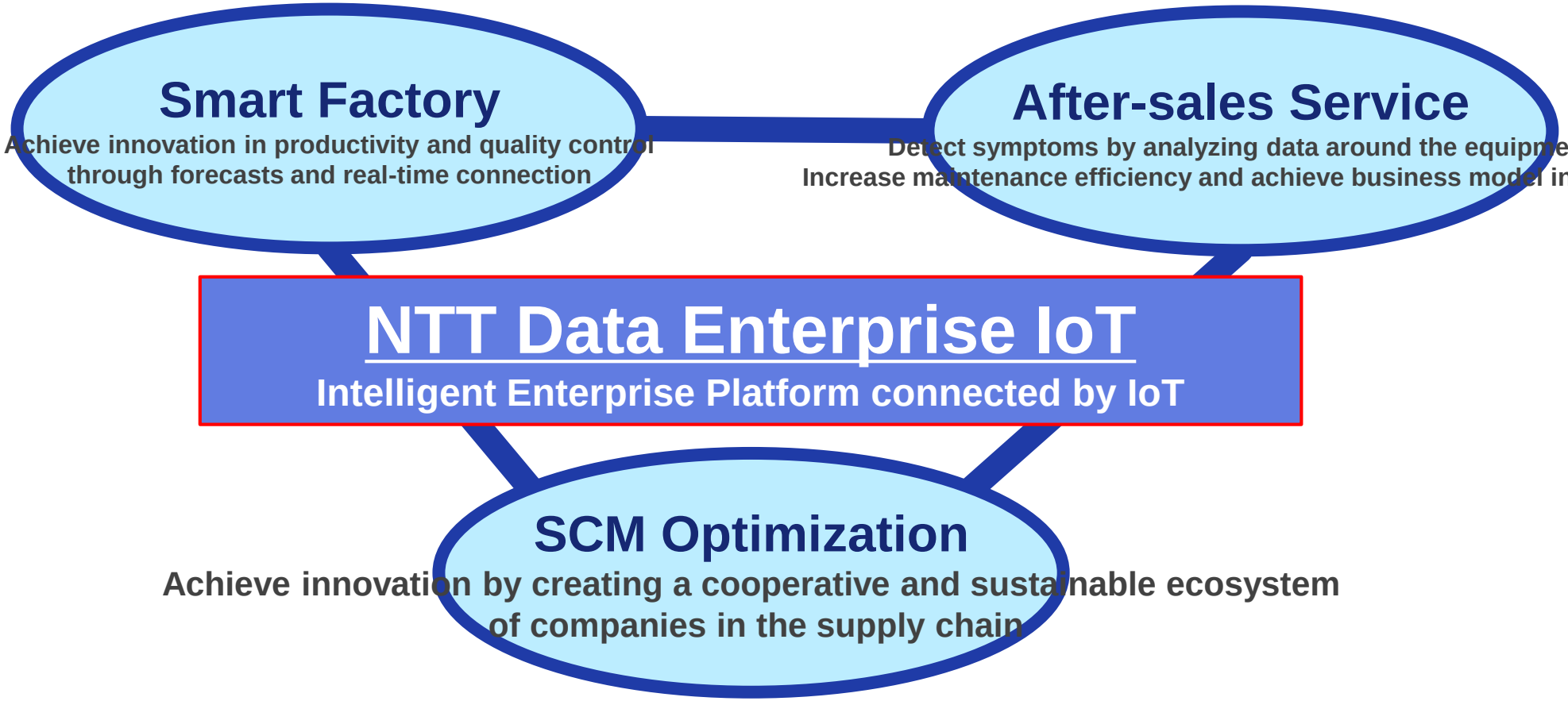
NTT Data Enterprise IoT

NTT Data Enterprise IoT offers IoT-based solutions to create new value and support business innovation by taking full advantage of the group's expertise and track record while working with various partners.



IoT solutions for the after-sales service

We offer solutions that help upgrade and increase the efficiency of management and maintenance operations using various environmental sensing solutions and create new business models by analyzing product usage data in after-sales service.

After-sales Service

Environmental sensing solutions

- Detect symptoms (e.g., sounds, vibrations)
- Optimize the process
- Improve production efficiency

Collect and analyze the environmental data around the equipment and systems and help (1) upgrade production and management operations and (2) save labor

Business innovation solutions

- Offer continuous maintenance support
- Create customer experience
- Support the sharing/rental business

Visualize and analyze the data around products and help create new business models in B2B/B2C business

This document introduces Monone™, an environmental data sensing solution that utilizes operating sounds.

Innovation achieved by Monone™

Monone™ offers AI-based functions to analyze operating sounds and detect abnormal noises from plant/infrastructure equipment.
It increases the efficiency, speed, and quality of maintenance operations by collecting and analyzing operating sounds.

Maintenance operations

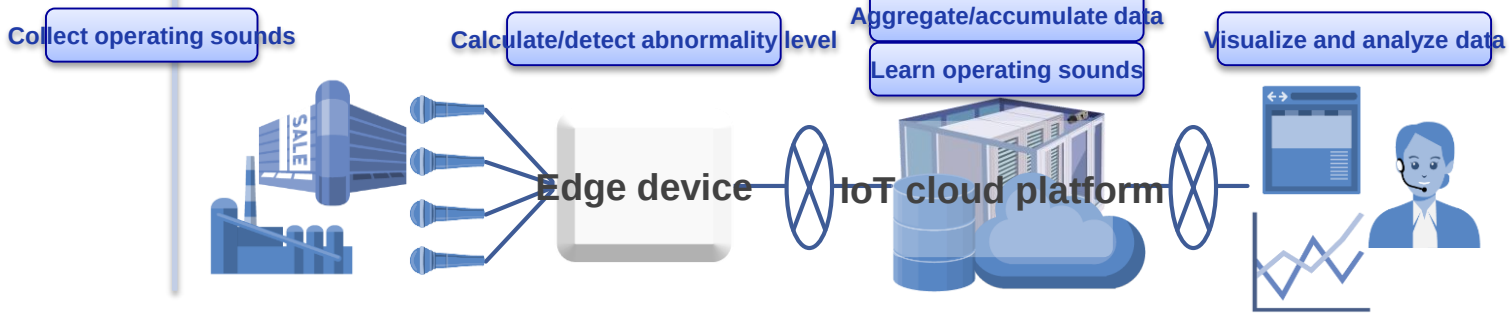
- Quality of operations ensured by the skills of maintenance personnel
- Inefficient maintenance operations based on routine inspections
- Risk of accidents due to overlooked symptoms that cause incidents

Operations achieved by Monone™

- Detect abnormal/failure symptoms by analyzing objective data
- Formulate efficient maintenance plans by monitoring conditions

Improve quality/reduce the cost of maintenance operations
Improve operating rate

- Utilize the cloud platform to achieve remote monitoring/remote control



Features of the solution functions

Monone™ (a solution for analyzing operating sounds) offers functions to help customers upgrade and increase the efficiency of their maintenance operations.

① Detect unknown and abnormal noises with high accuracy

- Capable of detecting abnormal noises based solely on the normal sound generated by equipment (achieved by machine learning)

- Based on a unique, highly accurate analysis model exclusively designed for machine operating sounds (patent pending [NTT Laboratories])

② Identify abnormal noises from target equipment in a noisy environment

- Applicable to various environments (e.g., plant) due to the capability to suppress noise in the surrounding environment

③ Achieve online remote monitoring

- Enabling the user to detect abnormal noises and formulate measures on a timely basis through real-time analysis and processing

- Enabling remote monitoring of multiple pieces of equipment/facilities under centralized management by utilizing cloud computing

④ Eliminate the need for expensive acoustic analysis equipment

- Offering an environment to analyze operating sounds by using general-purpose equipment (e.g., a commercially available microphone, PC) and software

* Some of the technologies are currently under research and development and will be achieved in the future.

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The content is subject to change without notice due to the development of solutions in the future, etc.