FANUC

ZDT (Zero Down Time)

Maintenance and diagnostic functions to prevent unexpected down time

MECHANICAL · SYSTEM · PROCESS

ZDT
FANUC

OPTIMIZE · MAINTAIN · PREDICT · ANALYZE

FANUC Zero Down Time

Be notified about robot problems in advance to eliminate unplanned down times.

Improve robot life and power consumption

Detect abnormalities to eliminate robot failures

Check robot operational history to detect inefficiencies

Possibility to check robot status and information from local or remote location

Optimise maintenance tasks schedule by condition based approach
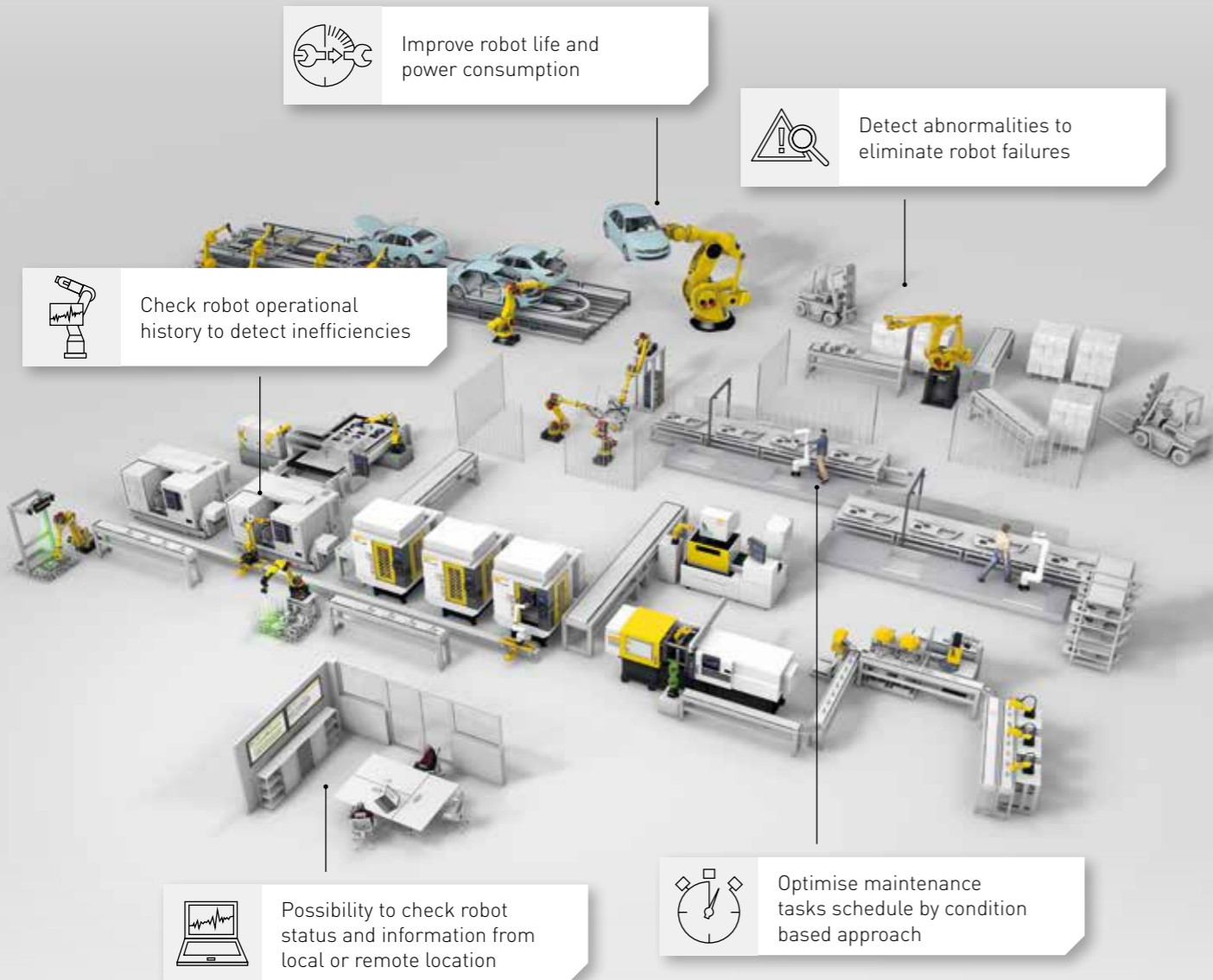
ZDT benefits

A robot breakdown can cause significant system production down time. FANUC Zero Down Time is an IoT solution designed to eliminate unforeseen production stoppage and enhance FANUC robot performance. ZDT collects and analyses data to track each robot's overall health and maintenance requirements while running production. ZDT provides early notifications if action is required to prevent unexpected down time.

Installed base

Over 25,000 robots connected worldwide to ZDT and have prevented over 1,700 cases of unplanned robot down time.*

*2022 August results

Robot maintenance and diagnostics functions using IoT technology

ZDT is a proven IoT solution designed to eliminate unexpected robots down time on the factory floor. ZDT uses advanced analysis of robots data to eliminate layoff. Analytics tools were developed thanks to years of experience of FANUC.

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MECHANICAL HEALTH
Abnormalities for mechanical parts, such as reducers or servomotors, are detected and notified before actual failure. Therefore, maintenance can be better planned.

MAINTENANCE HEALTH
Optimal maintenance is achieved for all connected robots by analysing the life of consumable components based on actual robot operating conditions.

CENTRAL DATA MANAGEMENT
Robot status can be monitored from office or remote locations using a web browser on a PC or a smart device. Advance notifications are provided by e-mail when an abnormality is detected.

PROCESS HEALTH
It is possible to collect and visualise arc welding, spot welding and *i*RVision data and achieve early detection of process abnormalities.

SYSTEM HEALTH
By detailed system health information, corrective and improvement actions can be planned to prevent possible issues, such as battery discharge or lack of memory. Additionally, problem diagnostics get faster and to the point.

Zero Down Time

Analytics and functions to detect abnormalities allow maintenance to be performed before failure occurs, to secure the robot uptime.

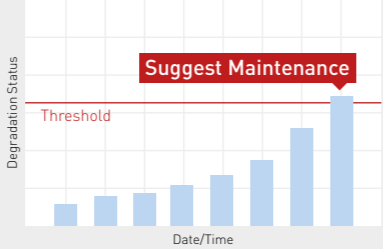## Centralised robot data management

Robots can be monitored anytime from local or remote locations with a PC or a smart device.

MECHANICAL HEALTH

DETECT ABNORMALITIES

Reducer Diagnosis
This function diagnoses the deterioration of the reducer on each axis. A notification will be sent when the degradation exceeds the threshold, so robot failure can be prevented.

Degradation Status
Suggest Maintenance
Threshold
Date/Time

Other functions
- Motor Torque Analysis
- Servo Off Alarm Log
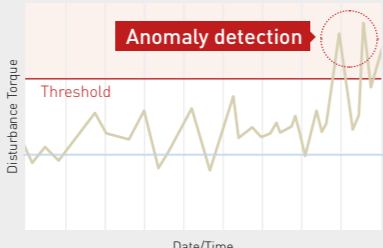
Benefits
- Detect abnormalities
- Schedule inspections and repairs during planned production stoppages
- Prevent unexpected down time

PROCESS HEALTH

PREVENT PRODUCT DEFECTS

Servo Gun Diagnosis
This function diagnoses servo gun abnormalities. A notification is sent when the disturbance torque exceeds the threshold, so down time due to servo gun failure can be prevented.

Disturbance Torque
Anomaly detection
Threshold
Date/Time

Other functions
- Arc Welding Conditions Diagnosis
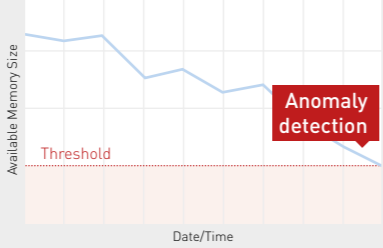- Vision Detection Result

Benefits
- Detect process abnormalities
- Early detection of process quality issues due to improper welding
- Prevent unexpected down time due to process equipment abnormalities

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SYSTEM HEALTH

MAKE EFFICIENT OPERATION

Controller Memory Status
This function calculates and displays a summary of the available memory space on the controller. It sends a notification if available memory goes below a pre-determined threshold, preventing unexpected down time due to lack of memory.

Available Memory Size
Anomaly detection
Threshold
Date/Time

Other functions
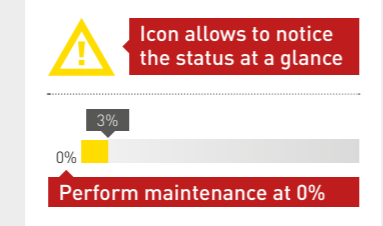- Program Change Log
- Alarm Log

Benefits
- Minimise down time due to lack of controller memory
- Improve operating rate of robot by history analysis
- Use Operation Log or Alarm Log to diagnose issues

MAINTENANCE HEALTH

OPTIMISE MAINTENANCE

Maintenance Reminder
This function tracks the status of recommended robot maintenance items and optimal replacement time for consumables. In addition to optimising maintenance costs, component life is extended through proper maintenance timing.

Icon allows to notice the status at a glance
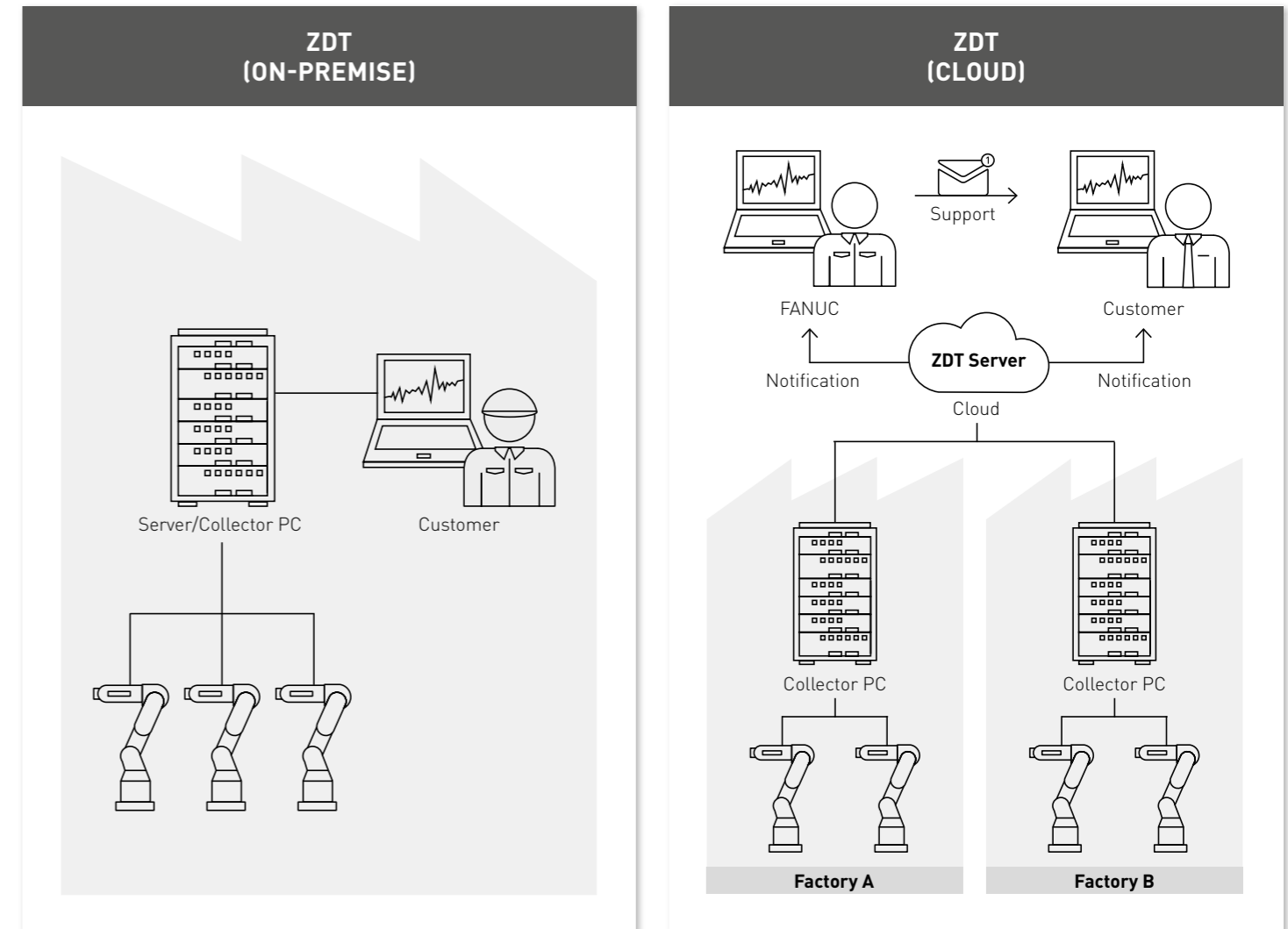3%
0%
Perform maintenance at 0%

Other functions
- Grease Change Notifications
- Cable Change Notifications

Benefits
- Make a reliable maintenance plan
- Avoid early failures with improved maintenance
- Reduce maintenance costs

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Select from two ZDT types

ZDT (ON-PREMISE)

Server/Collector PC
Customer

ZDT (CLOUD)

FANUC — Support — Customer
Notification — ZDT Server — Notification
Cloud
Collector PC
Collector PC
Factory A
Factory B

PLATFORM	ZERO DOWN TIME	
	ON-PREMISE	**CLOUD****
Data storage location *	Inside factory	Outside factory
Diagnosis	Yes	Yes
Analysis by FANUC service personnel	No	Yes
Features	Access to a single factory	Access across multiple factories

* Robot data stored on a ZDT Server can be viewed with a web browser. Supported browsers are the latest version of Google Chrome or Internet Explorer 11 or later.
** An internet connection is required if using ZDT Cloud.

Global power
Service first

With a global network covering every continent and more than 266 local offices, we are always there to meet your needs quickly and effectively, whenever you need us. In Europe, our extensive network of subsidiaries provides sales, technical, logistics and service support throughout the continent. That way you can be sure to have a local contact that always speaks your language.

Our open-minded and passionate team understands your needs – guiding you through your first steps in automation and providing support throughout the lifetime of your machine. Let's strive to improve your productivity!
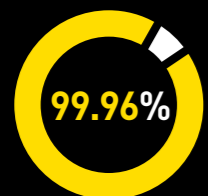
99.96%
spare parts availability

24/7
support

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As long as your machine is in service we will provide you with original spare parts.

Efficient training
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Service First

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Infinite opportunities
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Industry 4.0
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