



# AI for Digital Factories

Manufacturers today are confronted with a multitude of challenges, including climate change, workforce dynamics and geopolitical fluctuations. But emerging technologies such as AI and Innovative solutions such as the Industrial Metaverse, enable both sustainability and efficiency, for modern manufacturers. Fujitsu's comprehensive AI services and solutions as well as deep manufacturing knowledge and expertise can empower manufacturers in this new industrial revolution and drive competitive advantage.

This brochure is intended as a guide to highlight a few common use cases of AI for enabling Smart Factories, and its transformative potential for generating enhanced operational insights.





# Operation Process Analysis



## Challenges:

- Inefficient production due to varied worker behavior
- Lack of evidence of work processes for future replication
- Work accidents undermining worker safety



## Solution:

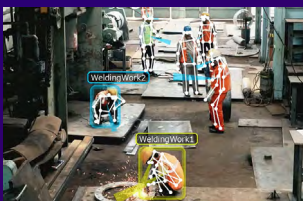
- Automatically recognize and analyze worker movements, objects, and processes from video footage using **Fujitsu Kozuchi for Vision**



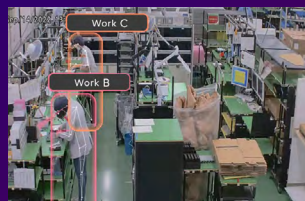
## Benefits:

- Eliminate inefficiencies and improve manufacturing processes
- Enhance worker safety
- Recognize complex worker behaviors by defining them easily
- Recognize various characteristics of a person without personal identification

## Manufacturing site challenges



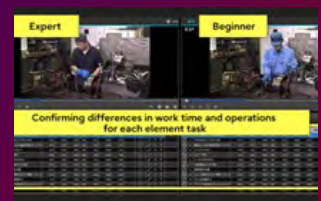
Operation Process Analysis



Worker task recognition



Detection of dangerous postures



Visualizing training efficacy





# Product Defect Inspection



## Challenge:

- Limited data on defective products makes it difficult to automate product defect inspection



## Solution:

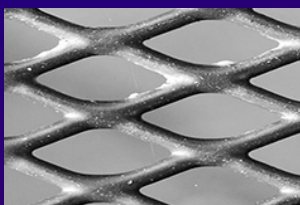
- Continuous high-accuracy detection of product defects in the manufacturing process using AI technologies



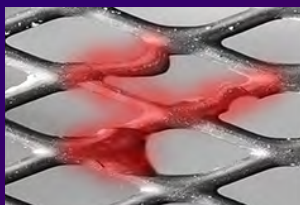
## Benefits:

- Optimize manufacturing processes
- Improve quality control efficiency
- Works even with limited image data on defective products

## Detecting defective products with high accuracy



Input image



Detection image



# Defect Factor Analysis



## Challenge:

- Identifying causes of defects is largely manual and depends on few skilled resources



## Solution:

- Automatically analyze product, manufacturing, and inspection data using AI
- Use AI to quickly determine conditions causing defects and mitigate those factors



## Benefits:

- Reduce defect analysis time by up to 50%
- Improve product quality
- Works accurately even with infrequent / limited defect data



## About Fujitsu Kozuchi

Fujitsu's proprietary cloud-based AI platform, called Fujitsu Kozuchi, focuses on seven areas of AI (Generative AI, AutoML, Predictive Analytics, Kozuchi for Vision, Kozuchi for Text, AI Trust, XAI) that can be rapidly developed, tested, and implemented to deliver immediate results.

To know more about Fujitsu AI and the areas of AI under Fujitsu Kozuchi, please visit

[www.fujitsu.com/global/kozuchi](https://www.fujitsu.com/global/kozuchi)

### Contact

[AskFujitsu@fujitsu.com](mailto:AskFujitsu@fujitsu.com)

Reference code: 4228

The use cases for AI in manufacturing are not limited to the ones described in this brochure. Fujitsu regularly works closely with customers on a co-creation approach, to solve new social and organizational challenges, and build new use cases, using AI and other key technologies. If this brochure inspires you to consider new ways of leveraging AI to solve your specific business issues, reach out to us, and mention the reference code: 4228.

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