OpreX™ Profit-driven Operation

Quality Stabilization System

Digital Plant Operation Intelligence / Operation Evaluation System

Don't you want to find a "new normal" in manufacturing?

Is this happening to you?

Complaints about quality or yield reduction due to environmental changes
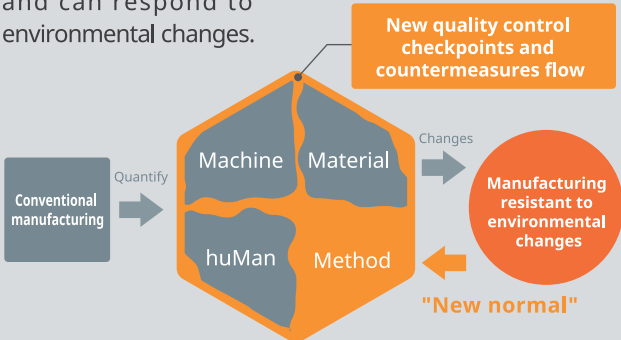
Up until now, we have maintained our quality levels due to our on-site capabilities such as knowledge and experience at the sites. However, the balance of manufacturing (Material, Machine, and huMan) is already falling apart due to changes in the environment surrounding the manufacturing sites, and countermeasures against complaints about quality and yield reduction have reached their limits.
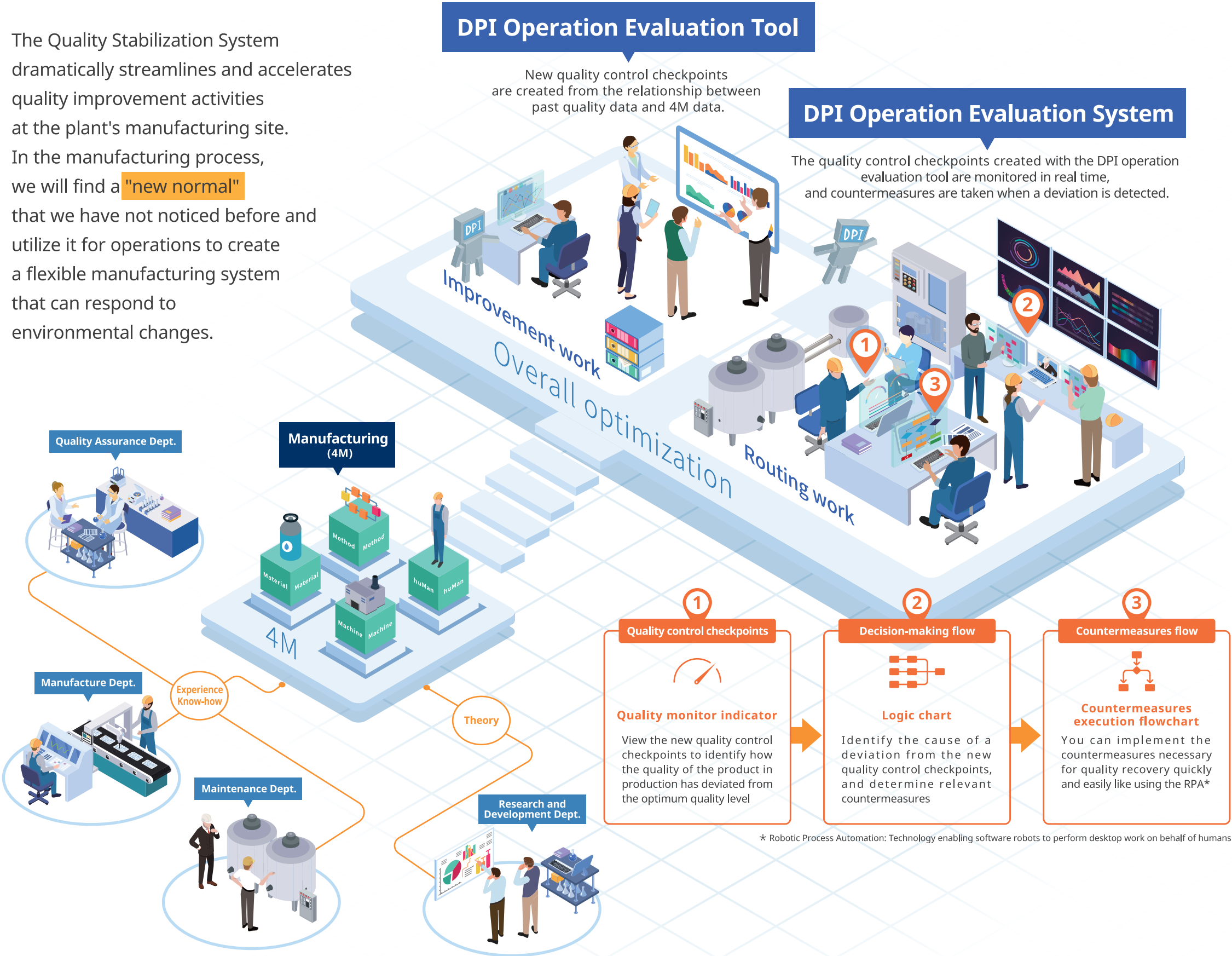
Machine	Material
huMan	Method

Yield reduction

Complaints about quality
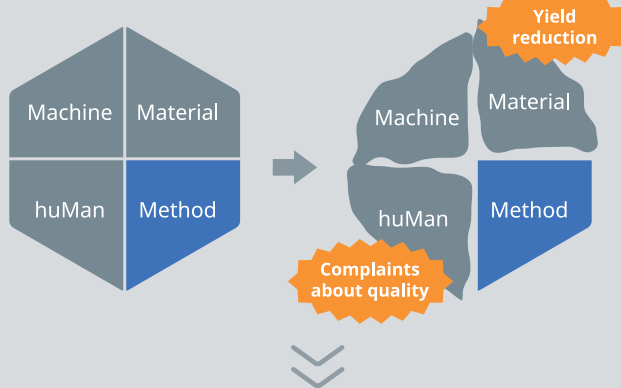
How can you solve them?

Unravel the current state of manufacturing and quantify the situation

It is not possible to easily change Material, Machine, and huMan. Deal with the issues by Method, that is, the methods of operations.
Unravel the current state of manufacturing (4M) and quantify the situation. Based on this information, create new quality control checkpoints and a countermeasures flow, and add them to the existing quality control checkpoints.
We will create a manufacturing system that is resistant to and can respond to environmental changes.

New quality control checkpoints and countermeasures flow

Conventional manufacturing → Quantify → Machine / Material / huMan / Method → Changes → **Manufacturing resistant to environmental changes**
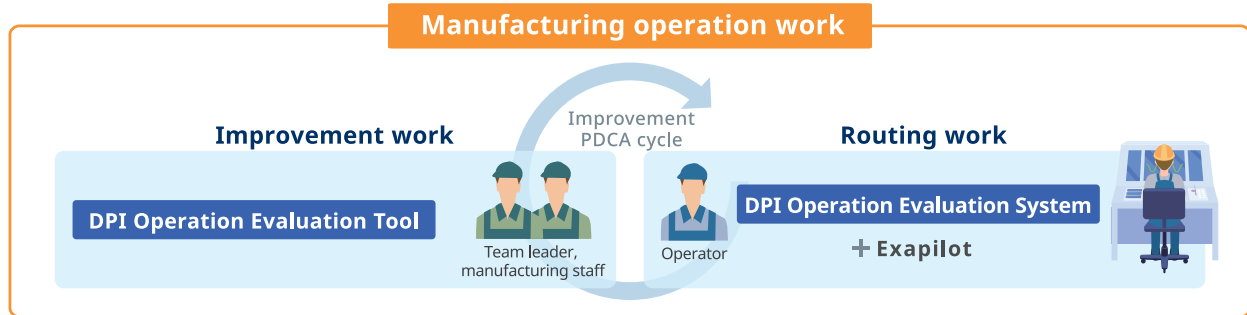
"New normal"

The Quality Stabilization System dramatically streamlines and accelerates quality improvement activities at the plant's manufacturing site. In the manufacturing process, we will find a **"new normal"** that we have not noticed before and utilize it for operations to create a flexible manufacturing system that can respond to environmental changes.
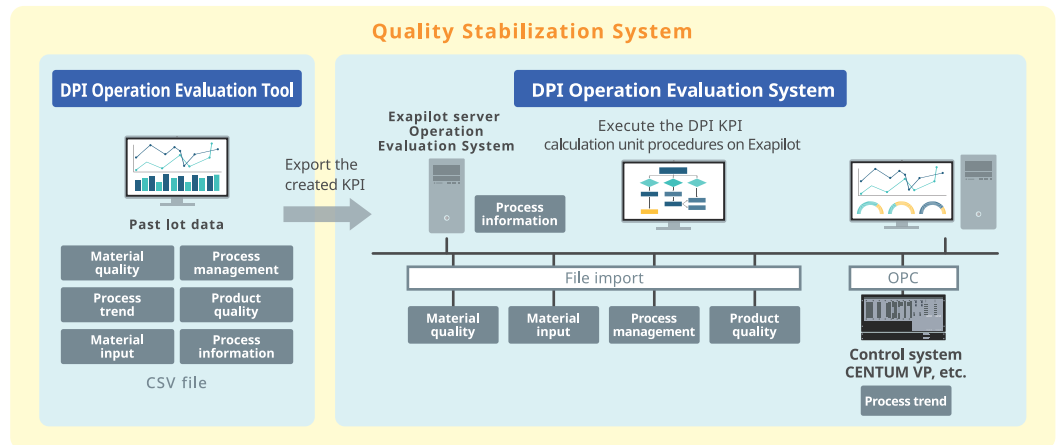
DPI Operation Evaluation Tool

New quality control checkpoints are created from the relationship between past quality data and 4M data.

DPI Operation Evaluation System

The quality control checkpoints created with the DPI operation evaluation tool are monitored in real time, and countermeasures are taken when a deviation is detected.

Improvement work

Overall optimization

Routing work

Quality Assurance Dept.

Manufacturing (4M)

Material / Method / Machine / huMan

4M

Manufacture Dept.

Experience Know-how

Maintenance Dept.

Theory

Research and Development Dept.

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① Quality control checkpoints

Quality monitor indicator

View the new quality control checkpoints to identify how the quality of the product in production has deviated from the optimum quality level

② Decision-making flow

Logic chart

Identify the cause of a deviation from the new quality control checkpoints, and determine relevant countermeasures

③ Countermeasures flow

Countermeasures execution flowchart

You can implement the countermeasures necessary for quality recovery quickly and easily like using the RPA*

＊ Robotic Process Automation: Technology enabling software robots to perform desktop work on behalf of humans

Positioning of Quality Stabilization System

The Quality Stabilization System, which consists of the operation evaluation tool and the operation evaluation system, covers the entire improvement PDCA cycle related to the customer's manufacturing operation work.

Manufacturing operation work

Improvement PDCA cycle

Improvement work

DPI Operation Evaluation Tool

Team leader, manufacturing staff

Routing work

Operator

DPI Operation Evaluation System

+ Exapilot

■ System Configuration

The DPI Operation Evaluation Tool adds and defines KPI calculation unit procedure for DPI to Exapilot, which is Yokogawa's operation efficiency improvement package, and displays the calculation results obtained here as Exapilot component for DPI to the clients of each system.

Quality Stabilization System

DPI Operation Evaluation Tool

Past lot data

Material quality	Process management
Process trend	Product quality
Material input	Process information

CSV file

Export the created KPI

Exapilot server Operation Evaluation System

Process information

Execute the DPI KPI calculation unit procedures on Exapilot

DPI Operation Evaluation System

File import

| Material quality | Material input | Process management | Product quality |

OPC

Control system CENTUM VP, etc.

Process trend

In order to create a flexible manufacturing system, it is necessary to improve the awareness and operations of everyone involved in manufacturing in addition to systematization.

Yokogawa also provides a range of solutions such as education and consulting to support these.

DPI Solution + **DPI Consulting**

OpreX™ Yokogawa achieves operational excellence by providing products, services, and solutions based on the OpreX comprehensive brand that cover everything from business management to operations.

Contact information

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