

Production Technology Division

Technology — Process Reforms

Message from the Head of the Production Technology Division



Koji Nishimura

Executive Officer, Production
Technology Division

In FY2026, we established the Production Technology Division by integrating the functions of four departments: the Environment and Safety Department, Quality Assurance Department, Production Technology Department, and Engineering Department. We face important management challenges, including a drop in capabilities at production sites amid a shrinking population, safety management, and recent quality issues. These challenges call for a structural shift from optimizing individual functions and departments to optimizing manufacturing as a whole. This division integrates these functions: Environment and Safety set out the conditions for operations; Production Technology translates them into processes with high labor productivity; Engineering designs the equipment and competitive capabilities we will need in the future; and Quality Assurance builds stakeholder trust. We will treat the entire process, from conceptual planning and design to operation and maintenance, as a continuum and serve as the central function for achieving overall optimization.

In Phase 2 of Management Plan "Mission 2030," we will use the Production Technology Division's cross-functional expertise and data capabilities to further accelerate process reforms and digital transformation. By leveraging the power of integration to create new value and contribute to sustained profits, we will maximize investment returns with a focus on capital efficiency and strengthen earnings power.

Place the Utmost Priority on Safety

▶P86

Quality Assurance Management

▶P88

Initiatives for "Process Innovation" and "Factory DX" to Transform the Organization and Improve Productivity

The Production Technology Department is responsible for formulating and implementing a comprehensive technology strategy that links production technology with R&D to achieve our management plan. Based on our strategic road map, we will use data to select, revise, or discontinue initiatives and allocate resources. We will also strengthen management of fixed costs, including capital investment and labor costs, to support an efficient production structure and enhance corporate value.

As the declining birthrate, aging population, and shrinking workforce accelerate, we are committed to sustaining production with limited personnel. By making full use of digital technologies, physical AI, and other tools to fundamentally reform existing processes, we will transform our organization and improve labor productivity.

VOICE

Yuma Taketomi

Automating Manufacturing Processes

Production Technology Department, Omuta Plant

As the decline in the working population increases in severity, automating manufacturing processes through robotics is essential. In advancing automation, we aim to go beyond simply replacing existing methods. By focusing on fundamental process reforms, we seek not only to improve labor productivity but also to enhance and stabilize quality. We will continue working toward automation while boosting collaboration with manufacturing and other related divisions.

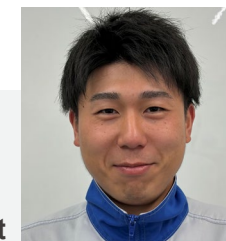


Kazuki Tenjin

Automating Expert Skills

Production Technology Department, Shibukawa Plant

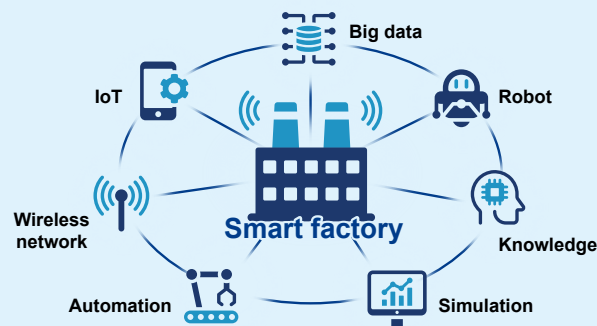
The Shibukawa Plant produces emitters supporting semiconductor miniaturization. Many processes here require expert skills, and the time needed to acquire these skills presents a challenge. In anticipation of a further decline in the workforce, we are reviewing tasks that depend on individual expertise and embedding expert skills into processes. Through automation, we are seeking to enable anyone to consistently produce products of the same quality. We will also work to make highly demanding tasks less dependent on specialized skills and examine mass production of products under development to strengthen our stable supply capabilities.



To Achieve the "Mission 2030" Management Plan Targets

[FY2025 Results]

- We selected products and plants to prioritize for process reforms, and are pursuing initiatives based on a strategy of selection and concentration. In FY2025, we made 50 investments in process reforms, primarily involving digital technologies, robotics, and new processes, advancing our efforts to improve productivity and strengthen competitiveness.
- We have defined our DX strategy for production sites as "achieving smart factories where manufacturing brings joy" and are promoting factory DX throughout the Company. After clarifying the desired state of Denka, we redesign operational processes, develop system concepts, and set KPIs needed to achieve our goals, ensuring that our initiatives deliver results.



[FY2027 Plan]

- We plan to implement approximately 180 process reform initiatives over the four years from FY2024 to FY2027, achieving 55% of our FY2030 labor-saving target. We will also review priorities and themes from the perspectives of business viability, labor-saving effects, and cost structure to achieve our goals.
- We will also promote information sharing of process innovation technologies, horizontal deployment, and the transition from individual optimization to overall optimization.

[FY2030 Target (desired state)]

- In a social environment where the declining birthrate and the aging population, and shrinking workforce are accelerating, we aim to improve labor productivity to achieve continuous production activities with limited human resources.
- We will promote smart factory initiatives by utilizing IoT, big data analytics, AI, and robotics technologies, aiming for factories that are equipped with innovative technologies and continue to evolve with the times.
- We will strengthen collaboration between divisions and promote process innovation with a focus on overall optimization, transforming organizations and business models to secure competitive advantage.

[Examples of initiatives]



(1) Production Reforms through the Digitalization of Expert Skills

We are automating manual tasks for electronic component manufacturing that depend on skilled workers. By digitizing the movements of experts and scientifically analyzing the various factors involved, we are working to reproduce and standardize their skills. This reduces reliance on specialized skills while improving productivity.



(2) Strengthening Quality and Production Management, and Labor-Saving

We are automating visual inspection processes in pharmaceutical production using AI image recognition technology. Highly accurate automated assessments that do not rely on human visual inspection further stabilize quality, while reduced staffing requirements improve efficiency and productivity.



(3) Detecting Early Signs of Abnormalities in Production Processes

We are using digital technologies to ensure stable quality for electronic materials production. By digitizing on-site information, including production conditions, operating data, and quality data, we are working to detect abnormal trends early and use machine learning to identify the causes of quality defects.

Progress toward the Labor-Saving Target

(FY2030 target headcount reduction = 100)

