

# Manufacturing / Procurement

## Manufacturing

Based on its policies of promoting local design, local production, and local consumption, Fuji Electric is developing a framework for optimizing global operations of mother factories in Japan and overseas bases in China and other Asian countries in order to respond to diverse needs around the world. We also strive to transmit the manufacturing DNA that we have continued to pass down since Fuji Electric's inception while promoting and expanding use of new manufacturing techniques utilizing IoT, improving productivity, and seeking to provide products and services of the highest caliber in order to leave customers thoroughly satisfied.

### Manufacturing Policies

- Innovate production with IoT and M2M\*
- Promote global supply chain reform
- Enhance on-site production capabilities, production technology capabilities, and human resource development
- Improve product quality

\* Machine to Machine: System for realizing automated and optimal control by having machines exchange information without human involvement

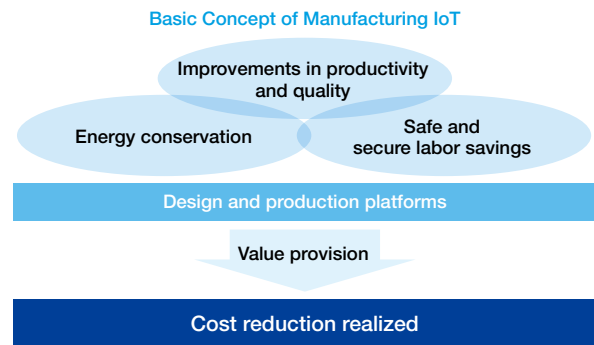


### Initiatives in Fiscal 2017

#### Cost Reductions through Manufacturing IoT

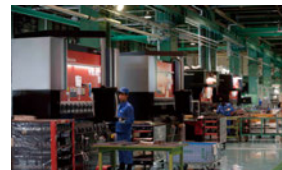
The basic concept of manufacturing IoT has been recognized to be cost reductions. The Otawara Factory, which mainly produces molded-case circuit breakers, and the Mie Factory, which produces vending machines, freezers and refrigerated showcases, have been designated as model factories at which we will advance manufacturing IoT initiatives. At these factories, we have installed dashboard systems that monitor production, equipment operation, and energy statistics in real-time. We also implemented predictive maintenance and quality improvement initiatives utilizing big data analysis technologies.

Successful manufacturing IoT initiatives will be introduced at other Fuji Electric factories.



#### Strengthening of Production Technology Capabilities

In the pursuit of stronger manufacturing capabilities, Fuji Electric is promoting development of products with an emphasis on ease of production through standardization and modular design. At the same time, we have expanded the scope of in-house production in order to improve value. Meanwhile, productivity was improved through the automation of conventional assembly procedures, and we expanded the scope of inspection procedure automation, contributing to higher product quality and reliability.



Sheet metal processing line (Kobe Factory)



Printed wiring board mounting line (Suzuka Factory)

#### TOPICS

A second factory was constructed at Dalian Fuji Bingshan Vending Machine Co., Ltd. (DFB), in order to improve our vending machine production capacity in China. We introduced the integrated production line technologies at use in Mie Factory into the second Dalian factory and also installed cutting-edge automation and IoT equipment to improve productivity.



Second DFB factory



Automated vending machine welding line

## Enhancement of Human Resource Development

Global mother factories in Japan are working to accumulate technologies and expertise. Moreover, by encouraging our employees to participate in the National Skills Competition and the Skill Grand Prix,\* we are eager to nurture ambitious employees with superior abilities that can take on high-level challenges. Overseas, Fuji Electric Manufacturing (Thailand) Co., Ltd., has been positioned as an overseas regional mother factory responsible for supporting production bases in India, Europe, and the surrounding regions in enhancing their quality and manufacturing capabilities. One focus overseas is

establishing systems for training local engineers and educating production floor leaders. At the same time, we will continue to actively transmit the manufacturing DNA cultivated in Japan to overseas operating bases in order to ensure that we can provide the same levels of quality and service anywhere in the world.

\* Held jointly by the Ministry of Health, Labour and Welfare, the Japan Vocational Ability Development Association, and ZENGIREN, this competition lets seasoned engineers put their skills to the test to determine who is the best in Japan. With no age restriction, the level of competition in this event is higher than in the National Skills Competition, which is generally only open to people ages 23 and under.

## Future Initiatives

In the future, Fuji Electric will pursue production innovations based on the concept of completely localized production along with cost reductions utilizing IoT in order to boost product competitiveness. Also, measures for automating testing and inspection processes, utilizing AI for autonomous production, and reducing costs with IoT will be implemented under the guidance of global mother factories in Japan with the aim of creating factories linked through these technologies.

## Procurement

To increase profitability and reduce risks, Fuji Electric is strengthening its global-scale procurement system while also striving to keep down all costs of materials and indirect materials used in products as well as promoting CSR-oriented procurement activities.

### Procurement Policies

- Secure necessary materials and limit cost increases through responses to procurement environment changes
- Promote strategic procurement through coordination between design and development departments and suppliers
- Enhance global procurement capabilities through global estimate management system
- Promote thorough compliance



Global estimate management system explanatory forum for business partners

## Initiatives in Fiscal 2017

### Strengthening of Global Procurement Capabilities to Reduce Costs of Direct and Indirect Materials

In response to changes in the procurement environment, such as soaring material prices and tight supply-demand balances, Fuji Electric expanded the scope of strategic procurement through coordination between design and development departments and suppliers with the aim of realizing further cost reductions. At the same time, we sought to limit cost increases

by standardizing parts and switching to easier to obtain materials. Furthermore, the Company implemented a global estimate management system that allows for the sharing of information on estimates received at all bases. This system enables us to more efficiently form relationships with competitive suppliers.

### Reinforcement of Procurement Business Community Management

Acting in accordance with Fuji Electric's procurement business community management regulations, we sought to establish frameworks for quick confirmation of the impacts on the supply chain of any natural disasters that may occur. We also worked

to entrench information management practices that will facilitate the identification of risks associated with material procurement and thereby help ensure business continuity.

## Future Initiatives

The current procurement environment is characterized by a tight supply-demand situation for electronic components, wafers, and other items. Amid these conditions, Fuji Electric will implement its global estimate management system, monitor component related information from all bases, and collect a broad range of other information to move forward with the standardization of materials procured and with the establishment of multiple sources for these materials. Going forward, we will strive to contribute to the expansion of Fuji Electric's business while simultaneously securing the necessary materials, limiting cost increases, and pursuing cost reductions.