

# Nurturing Reform-Leading Staff

## Matsushita Institute of Manufacturing

By Hiroshi OKABE

Cutting-edge products can become obsolete in only a few years under repeated waves of technological innovations. Electronics makers cannot survive the digital era unless they continue to carry out innovations. Under these circumstances, Matsushita Electric Industrial Co. runs an in-house training facility, called the Matsushita Institute of Manufacturing, intended to nurture staff who will play a leading role in transforming front-line production sites steadily. Matsushita continues to achieve technological innovations at its domestic production sites. The Matsushita group's business strategy calls for designating key domestic bases of production as "mother factories," transferring technologies from there to overseas production bases, improving productive efficiency on a global basis, and surviving global competition with the group's technological capabilities. The institute's mission is to play the core role in the Matsushita group's business strategy. This article, based on a firsthand look at the facility, will present a picture of how training is conducted there.

### Kaizen Proposals during Overseas Training

"I proposed a *kaizen* idea to improve the process of production when I attended a training program at an electronic parts plant in Indonesia," said a male employee who is in the fourth year at Matsushita. "This proposal led to a reduction in the number of production stages of one component to two from nine."

"I participated in a training program at a CCD (charge-coupled device) assembly plant in Singapore," said a female employee who is in the third year. "I had the knowledge about the most advanced clean room when I was working at a semiconductor wafer production plant in Japan. I felt the assembly line of the CCD plant was dusty and may produce

many inferior products. So, I proposed *kaizen* to improve the process of assembly."

These voices are from trainees at the Matsushita institute who have just come back from overseas training programs of about a month each. The programs are officially intended to train employees. In reality, however, what program participants learned was practical expertise on how to transform production sites. These programs offered the first chance for young engineers, who are in the second or third year at Matsushita, to experience the company's overseas production bases. They are required to make their own *kaizen* proposals to improve daily production activities at those overseas sites. The participants who completed these severe programs and returned home were full of confidence.

### Matsushita's DNA of Human Capital Development

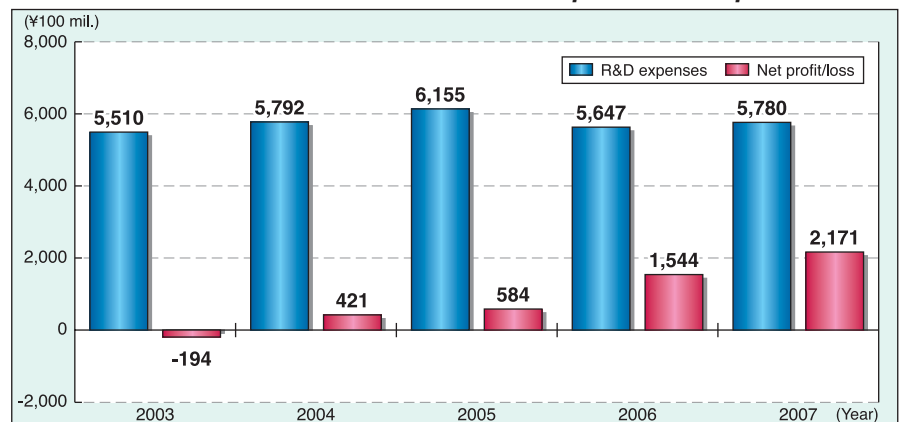
The following is an outline of the Matsushita Institute of Manufacturing. It was in 1936, or about 70 years ago, that Matsushita Electric Industrial established for the first time an organization intended to give technological training to its employees. "Among Matsushita's

founding spirits is a phrase that business is based on human resources," said Shinichi Fukushima, managing director of Matsushita who heads the facility. "When asked what Matsushita is producing, the reply is that this company is producing human resources. Such DNA is inherited over generations." Following a series of changes, the institute was established in the present form only two years ago. Fukushima went on to say, "First of all, powerful leaders are required at front-line production sites to respond to the rapid progress of information technology (IT) and of globalization and to promote manufacturing in a solid manner. It is important to nurture personnel capable of transforming production sites." Under such a belief, Matsushita picked promising young personnel on whom Matsushita can depend for its future from all of its business sectors for training at the institute.

### Work Out Solutions on Their Own

The training period is set at one year. "Two years are too long to catch up with rapid changes in present-day society," said Shuji Ueda, senior councilor in charge of the Manufacturing Training Center to which the institute belongs.

Matsushita Electric Industrial's R&D expenses & net profit



Source: "Annual Report 2007," Matsushita Electric Industrial Co.

Photo: Matsushita Electric Industrial Co.



Main training building

During the first six months of a basic course at the institute, trainees receive intensive lessons on a wide range of basic subjects including mechatronics technology, IT elemental technology such as electronic control, and production management. The teaching staffers are front-line engineers at the Matsushita group's production sites. Following the six months of basic studies, trainees move on to the higher course of application and are given a subject to design and build a robot that functions upon instructions.

"Move a metallic weight in a 3D direction, carry it to the destination correctly, and precisely measure the height of the substance placed." This is a simple expression of a subject given to trainees. Each trainee is allowed to use his or her own originality and ingenuity in the design and application of mechatronics technologies to clear the goal. In their classroom, trainees were busy over their personal computers to work out their own schedules on the allocation of time for each process to complete the task by the deadline.

"Trainees don't simply learn technologies. They need to find out problems with existing technologies, consider how to solve them and which kind of technology is necessary to do so. Production reform can be achieved only after cultivating capabilities to consider such a series of processes by themselves," Ueda said of the significance of the subject. "Some trainees may find it difficult to make it because the task covers technologies outside the realm of their own expertise. But it is important to experience a wide range of production-related technologies beyond their specialty areas to develop ideas that would lead to transformation of front-line production sites."

Photo: Kyodo News



Trainees work on an applied theme at the Matsushita Institute of Manufacturing.

### Character Building Required of Leaders

The Matsushita Institute of Manufacturing attaches importance not only to technological aspects but to the building of human character and global minds. To achieve reform of production sites, the institute believes, leaders need to nurture first of all capabilities to lead front-line workers. Under the belief, trainees are given chances such as year-long dormitory lives and summer camps to learn ways of boosting cooperation in group activities. They also pile up various experiences for the maintenance of discipline and creativity. Trainees repeatedly face occasions to brush up their capabilities of stating their own ideas and explaining them clearly in public. One hour in the early morning is allocated to conversation in English as part of efforts to nurture their global sense. "Some companies give only technological training to trainees intensively. But we are aiming at nurturing leaders who can transform production sites. Of course, trainees are required to brush up their technological capabilities. But this kind of education is necessary to nurture personnel who will tackle reform with a global mindset," Fukushima said, explaining how the institute is seeking to achieve human resources development.

### Let Manufacturing Underpin Technology-oriented Japan

Manufacturing in Japan is now said to be on the verge of crisis. This is partly because of intensified international competition from China, South Korea, Taiwan and members of the Association of Southeast Asian Nations (ASEAN). China, whose production cost is low, has come to be called a factory of the world, while in Japan the hollowing out of the manufacturing sector is feared, although such concern has lessened of late. Another problem stems from a decline in young Japanese people's interest in manufacturing. In contrast with the booming Internet industry in this software-oriented society, young people are seen losing passion toward manufacturing. But Japan, which is poor in natural resources, needs to cement its position as a technology-oriented country to show its presence in the international community.

"This is a very precious experience for me to be given a chance to learn at the Matsushita Institute of Manufacturing," one trainee said. "I would like to put into practice what I have acquired here." This comment appeared to represent a strong determination among trainees to help support manufacturing in Japan in an effort to make it a technology-oriented country. **JS**

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