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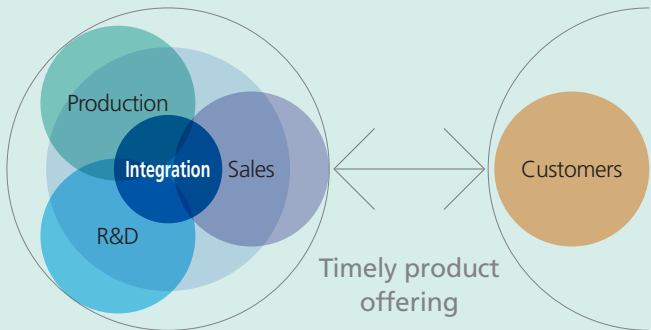
# To Maximize Global

ULVAC aims to equip itself with more powerful manufacturing capabilities by deepening relationships and coordination within the Group. Strengthening global development, sales and production systems will enable ULVAC to establish a base for sustainable growth supporting further expansion of the business.

## R&D

### Synergy with sales and production

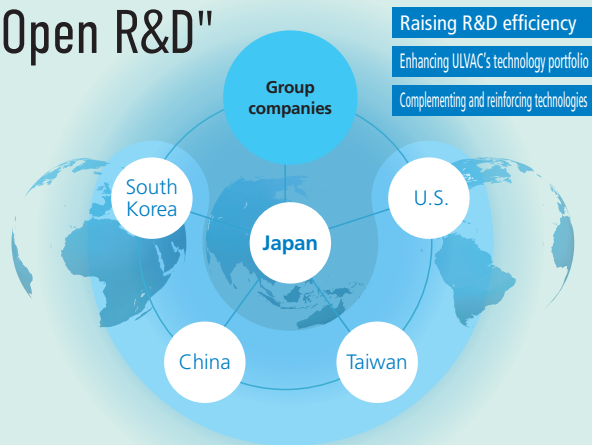
The critically important role of research & development operations consists of determining the direction of R&D in cutting-edge fields and accelerating R&D to enable timely product launches. In order to continuously increase sales and profit in the rapidly changing semiconductor and electronic devices field, we have to conduct advanced development of promising innovative technology at an early stage based on accurate analysis of customer needs and future market trends. Consequently, there is a growing need to integrate R&D with both sales and production departments so as to unleash synergy leading to the timely launch of products desired by customers.



### Open R&D to spur global R&D synergy

Along with the technological innovation of recent years, competition between device manufacturers, which are ULVAC's customers, has been intensifying. One consequence is the emergence of major players based in China, South Korea, and Taiwan. Device development by overseas manufacturers is a rapid process. Even for ULVAC, which derives around 70% of sales from outside Japan, it has become essential for its development structure to match the speed and urgency of the overseas device manufacturers in global business development. Accordingly, it is imperative that any local subsidiaries conducting R&D close to overseas customers promptly share the information gained with the rest of the ULVAC Group's R&D departments. In other words, they should engage in what we call "open R&D." To maximize synergy geared to global growth, we are pursuing initiatives to raise R&D efficiency, enhance ULVAC's technology portfolio, and complement and reinforce technologies.

## "Open R&D"



### Open innovation

In recent years, our customers, the device manufacturers, have been making increasingly sophisticated demands of us in terms of equipment quality and productivity. In response, ULVAC is sharing ideas with customers of products at an early stage of development with a view to collaborative development. In fact, collaborative development with major device manufacturers and research institutes overseas is underway. In-house commercialization of products and technology devel-

oped internally is becoming ever more difficult in view of the need to accelerate development, while collaboration and integration with external human resources and technologies are becoming keys for success. Going forward, we intend to enhance synergy by prioritizing assignment of personnel from overseas Group companies to important positions, acquisition of talent and new technologies from outside the Group, and collaborative development with leading universities and customers.

# Synergy

## Sales

Sales & marketing operations focus on when and where innovative technology is developed, identify customer needs from various perspectives, and determine how best to deliver solutions to "end users," feeding back all this information to R&D and production operations so as to achieve synergy and enhance corporate value. Moreover, by building a formidable sales & marketing foundation through strengthened collaboration among the

ULVAC Group's sales & marketing departments, we will pursue customer satisfaction while raising the productivity of sales & marketing. For this purpose, we intend to establish a new organization designed to facilitate and support collaboration among sales & marketing departments throughout ULVAC Group companies and promote a system for sharing sales & marketing information to support sales & marketing activities.



## Production

While ULVAC operates globally with production systems based on Japan, China, South Korea, and Taiwan, each production base has built its own supply chain. Going forward, we are promoting the initiatives described below to achieve growth of the Group as a whole.

- 1) **Collaboration among production bases and improvement of production efficiency**  
We will pursue optimization of delivery dates and costs through dispersion of the workload and sharing of suppliers by visualizing production statuses of our principal production bases. Moreover, by deploying systems to support manufacturing and boosting production capacity by improving production efficiency, we will flexibly respond to rising demand for equipment in line with the progress toward a smart society.
- 2) **Strengthening and standardization of quality management systems**  
Ideally, manufacturing operations should be a source of products of consistent quality regardless of which plant they are produced at. We will continue Group-wide implementation of Front Loading, which is an activity to build in quality from the initial phase by identifying all risks and implementing countermeasures in advance, such as technical reviews, simulations, and verification before receiving orders. We are also working to improve efficiency of

Front Loading itself. Furthermore, we will promote sharing of technologies, skills, experience, knowhow, and related information and data among sales & marketing, engineering, design, and manufacturing departments throughout the ULVAC Group and step up efforts to reflect all of this in the development and design processes.

- 3) **Horizontal deployment of safety and environmental initiatives**  
Safety and environmental considerations are integral to manufacturing. Considering that safety and environmental criteria are aspects of production, we conduct stringent monitoring and review of these criteria. As well as implementing thorough measures to prevent accidents and trouble through information sharing and horizontal deployment of measures at production bases, we are pursuing sustainable manufacturing through efficient utilization of limited resources and energy saving realized by production technology.

Through the initiatives described above, we are pursuing closer global collaboration among production bases and having the production department engage in the projects of each business from an early stage, to further strengthen the Group's production systems.

The top part of the block features a map of East Asia and Southeast Asia with green dots indicating 'Principal production bases' and purple dots for 'Production bases'. Below the map is a table titled 'Major characteristics of principal production bases'.

Location	Major characteristics
Suzhou, China	Supplies FPD production equipment and electronic device production equipment to the China market
Pyeongtaek, South Korea	Supplies FPD production equipment and semiconductor production equipment to the South Korean market
Tainan, Taiwan	Supplies FPD production equipment and electronic device production equipment to the Taiwan market
Head Office/Plant, Japan	Mother plant of the Group
Fuji-susono, Japan	Mother plant for semiconductor production equipment
Hachinohe, Japan	Model plant for FPD production equipment, industrial equipment, materials, and production technologies
Kagoshima, Japan	Model plant for FPD production equipment, electronic device production equipment, materials, and production systems