

# ULVAC

ULTIMATE IN VACUUM

ULVAC, Inc.

Corporate Profile

2019 - 2020

# ULVAC

**ULVAC, Inc.**

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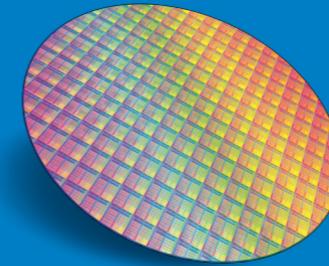
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[www.ulvac.co.jp/en](http://www.ulvac.co.jp/en)

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Aircraft



Semiconductor



Smartphone

# Vacuum technology realized in everyday life



Automobile



Drone



Pharmaceutical



Packaging Materials

“Really? Even these?”  
You might be surprised to know how many different products use vacuum technology. It’s used for everyday items like food, razors, and smartphones, as well as in advanced fields like biotechnology and aerospace. ULVAC continues to seek out the potential of vacuum technology and discover many innovations. Vacuum technology is the key to the future development of science and industry. We continue to challenge ourselves to generate new value and enrich our life.



Photovoltaic



Flat Panel Display



Food Processing

## TOP MESSAGE

# Building a flourishing future by creating innovative solutions to deliver industrial and scientific advancement

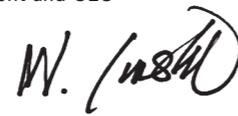
ULVAC was founded in 1952 when vacuum technology was not yet widely used in Japan.

It was a venture company started by young engineers who wanted to contribute to the development of science and industry through vacuum technology.

Our expertise has grown to possess many aspects of vacuum technology, including vacuum equipments, components, advanced materials, and analytical equipments.

At ULVAC, we pursue leadership in vacuum technology to realize innovations for our customers.

Setsuo Iwashita  
President and CEO




## BASIC CORPORATE PHILOSOPHY

ULVAC Group aims to contribute to the development of industries and science by comprehensively utilizing its vacuum and peripheral technologies through the mutual cooperation and collaboration of the Group companies.

## ULVAC

### Origin of Company Name

'ULVAC' is a combination of 'UL' from 'ultimate' and 'VAC' from 'vacuum,' signifying that we pursue the 'Ultimate in Vacuum Technology.' Seeking to achieve a dramatic advance, we will further develop the ULVAC brand by pursuing the development of new technologies that complement vacuum technologies.

## HISTORY

Since our founding more than 60 years ago, we aggressively challenged creating new technologies in response to changes in the industrial structure, and contributed to the society growth.

We have actively promoted globalization as markets changed, and now our ratio of overseas sales has reached approximately 70%.

The passion to realize growth to all industry and science through vacuum technology has been passed on as our DNA.

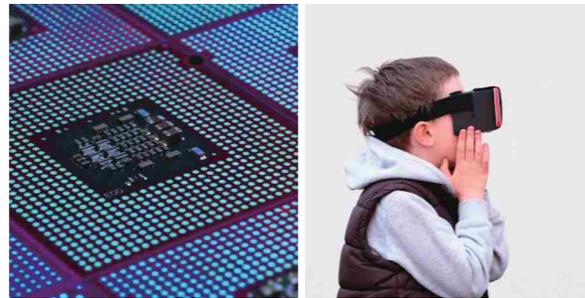
- 1952** | JAPAN VACUUM ENGINEERING CO., LTD. was established  
Received the first order of vacuum evaporation equipment for coating automobile parts from ICHIKOH INDUSTRIES (former HAKKOSHA)
- 1955** | Established the Omori Plant and started manufacturing of equipment domestically  

- 1959** | Established the Yokohama Plant
- 1960** | Developed large vacuum equipment for heavy industries such as vacuum melting furnaces and vacuum distilling equipment
- 1964** | Established the ULVAC's first overseas local corporation in Hong Kong
- 1968** | The Chigasaki Head Office / Plant was completed
- 1972** | Established the Institute for Super Materials as ULVAC's first full-scale research institute
- 1975** | Received an order for "SYSTEM 731," the world's first computer controlled, fully automatic vacuum evaporation equipment to IBM  

- 1986** | The "MCH Series," the world's first multi-chamber sputtering system, has been acclaimed by many semiconductor manufacturers  

- 1988** | The "SHD Series," a sputtering system for manufacturing hard discs, became a hit globally
- 1990** | Established the Fuji Susono Plant as a dedicated plant for semiconductor production equipment
- 1992** | Launched the dedicated LCD production "SMD Series" deposition system, which became a cornerstone of the FPD business  

- 1995** | Established a production base in China and a sales / service base in South Korea
- 2001** | Established the Institute for Semiconductor and Electronics Technologies  
The company name was changed to ULVAC, Inc.
- 2004** | New buildings of Chigasaki Head Office/Plant were completed  
  
Listed its stock on the First Section of the Tokyo Stock Exchange
- 2005** | Established a production base for full-scale vacuum equipment in Suzhou, China
- 2006** | Established a large-scale production base for large LCD production equipment in South Korea
- 2006** | Established a production subsidiary for large LCD production equipment in Taiwan
- 2007** | Established the Chiba Tomisato Plant for the development and manufacturing of materials  
Received an order for an integrated production line for thin-film solar cells (TFSCs)
- 2011** | Established the Institute for Super Materials in South Korea
- 2012** | The company celebrated the 60th anniversary of its founding
- 2015** | Established the Future Technology Research Laboratory
- 2016** | ULVAC (SUZHOU) CO., LTD. began manufacturing production equipment for large displays

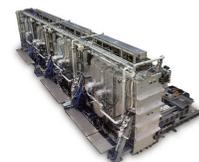


## FPD\*<sup>1</sup> and PV\*<sup>2</sup> production equipment



ULVAC is recognized as the global leader holding top share in sputtering systems for liquid crystal display application. We provide state-of-the-art vacuum technology for organic EL mass production equipment and develop next generation display technology. We provide solutions from R&D to scaling and support for our customers in the FPD such as TVs, smartphones, PCs, and tablets. In clean energy, we have developed and provided equipment for many types of solar cells, such as crystalline silicon and compound solar cells, for more than 40 years.

\*1 FPD : Flat Panel Display \*2 PV : Photo Voltaic



- Liquid crystal display production equipment
- Roll coater
- Compound solar cell production equipment

- Organic EL production equipment
- Crystalline silicon solar cell production equipment

## Semiconductor and Electronic device production equipment



Technology will continue to evolve at an ever faster pace, including IoT,\* which enables everything to connect to the Internet; big data, which analyzes and generates new value in huge amounts of data; and AI, autonomous driving, and EV, which have been made possible thanks to advanced high-speed information processing technology. A new socio-industrial structure, with new auto industries, is just around the corner. We globally engage with customers in fields, such as non-volatile memory, 3D-IC, telecom devices, sensors, and opto devices, to develop innovative vacuum technology and help customers realize development and/or scaling production.

\*IoT : Internet of Things



- Semiconductor production equipment (memory, logic, power or other devices)
- Electronic device production equipment (MEMS, communication devices, etc.)
- Advanced packaging production equipment (WL-CSP, FoPLP, etc.)
- High brightness LED production equipment

## Components



Our life is surrounded by products made using vacuum technology. For example, smartphones, LED lights, and any type of electronics. ULVAC develops and provides components necessary for various vacuum technologies, such as vacuum pumps, vacuum gauges that measure vacuum (pressure), process gas monitors that identify gas type, helium leak detectors that identify leaks location and amount, power supplies, vacuum valves, and other parts for vacuum equipments.



- Vacuum pumps
- Vacuum gauges
- Helium leak detectors

- Process gas monitors
- Spectroscopic ellipsometers
- EB, RF and DC power generators

- Vacuum valves
- Deposition controller
- Vacuum transfer robot

## Industrial equipment



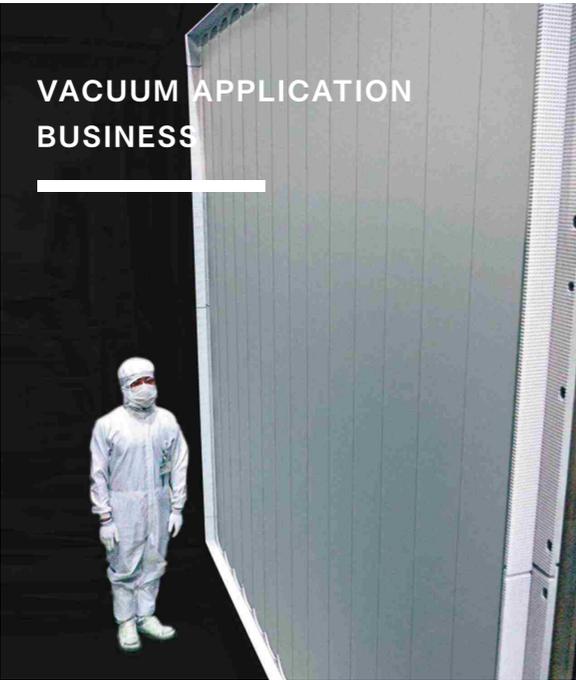
We have been in this line of business since ULVAC's founding. We have contributed to the development of many industries, such as the steel and metals during heavy industry growth period, automobile and home appliance industry. Today sectors such as rare earth magnets used in EV drive motors, vacuum melting furnaces, vacuum sintering furnaces, vacuum heat treatment furnaces for making ceramic capacitors, vacuum brazing furnaces for heat exchangers, and vacuum freeze drying equipment used in pharmaceuticals and freeze-dried foods is added to our portfolio.



- Vacuum heat-treating furnaces
- Vacuum brazing furnaces
- Vacuum melting furnaces

- Rare-earth magnet production equipment
- Melting furnaces for nano thin seat
- Vacuum freeze-drying equipment

- High-vacuum distillation equipment
- Micro powder dry
- Automatic leak tester



## CORPORATE DATA

As of June 30th, 2019

<b>Name</b>	ULVAC, Inc.
<b>Head Office</b>	2500 Hagisono, Chigasaki, Kanagawa, Japan
<b>Established</b>	August 23, 1952
<b>Capital</b>	20,873,042,500 yen
<b>Net sales</b>	Non-consolidated 119.509 Billion yen   Consolidated 220.721 Billion yen
<b>Number of Employees</b>	Non-consolidated 1,335   Consolidated 6,424
<b>Business Areas</b>	Development, manufacturing, sale, and customer support for vacuum equipment, peripheral devices, vacuum components, and materials for the display, solar cell, semiconductor, electronic, electric, metal, machinery, automobile, chemical, food product, and medical product industries, as well as universities and research labs, and import and export of various equipment. Additionally, research guidance and technical advising on vacuum technologies in general.

### Materials



In the electronic materials field, we provide high-quality sputtering target materials to various industries, such as FPD, semiconductors, and electronic devices. We play a significant role in thin film materials that are used in cutting-edge devices. We melt, process, and manufacture adjusted to customers need of high melting point metal (e.g., tantalum, niobium) parts used in high functional material applications such as electronic devices, chemical industry, medical industry, and electronic accelerators.



- Sputtering target materials
- High-melting-point metal materials and production of components
- Nano-metal inks

### Analyzers, controllers, mask blanks, etc.



We provide technologies to many industries by using related technologies derived from vacuum manufacturing equipment. In our analytical equipment line, we provide surface analysis to research institutions. Our control systems products are used in industrial machinery drive gears primarily in the auto industry. We are also active in the manufacture of mask blanks\*, which are crucial to the manufacture of semiconductor integrated circuits at the heart of computers and electronics.

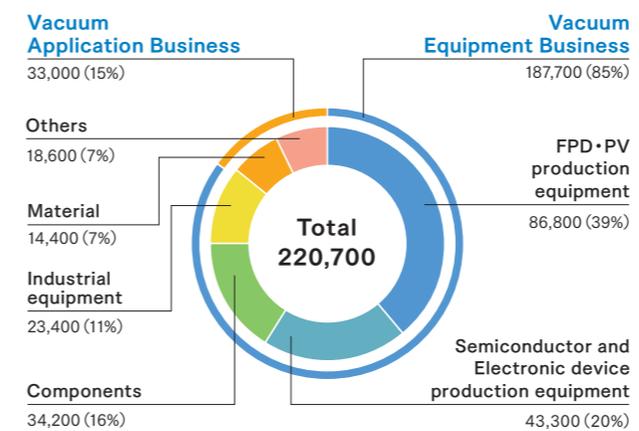
\*Mask blanks : The substrates that hold the master patterns in the manufacture of semiconductor integrated circuits



- Surface analyzers
- Controllers
- Mask blanks, etc.

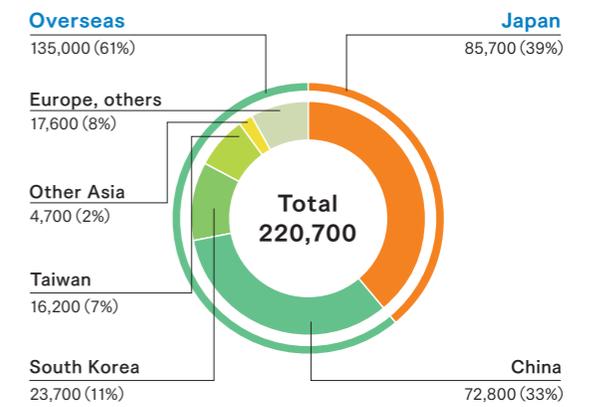
### Net sales by business segment

(Millions of yen)



### Net sales by region

(Millions of yen)



# ULVAC WORLDWIDE

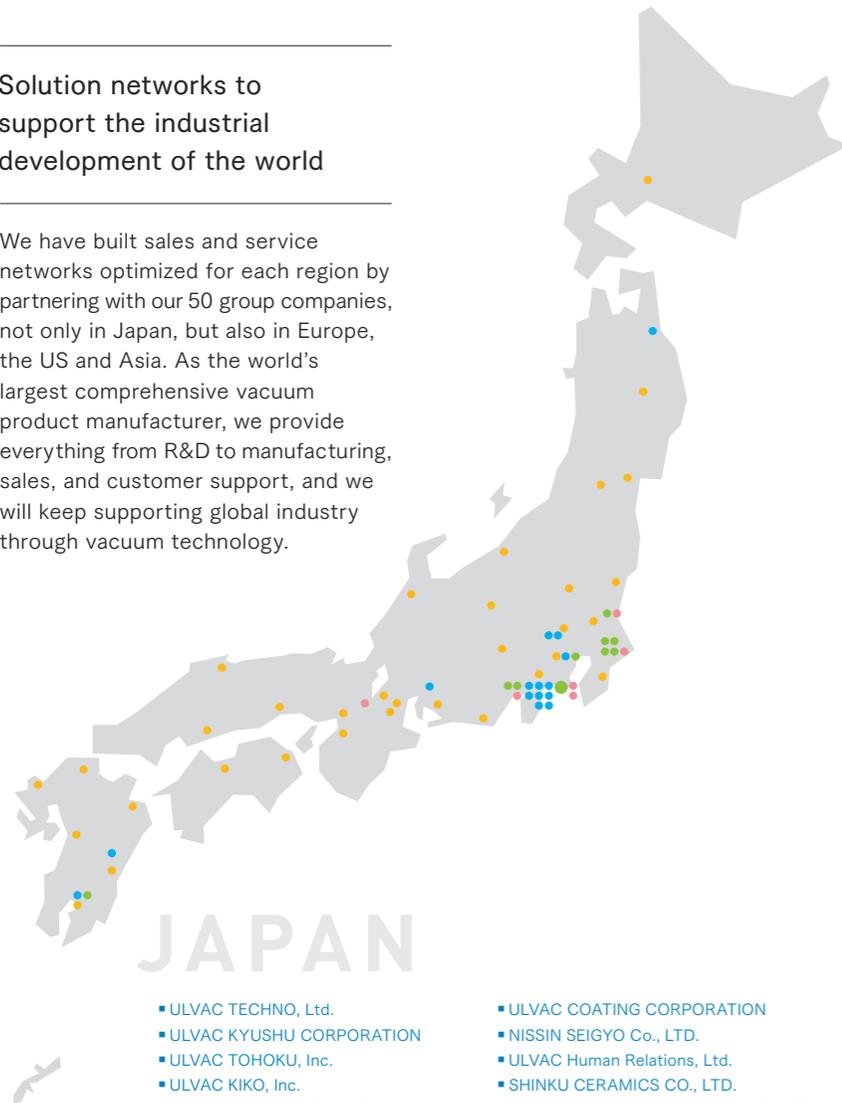


ULVAC, Inc. locations  
Group companies

## Global Network

Solution networks to support the industrial development of the world

We have built sales and service networks optimized for each region by partnering with our 50 group companies, not only in Japan, but also in Europe, the US and Asia. As the world's largest comprehensive vacuum product manufacturer, we provide everything from R&D to manufacturing, sales, and customer support, and we will keep supporting global industry through vacuum technology.



- ULVAC TECHNO, Ltd.
- ULVAC KYUSHU CORPORATION
- ULVAC TOHOKU, Inc.
- ULVAC KIKO, Inc.
- ULVAC EQUIPMENT SALES, Inc.
- ULVAC CRYOGENICS INCORPORATED
- ULVAC-PHI, Inc.
- TIGOLD CORPORATION
- ULVAC COATING CORPORATION
- NISSIN SEIGYO Co., LTD.
- ULVAC Human Relations, Ltd.
- SHINKU CERAMICS CO., LTD.
- FINE SURFACE TECHNOLOGY CO., LTD.
- REJ Co., Ltd.
- SHOWA SHINKU CO., LTD.

## EUROPE

■ ULVAC GmbH



R&D network

## Research & Development

Integrated group development system that paves the way to the future

We have provided products and materials based on vacuum technology that is essential to all industries. With our integrated group development organization, we create high value-added products and technologies through innovative and advanced technical development to meet the requirements of overseas device makers for speed, and to satisfy the actual and potential needs of our customers.

## NORTH AMERICA

- ULVAC Technologies, Inc.
- Physical Electronics USA, Inc.

## ASIA

### China

- ULVAC (CHINA) HOLDING CO., LTD.
- ULVAC (NINGBO) CO., LTD.
- ULVAC (SUZHOU) CO., LTD.
- ULVAC Orient (Chengdu) Co., Ltd.
- ULVAC Automation Technology (Shanghai) Corporation
- ULVAC Tianma Electric (Jingjiang) Co., Ltd.
- ULVAC (Shenyang) Co., Ltd.
- ULVAC (Shanghai) Trading Co., Ltd.
- ULVAC Materials (Suzhou) Co., Ltd.
- ULVAC Opto-electronics Thin Film Technology (Shenzhen) Co., Ltd.
- ULVAC CRYOGENICS (NINGBO) INCORPORATED
- ULVAC NONFERROUS METALS (NINGBO) CO., LTD.
- ULVAC Research Center SUZHOU Co., Ltd.
- Hong Kong ULVAC Co., Ltd.
- ULVAC VACUUM EQUIPMENT (SHANGHAI) CO., LTD.
- ULVAC Coating Technology (HEFEI) Co., Ltd.

### Taiwan

- ULVAC TAIWAN INC.
- ULTRA CLEAN PRECISION TECHNOLOGIES CORP.
- ULCOAT TAIWAN, Inc.
- ULVAC AUTOMATION TAIWAN Inc.
- ULVAC SOFTWARE CREATIVE TECHNOLOGY, CO., LTD.
- ULVAC Materials Taiwan, Inc.

### South Korea

- ULVAC KOREA, Ltd.
- Ulvac Korea Precision, Ltd.
- Pure Surface Technology, Ltd.
- ULVAC CRYOGENICS KOREA INCORPORATED
- ULVAC Materials Korea, Ltd.
- UF TECH, Ltd.

### Southeast Asia

- ULVAC SINGAPORE PTE LTD
- ULVAC MALAYSIA SDN. BHD.
- ULVAC (THAILAND) LTD.

### India

- ULVAC, Inc. India Branch



Group Companies