

# ULVAC's Value Creation <Value Offered by ULVAC's Businesses> Here & There, Near your side

## ULVAC's Vacuum Technology

The ULVAC Group's Basic Corporate Philosophy states, "The ULVAC Group aims to contribute to the development of industries and science by comprehensively utilizing its vacuum and peripheral technologies." As ULVAC manufactures production equipment, the general public rarely see our products. But the products produced using vacuum technology and equipment are integral to people's daily lives. With our vacuum technology, we will continue to be a company needed by society.

**AI** Artificial intelligence (AI) made possible by advanced, high-speed information processing technology is expected to overcome labor shortages, improve operational efficiency, and increase the value provided to customers. Vacuum technology is used in the production of the **semiconductors** and **electronic devices** that support this innovation.

**Hospitals** Development of **IoT** technology has improved access to medical care. High-quality **telemedicine** using high-definition displays is becoming available. Vacuum technology is also used to meet growing medical needs, such as for **vaccine** production and R&D of **sterile pharmaceutical products**.

**Data Centers** Demand for **data centers** is surging in response to expanding data flows, as teleworking spreads and needs for big data storage increase. Vacuum technology is used in the production of the **semiconductor memories, logic devices, power devices, and electronic devices** indispensable for data centers.

**Electric Vehicles** In pursuit of carbon neutrality, the transition to non-gasoline-powered vehicles is accelerating as the world seeks to reduce driving-related CO<sub>2</sub> emissions. Vacuum technology is used in the production of **power devices, electronic devices, high-performance batteries, high-performance magnets, and other parts** at the heart of EVs and other **electric vehicles**.

**Vacuum Circuit Breakers** The aging of infrastructure in developed countries and the need for industrial infrastructure in emerging countries are issues that demand attention. Vacuum technology is key to improving the performance of the **vacuum circuit breakers** in power receiving and transforming facilities, **heat exchangers** of air conditioning equipment, and other equipment to ensure safety, security, and efficient maintenance.

- Semiconductor
- Electronic Device
- Components
- Materials

- Semiconductor
- Electronic Device
- FPD
- Industrial Equipment
- Components
- Materials

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- Materials

- Industrial Equipment
- Components

- Semiconductor
- Semiconductor Production Equipment
- Electronic Device
- Electronic Device Production Equipment
- FPD
- FPD Production Equipment
- Industrial Equipment
- Industrial Equipment
- Components
- Components
- Materials
- Materials

### Wind Power Generation

Renewable energy has a low impact on the global environment and is not depleted. **Wind power generation** is a major renewable. Vacuum technology is used in the production of the **power devices and high-performance magnets applied in wind turbines**.

- Semiconductor
- Electronic Device
- Industrial Equipment
- Components
- Materials

### Smart Home

**Smart homes** leverage IoT, AI, and other technologies to achieve greater comfort and convenience. In view of their advantages, they are expected to spread. Vacuum technology is used in the production of the **semiconductors, electronic devices, and displays** that make smart homes possible.

- Semiconductor
- Electronic Device
- FPD
- Components
- Materials

### Freeze-dried Foods/Supplements

- Industrial Equipment
- Components

The need to reduce food waste and food loss has become a pressing issue, in view of global shortages of food. Vacuum technology is used in the food processing industry to **freeze dry** food products and produce nutritional **supplements**.

### Drones

The use of **drones in smart agriculture** is attracting attention nowadays, not least as a way of compensating for labor shortages in the agricultural sector. Vacuum technology is used in the production of the **semiconductors, electronic devices, and batteries** essential for drones.

- Semiconductor
- Electronic Device
- Components
- Materials

### Solar Cells

**Solar power generation** is a mainstay form of renewable energy and is playing an increasingly important role in the energy mix. Vacuum technology is used in the production of the **control power devices** applied in solar power generation systems.

- Electronic Device
- FPD
- Components
- Materials