



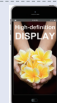



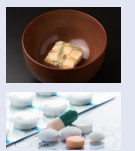




ULVAC's Value Creation <Priority Issues>

We are committed to realizing a society that is not only safe and secure but also affluent and convenient by offering value utilizing vacuum technology, which is indispensable and fundamental for industrial and scientific development.

We will continue helping to resolve social issues in cooperation with our customers through the provision of products and solutions to them.

Social issues	Market opportunities	ULVAC's business activities		ULVAC's businesses					Main value offered by the business	Customers and their products	Contribution to resolution of principal social issues	
		Focus domains		Semiconductor Production Equipment	Electronic Device Production Equipment	Display and Energy-Related Production Equipment	Components	Industrial Equipment				Surface Analysis Instruments
<ul style="list-style-type: none"> Progress of digitalization, increased demand for AI and cloud services, advances in 5G and IoT, and establishment of network infrastructure such as data centers 	<ul style="list-style-type: none"> Aspiration for the progress of all industries and technological innovation Diversification of semiconductor and electronic device applications and needs Trend toward devices that are smaller, faster, larger-capacity and consume less power 	<p>Realization of the digital society Autonomous driving, agriculture, healthcare, etc.</p>  <p>Fundamental technology for realization of the digital society AI, cloud, IoT, big data</p> 	<p>P.27 See >></p>	<p>P.28 See >></p>	<p>P.29 See >></p>	<p>P.30 See >></p>	<p>P.31 See >></p>	<p>P.32 See >></p>	<p>P.33 See >></p>	<p>Response to new semiconductor and electronic devices fields and needs by applying vacuum thin-film processing and other technologies and R&D of cutting-edge processes through co-creation with customers</p>	<p>Semiconductor, electronic device, and FPD manufacturers</p> <p>Semiconductors: Memory, logic DRAM, NAND, logic, AI semiconductors</p>  <p>Electronic devices: Sensors, MEMS, communication (5G) MEMS, SAW/BAW</p>  <p>FPD: Displays LCD, OLED, μOLED, etc.</p> 	<p>Contribution to realization of an advanced, convenient, safe and secure, digital society</p>
<ul style="list-style-type: none"> Environmental issues, such as global warming and climate change Global energy issues due to dependence on finite resources 	<ul style="list-style-type: none"> Progress of renewable and low-carbon energy systems Improvement in energy conversion efficiency 	<p>Energy management, next-generation energy</p> 								<p>Enhancement of performance of solar cells and power devices by vacuum deposition, ion implantation and other technologies, contribution to reduction of power consumption of various devices</p>	<p>Solar cell manufacturers, battery manufacturers, etc.</p> <p>Energy: Heat generation, power storage, conversion Solar cells, secondary batteries (lithium ion batteries etc.), power devices, magnets for wind turbines, etc.</p> 	<p>Contribution to creation of a sustainable society by power generation, energy storage and energy saving</p>
<ul style="list-style-type: none"> Food safety and security, population explosion and sharp increase in demand for food in emerging countries, increase in food loss Longevity, needs and progress of health promotion and healthcare 	<ul style="list-style-type: none"> Longer preservation of food and pharmaceuticals, volume reduction 	<p>Healthcare, life innovation</p> 								<p>Longer life of vaccines, drugs, etc., volume reduction, freeze-dried foods by vacuum freeze drying and other technologies</p>	<p>Food manufacturers, pharmaceutical manufacturers, etc.</p> <p>Foodstuffs, pharmaceuticals: Freeze drying Freeze-dried foods, emergency provisions, supplements, vaccines, etc.</p> 	<p>Contribution to human health and the future of medicine, and to the realization of a sustainable society with minimal food loss through safe and secure foods and pharmaceuticals</p>
<ul style="list-style-type: none"> Aging of infrastructure in developed countries Development of industrial infrastructure in emerging countries Wider gap between rich and poor 	<ul style="list-style-type: none"> Development of safe, secure and convenient infrastructure 	<p>Construction, social infrastructure</p> 								<p>Enhancement of performance of industrial materials and response to new materials by applying vacuum heat treatment and other technologies</p>	<p>Chemical and materials manufacturers, steelmakers, transportation equipment manufacturers, etc.</p> <p>Industrial materials: Heat treatment Glass building materials, industrial materials, materials for transportation equipment, heat exchangers, etc.</p> 	<p>Contribution to creation of a sustainable society that is safe and secure and comfortable</p>