

USHIO

www.ushio.co.jp/en/

Lighting — Edge Technologies

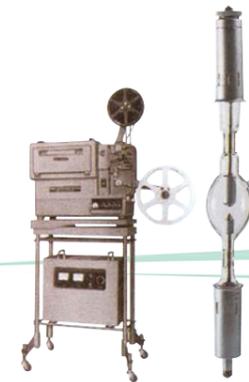
USHIO INC.



1603E①-1000E①

The USHIO Group Corporate Brochure

Turning light into energy and illumination



Creating a bright future since 1964

USHIO believes in the almost infinite possibilities that light can illuminate and accomplish. We are pioneering new markets that use light to not only illuminate but also to power modern life, using ultraviolet light to create photochemical energy and infrared light for thermal energy.

Photos: Xenon projector and xenon short arc lamp—a light that has been described as a “miniature sun”

Lighting up new possibilities

A half-century of brilliance.

USHIO has built its business upon the infinite possibilities that light unfolds. We continuously explore and develop new applications for light, capturing market-leading shares in a host of product sectors from exposure equipment for the global semiconductor industry to medical and environmental applications, to new applications in the field of energy.

As a manufacturer of specialized lighting products, USHIO divides its business into three main segments—electronics, visual imaging and life science. We are constantly exploring new applications and new uses for light, to create a brighter future for society and all mankind.

Electronics

Semiconductors

Flat panel displays

Precision equipment

Photochemistry

Printing

Electronic components

Production equipment

Visual Imaging

General and commercial lighting

Landscape lighting

Office automation equipment

Digital cinemas / 3D

Virtual reality (VR) / simulation

Video display systems for surveillance and control

Light sources for projectors

Stage and studio lighting

Life Science

Medical Application
Natural environment

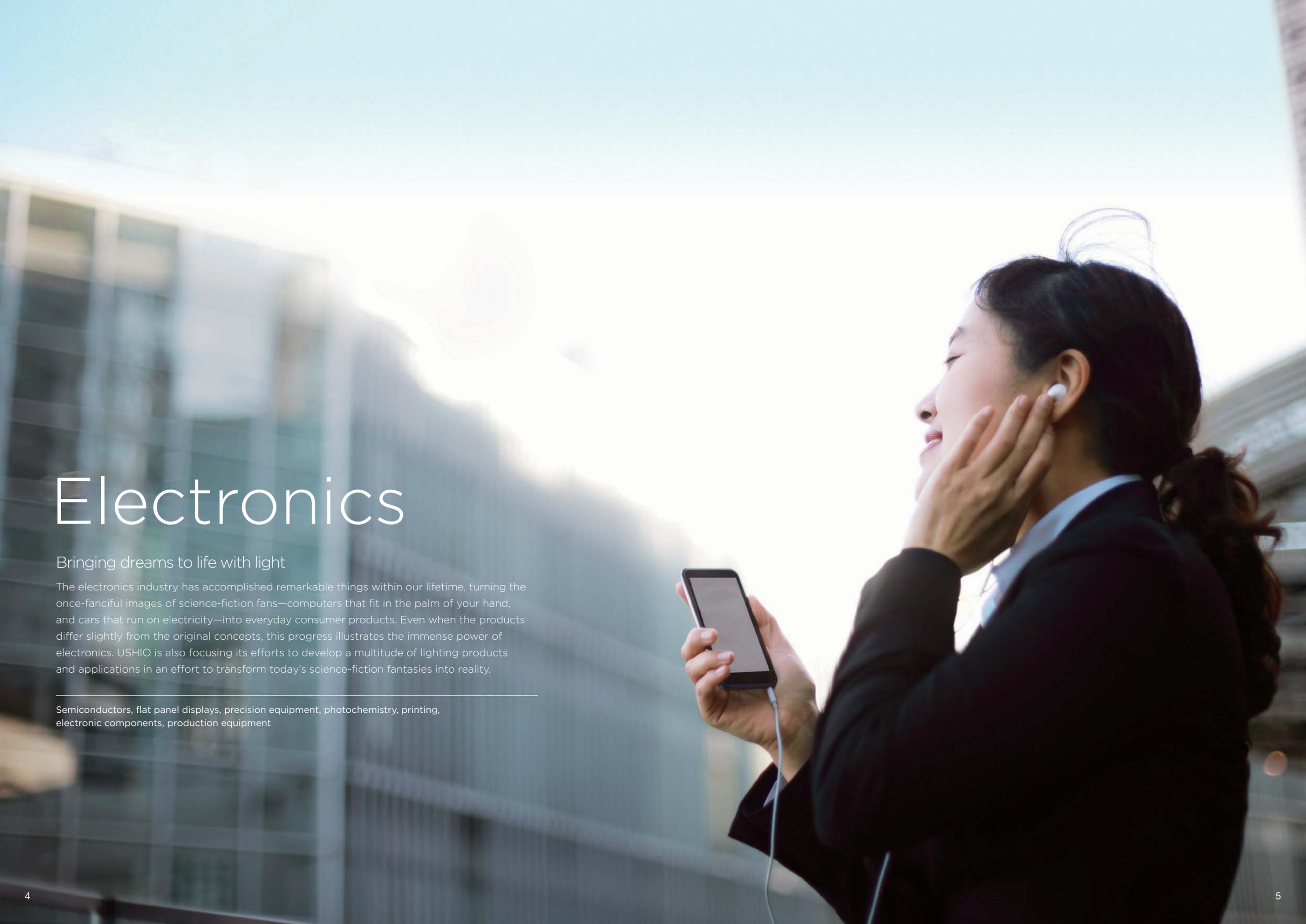
Agriculture

Marine/fisheries

Security

Energy

Space exploration



Electronics

Bringing dreams to life with light

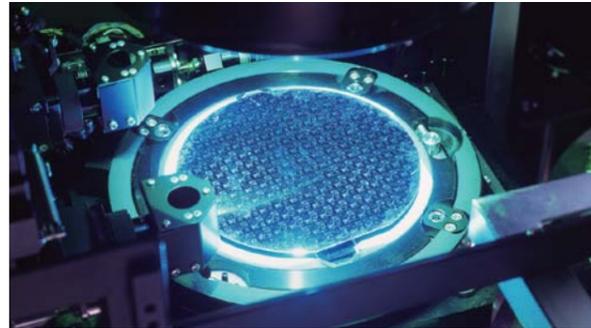
The electronics industry has accomplished remarkable things within our lifetime, turning the once-fanciful images of science-fiction fans—computers that fit in the palm of your hand, and cars that run on electricity—into everyday consumer products. Even when the products differ slightly from the original concepts, this progress illustrates the immense power of electronics. USHIO is also focusing its efforts to develop a multitude of lighting products and applications in an effort to transform today's science-fiction fantasies into reality.

Semiconductors, flat panel displays, precision equipment, photochemistry, printing, electronic components, production equipment

Electronics

As electronic gadgets continue to get smaller, thinner and more precise, USHIO lighting products help propel this advance

► Semiconductors, flat panel displays, precision equipment, photochemistry, printings, electronic components, production equipment



LITHOGRAPHY TOOLS

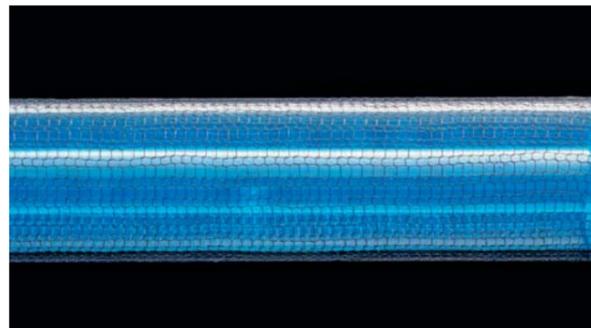
USHIO is the only manufacturer of lithography tools that has the necessary technological expertise—light sources, optical technology, wafer conveyance equipment, alignment, power sources and software—to develop and produce complete lithography tools in-house.



UV lamps for lithography



Lithography tools

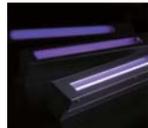


MODIFICATION (Photo cleaning and particle removal)

USHIO products use ultraviolet light technology to promote chemical reactions—decomposition, compound synthesis and polymerization—to remove organic matter from substrate surfaces.



Excimer irradiation unit



UV-XEFL mercury-free light source



UV CURING (bonding and drying)

USHIO offers a wide range of products that can do everything from hardening miniature photoresists to bonding the entire surface of a large LCD panel or optical film. USHIO can develop optimized UV curing systems tailored to precisely match the materials and application.



UV curing system



Spot UV irradiation system



EXPERIMENTAL SYSTEMS

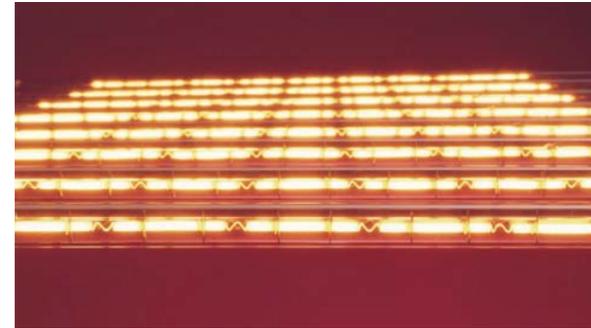
USHIO can provide optical inspection systems to meet a multitude of requirements, with light sources ranging from infrared to visible light and ultraviolet, photo-responsive testing and the development of new processes and materials.



Solar simulator

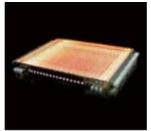


Light sources for experimental systems



PHOTOHEATING (deposition and diffusion)

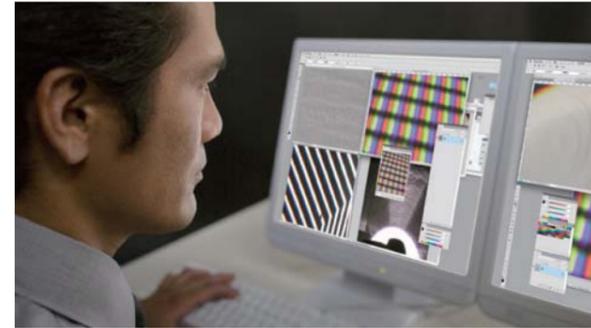
USHIO's heating lamps offer characteristics that other heat sources cannot match, including rapid heating/cooling and non-contact heating with precise temperature control. The company offers everything from light sources to full processing lines.



Halogen lamp heater



Flash lamp annealing



OPTICAL TESTING (solar and imaging)

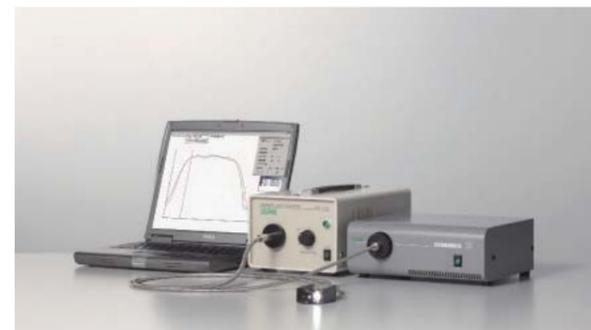
USHIO's image-testing equipment, which can be adapted to match the product being tested, makes it easy to identify even minute flaws or precision errors.



Image-testing equipment



Light sources for image-testing equipment



OPTICAL MEASURING

As a company that specializes in optics, USHIO has accumulated extensive experience and know-how in optical measuring equipment. Precise regulation of the light source helps to improve quality.



Accumulated UV meter/
UV intensity meter



Spectro-radiometer UV
intensity meter/
spectro-reflectance meter



INDUSTRIAL MACHINERY

USHIO offers a variety of engineering systems that help to improve efficiency and quality, including plastic-related products from raw materials to inspection equipment for injection mold machinery and metal molds, food packaging, inspection and robotic systems.



CIRCUIT DESIGN

Based on technology it developed for logic ICs, USHIO offers comprehensive support covering everything from development of control circuits to final fabrication.

A nighttime photograph of a city, likely Montreal, Quebec, Canada. The focal point is the illuminated Fairmont Le Château Frontenac, a grand historic building with a green mansard roof and multiple spires. In the background, the city lights are visible across a river, with a bridge featuring a large digital advertisement for 'BURGER KING' showing several faces. The foreground shows a park area with a fountain, benches, and streetlights.

Visual Imaging

What will the future bring to light?

The world is moving toward a new tomorrow, which will merge the traditions, customs and history of each country with the dreams and imaginations of a new generation. Light can not only illuminate, but also illustrate, record and transmit those ideas or accomplishments from the past to the future, and from one person to another. USHIO wants to realize the possibilities that only light can accomplish, illuminating today's world with images of what the future will bring.

Digital cinemas / 3D, virtual reality (VR) / simulation, video display systems for surveillance and control, light sources for projectors, general and commercial lighting, landscape lighting, stage and studio lighting, office automation equipment

Visual Imaging

From entertainment, to light sources, to research and development—USHIO provides imaging and lighting to match your inspiration



DIGITAL CINEMAS / 3D

USHIO's digital cinema products include the world's most advanced digital projector, with 4K resolution and 3D projection capabilities. The company offers comprehensive support with everything from theatre design and equipment to network operation centers capable of managing multi-screen theatres.



Digital cinema projector



Projector monitoring center



VIRTUAL REALITY (VR) / SIMULATION

USHIO's virtual reality systems offer the wide field of view and realistic depth perception that make them suitable for a multitude of applications, from automotive design to weather, flood and landslide simulations. When they are connected to USHIO's high-resolution projectors, these systems can be used for airplane or large shipping control simulators.



DLP projector for simulation system



3D video display system for VR



VIDEO DISPLAY SYSTEMS FOR SURVEILLANCE AND CONTROL

USHIO's maintenance-free video display systems offer unparalleled video resolution quality. The reliability of these systems makes them ideal for use by police, in control centers of electric power and communications providers, or as digital signage displays on the side of buildings.



Projector for control room



Lego-type projectors that can be easily stacked to create unique shapes



LIGHT SOURCES FOR PROJECTORS

Thanks to the superior color resolution it offers, USHIO boasts the largest share of the global market for light sources used in video projectors. The company has a full lineup of products with light and power sources suited to various types of lamps for data projectors, LEDs, and lasers, which are used at homes, offices, and schools.



Lamps for projectors (Left: Lamp for cinema projector, right: Lamp for data projector)



Semiconductor lasers used in a projection system



GENERAL AND COMMERCIAL LIGHTING

USHIO supplies lighting products ranging from LED bulbs to halogen lamps and metal halide lamps, high-value-added lighting systems and lighting design support. Our products can appropriately illuminate the atmosphere of any living space.



LED bulbs



Halogen lamps



LANDSCAPE LIGHTING

Whether it is to illuminate the ornate materials in a building, or to provide the dynamic lighting and projection mapping for a live performance, USHIO offers products that meet all customer requirements. We can provide a total package of support including not only light sources and lamps but also projection equipment, sound systems and even software content.



Ultra-bright projector



Full-color LED modules



STAGE AND STUDIO LIGHTING

USHIO offers lighting solutions for any venue, whether it be a stage show, concert hall, hotel ballroom or banquet hall. A total package can be developed, including lighting, sound and video projection.



Xenon follow spotlights



Moving lights



OFFICE AUTOMATION EQUIPMENT

USHIO light sources are used in office equipment such as printers and photo copiers. The company is constantly developing new products that match customer requirements while reducing power consumption and providing high resolution and top quality.



LED module for document scanners



Lamps to fix toners



Life Science

Promoting a bright future for everyone

Human beings are constantly reaching for the stars, but they also want to preserve a good environment on this planet for their children, and provide good health and medical care for their families. Light not only helps us in unraveling the mysteries of the universe, but it also powers our ecosystem and facilitates an understanding life itself.

Medical Application, natural environment, agriculture, marine/fisheries, security, energy, space exploration

Life Science

Researching basic technologies and principles of light, and applying them to the needs of the future



MEDICAL APPLICATION (treatment, diagnosis, sterilization and testing)

Light-based medical equipment is attracting great interest due to its ability to enhance the quality of life. USHIO employs the most advanced technology to develop new products used in medical treatment, diagnosis, testing and sterilization/hygiene.



UV phototherapy device for dermatological problems

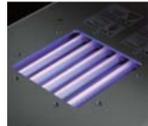


Interior of the body visualization system



NATURAL ENVIRONMENT (air and water quality)

USHIO has developed light-based products that help improve water quality in rivers, groundwater, water supply and sewerage systems, and preserve air quality by reducing gas and particle emissions.



Mercury-free UV lamp for water disinfection



VUV light source unit for NOx and SOx degradation



AGRICULTURE (cultivation and propagation)

Agriculture faces great challenges in our modern world to preserve the safety, quality and stability of our food supply. By developing and optimizing man-made light sources that can be used for cultivation, USHIO hopes to help solve global food supply issues.



Lighting system for plant cultivation



Light source unit for plant cultivation and control



MARINE/FISHERIES

High-quality searchlights and floodlights play an important role in marine safety, disaster prevention and surveillance. In addition to these products, USHIO offers a lineup of lights for luring fish and illuminating boat decks, which help to improve efficiency and create a safer working environment on fishing boats.



LED light for attracting fish



Remote-controlled searchlight



SECURITY (hazardous chemicals, surveillance and information security)

USHIO provides products for a variety of purposes including the detection of pesticides and hazardous chemicals, nighttime surveillance and security. USHIO products also are used to prevent data theft and provide information security for computer systems.



Biotip for chemical detection system



UV LED projector



ENERGY

Light plays a central role in the development of many new energy sources including solar power. USHIO has taken a pioneering role in the development of new infrastructure and technology to promote a carbon-neutral society.



Solar simulator for testing solar batteries



Acceleration testing system



SPACE EXPLORATION

USHIO has developed a lamp for a camera for use in space that can withstand a g-force of 2,000 g. It also developed a solar simulator which allows conditions in space to be recreated on the ground, using a man-made "sun". As the only manufacturer in Japan with this technology, USHIO has been involved in Japan's space exploration industry since its earliest stages.



Solar simulator for space exploration



Halogen lamp for space photo shooting

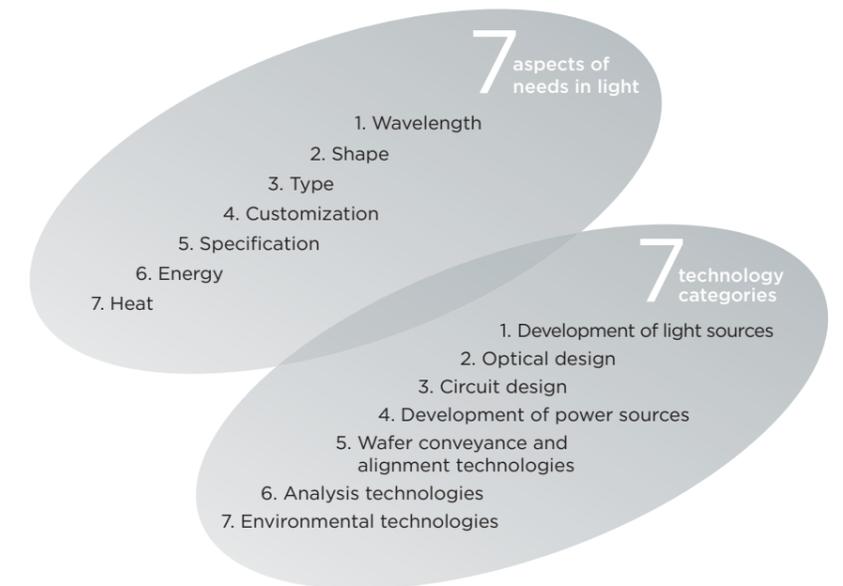
Research & Development



Exploring new uses for light

With a long history as a manufacturer of lighting products, USHIO has acquired an extensive and highly specialized expertise, along with a versatility born of cooperative efforts that transcend the lighting industry. USHIO's technological skill and comprehensive understanding of light are reflected in every product that the company produces and we continue to explore and develop future applications for light. USHIO strives to develop lighting applications that facilitate solutions to the world's problems.

We develop products that can delight and thrill our customers, exceeding their expectations.



USHIO develops applications for light which can address problems that past technology and techniques were unable to solve. This is the result of USHIO's close cooperation in developing solutions. Before developing a product, information on the client's intended concept, the desired effect and conditions of use, the items to be illuminated, and a host of other details are verified, and if necessary, a new light source is developed for the purpose. USHIO employs its technological and development skills to offer a high value-added, comprehensive solution, covering everything from the light source and equipment to the systems and software. In this way, the company strives to surpass the customer's expectations with every product it makes.

Quality Production



As the market leader, USHIO has a responsibility for the highest quality products

USHIO carefully determines the lighting requirements, makes sure that the product fully meets every one of the specifications, and maintains strict quality standards in every stage of development, testing and mass production trials. When a product reaches the production stage, every effort is made to meet companywide standards of quality, cost, speed and efficiency. In this way, USHIO strives to build world-class quality into every product it makes.

Basic Philosophy

USHIO regards product quality as an overriding priority and will promptly provide global markets with high quality, safe products and services that are highly reliable and economical in order to fulfill the requirements of customers.

Action Guidelines

1. We will act rigorously in putting the customer first and putting quality first, and will develop appealing products with cutting-edge technology to fulfill the requirements of customers and earn their trust.
2. We will strive to further improve quality by developing entity-level quality management systems and continually working to improve their effectiveness in order to meet the needs of customers.
3. We will work to share information with customers, make cost improvements, develop new products, pioneer new markets, and promptly provide global markets with high quality, safe products that are highly reliable and economical.

Global Network

Delivering high-quality light to Asia, Europe and the Americas

Today, demand for light products has a strong global character; for example, semiconductor manufacturers have production bases dispersed around the globe, while medical activities frequently transcend international boundaries. USHIO has a network of group companies in 100 countries and regions around the world, all of which draw upon USHIO's expertise in light technology and satisfying the diverse needs of customers. When clients deal directly with USHIO, they can expect to receive the same high quality and service in every part of the world.



Corporate Social Responsibility (CSR)

All operations dedicated to the USHIO corporate philosophy

USHIO makes good corporate citizenship a cornerstone of all its activities. The company maintains strict compliance standards, is active in environmental preservation, considers the needs of all employees, and pursues an active CSR program. Moreover, USHIO strives to build good relations with all stakeholders, seeking ways to develop and provide them with value, while contributing to society as a whole. This responsive and responsible attitude has been a central consideration in USHIO's corporate philosophy since the company was founded.

USHIO Group Management Philosophy

1.
Build both a prosperous Company
and prosperous employees.
2.
Deliver products and services
that are competitive in the global market.
3.
Contribute to society through superior products
and innovative research and development.
4.
Expand profits, corporate responsibility, and
competitiveness through open and free-thinking
business operations.

For further information about CSR initiatives at USHIO, please refer to the USHIO Sustainability Report and our corporate website.

Prosperity for All through Light Innovation

From a start in 1964 in industrial light sources, our “light” soon found its way into modules and systems, and has progressed even further today into light-based solutions. In that time, we have created a host of world-first and global top-share products.

Today, there is strong demand for highly specialized and sophisticated technology, not only in fields such as electronics, imaging, and medical and life sciences, but in virtually every sector imaginable. Finding viable technological solutions has also become more challenging and complex. For USHIO, as in the past until now, we believe that “light” remains one of the answers that can solve these many issues.

As a manufacturer specializing in light, we will spur innovation in this field with sensitivity, imagination, creativity, and passion like never before. In so doing, we will contribute to greater prosperity for all through high-quality products and services backed by unparalleled technology.



Jiro Ushio
Chairman and USHIO Group Representative

A handwritten signature in black ink, appearing to read 'Jiro Ushio'.



Kenji Hamashima
President and Chief Executive Officer

A handwritten signature in black ink, appearing to read 'Kenji Hamashima'.