

Canon

CANON TOKKI CORPORATION



CORPORATE PROFILE



Bringing cutting-edge technology closer and providing more comfort for a more prosperous society.

Canon Tokki develops, manufactures, sells and supports advanced manufacturing equipment that uses vacuum technology to produce cutting-edge OLED displays and electronic devices.

Our products evolve manufacturing of the advanced electronic industry and support the affluent and sustainable society.

Leads the world as the industry standard

High level of expertise and unquestionable reliability

OLED displays are being adopted in smartphones and televisions. Canon Tokki was the first company to produce OLED panel manufacturing equipment for research and development system in the world after noticing its future potential. And we continuously improve and innovate on our equipment to establish it for mass production system. Over the many years, we contribute towards the release and commercial production of our clients' next-generation products equipped with cutting-edge OLED displays.

Our mass production equipment, which boasts both high productivity and quality, has received praised for its high level of expertise and unquestionable reliability due to its performance, and has established a dominant position for itself that can be said to be the current industry standard as it takes the lead among such equipment in the world.

Contributing to society through proprietary technology and harmony among people

Canon Tokki Corporation

Teruhisa Tsugami Vice Chairman Hiroyuki Ito President & COO

The term “tokki” in our company name, Canon Tokki, is short for “special equipment” in Japanese.

Since our founding in 1967, our company has always taken on new challenges amid constantly changing times while offering special equipment, the origin of our company name.

Today, we supply manufacturing equipment based on vacuum technology that provides clients with special value exceeding their expectations. We help clients achieve their objectives by listening diligently to their requirements and working side-by-side with them.

Thanks to these efforts, we have been able to carve out a solid position in the field of manufacturing OLED displays, which

are rapidly being adopted in smartphones and TVs.

As a company operating under the Canon Group’s corporate philosophy of *kyosei*, Canon Tokki exists in harmony with all people, including not only our employees and their families, but also our partner companies and clients.

Solving problems through proprietary technology and harmony among people, achieving growth through business activities, and ultimately contributing to society: This is the company we aim to be.

In closing, I would like to ask for your generous support and understanding.



Corporate Philosophy

Our corporate philosophy, stated below, is based on *kyosei*, the Canon Group’s corporate philosophy, and the Spirit of *San-Ji* (*the Three Selves — self-motivation, self-management, and self-awareness*), Canon’s guiding principles.

Corporate Mission

To contribute to a more abundant society by continually providing "special value" with superior, cutting-edge proprietary technology

Our corporate mission is based on the enterprising mindset symbolized in the company name; the “tokki” of Canon Tokki is short for "special equipment" in Japanese. Since its foundation, the company has taken on new challenges amid constantly changing times and pursued special value for our customers. Canon Tokki has aimed to build a more abundant society through industrial development by providing special value in the form of manufacturing systems and related services with sophisticated, cutting-edge proprietary technologies that help raise productivity at manufacturing sites. Canon Tokki will, as a Canon Group company, continue to strive to fulfill our corporate mission, with a priority on compliance and high ethical standards, and contribute to the realization of a more abundant society as well as endeavor to attain lasting growth and prosperity for the company and all our employees.

Vision

**A leading company in the manufacturing equipment field
Continuing to be your best, most-trusted, most-supported partner**

We aim to be a leading, continuously growing company in the manufacturing equipment field as your best, most-trusted, and most-supported partner for our customers and all our other stakeholders who sustain the company and generate new value with us, by continually providing innovative, high-added-value products that delight customers around the world together with the world’s best technology and quality and our consummate service system.

Values and Guiding Principles

1 Activeness & Enterprise

We actively take on new challenges that come with constantly changing times.

- We, with passion and courage, anticipate and tackle challenges, unforeseen issues and problems brought on by the constantly changing times.
- We also reinvent ourselves in keeping with the times and continue to evolve and expand.

3 Integrity & Determination

We continually hold ourselves to high ethical standards, perform our work with integrity, and devote ourselves to self-development.

- We stress corporate dignity, continually maintain high ethical standards and decency, and behave with fairness and probity.
- We work with integrity and build relationships of trust with all people related to the company.
- Moreover, we are devoted to raising our personal qualities and work capabilities through self-development and strive to grow as individuals.

2 Originality & Innovation

We improve the quality of our work by continually generating new ideas with a pioneering and innovative mentality.

- We persevere in our effort to refine our techniques and skills used in our roles with the intention of pursuing the ultimate technologies.
- Through pioneering and innovative approaches, we are continually improving the quality of our work with new ideas and concepts.

4 Cooperation & Prosperity

We, working from the *wa no kokoro* concept, always pool our wisdom to enable the company’s unbounded growth and to build abundant lives.

- With a spirit of respect for humanity, we pay regard to the dignity and different values of individuals.
- Starting from the concept of *wa no kokoro*,* we pool our collective wisdom and strengths through teamwork.
- We strive to make the company’s business boundlessly prosper, and to build affluent livelihoods and fulfilling lives, both spiritually and materially.

* *Wa no kokoro* means the spirit of fellowship and harmony that enables people cooperate through mutual respect.

OLED Manufacture Equipment

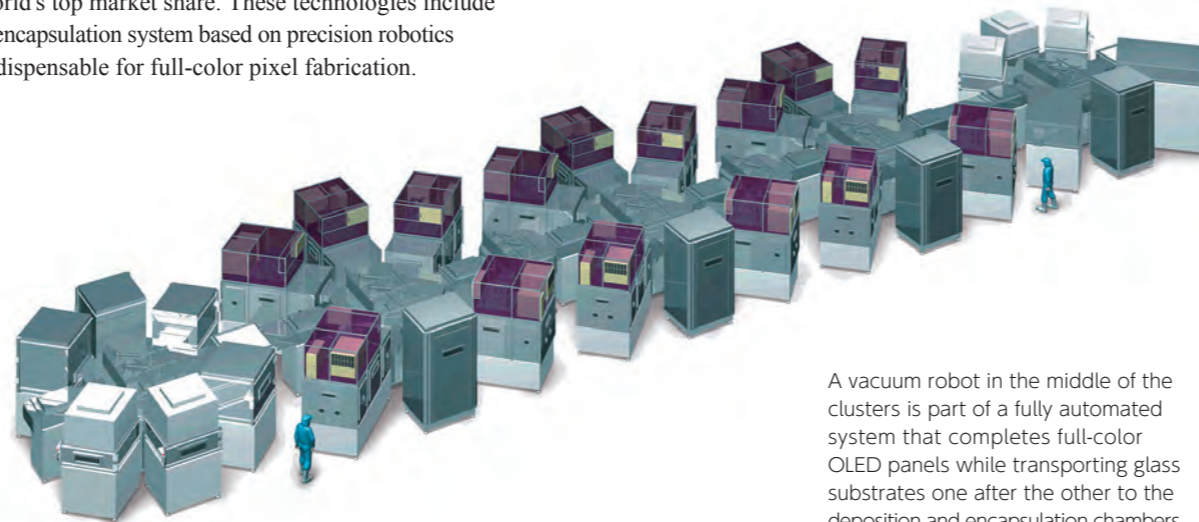
In OLED display production, it is essential to process OLED layers under vacuum conditions and perform adherence and encapsulation of the layers without any contact with air, to prevent the deterioration of the layers. High productivity has been established by centralized control of necessary parameters for the various and fully-automated production processes. Our equipment is also applicable to the production of organic solar cells.



■ Mass Production System System-ELVESS

This system was developed for mass production. This fully automated mass production system fuses all of the technologies our company has accumulated since the foundation in a single system and holds the world's top market share. These technologies include organic material and cathode metal material deposition expertise, fully automated encapsulation system based on precision robotics technologies, and high-precision alignment mechanisms and control technology indispensable for full-color pixel fabrication.

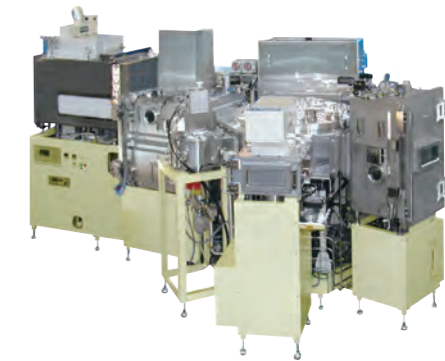
[Click here](#) for OLED display Production System Introduction Movie



A vacuum robot in the middle of the clusters is part of a fully automated system that completes full-color OLED panels while transporting glass substrates one after the other to the deposition and encapsulation chambers.

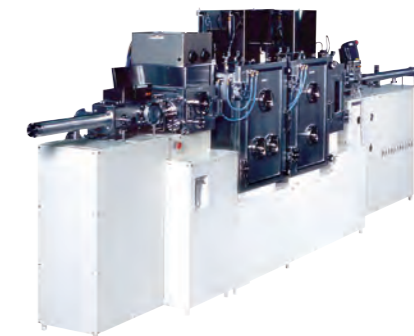
■ Small to Medium Volume Production System Small-ELVESS

This equipment is ideal for basic R&D and small-volume production of OLED displays. All processes, from O₂ plasma cleaning to deposition and encapsulation, are performed in a single system. It is possible to create high-performance OLED devices because there is no contact with the atmosphere. Highly reproducible processing makes efficient device process development possible, all the way up to the transition to mass production.



■ Research & Development System Try-ELVESS

This equipment is ideal for R&D of OLED and material development. This compact system integrates the O₂ plasma cleaning chamber, organic emitting layer deposition chamber, metal electrode deposition chamber, and encapsulation chamber. Possible to create OLED device prototypes because there is no contact with the air from vapor deposition to encapsulation processes. Basic research on OLED devices can be conducted more efficiently.



Vacuum Process Equipment

Canon Tokki takes advantage of its 30 years of experience in vacuum technology and device know-how to manufacture and sell a wide range of equipment that applies vacuum process technology.

■ Vacuum Process Equipment

Canon Tokki's vacuum evaporation equipment pursues ease-of-use, including easy regular maintenance and substrate swapping at the production site, and easily modified deposition parameters in the research lab.



■ Sputtering Equipment

This sputtering system is ideal for the mass production of compact electronic parts, such as crystal devices and chip resistors.



■ Thermal Processing Equipment

This thermal processing equipment, which is used in the production of crystal devices and various electronic devices, offers a clean vacuum exhaust system, stable temperatures, and excellent temperature distribution.



Advanced vacuum technology, and high-speed, high-precision conveyance factory automation technology

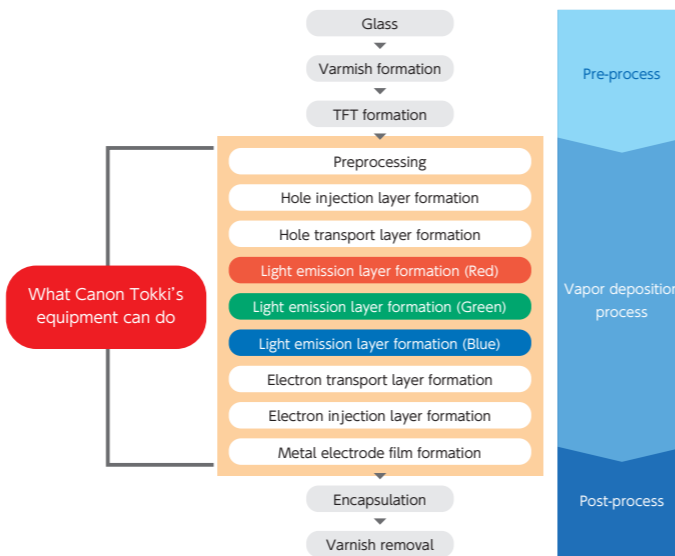


Manufacturing Process of OLED

The right figure is an example of the process of manufacturing a flexible OLED panel, using the vacuum deposition method.

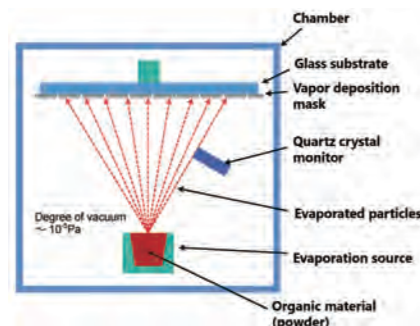
The mass production process is divided into three steps: "pre-process" that primarily makes TFT circuits, "vapor deposition process" that mainly deposits organic material, and "post-process" that consists of sealing, cutting, and wiring connections.

Emission layers are adhered on to glass substrates in the vapor deposition process, but various techniques are required to produce high definition and high-quality panels. The main required techniques are (1) technique of producing a vacuum vessel with a clean and high vacuum environment inside, (2) FA (factory automation) technology for moving glass substrates at high speed and precision, and (3) deposition and alignment technologies with high precision controlling of the position where emission layers are coated on glass substrates. For all of these techniques, we have the technical expertise accumulated over the years through development of various devices. And we also have abundant experience in successfully providing equipment for mass-producing display panels.



Deposition Technology

Inside the chamber is kept to a high vacuum condition of about 10⁻⁵ Pa, and organic material is poured into the evaporation source and heated to about 300 degrees Celsius until it evaporates. The evaporated particles ejected from the evaporation source maintains their linearity and adhere to the glass substrate without colliding with other particles. The speed of evaporated particles (deposition rate) is measured with a quartz crystal monitor and controlled to make sure it is constant, and the deposition is finished when the coating reaches a prescribed thickness.



To obtain the RGB emission color, the host material is doped (added) with a slight amount of dye material of about several percent. In this step, two types of organic materials are deposited simultaneously to form a mixed deposition. This is called codeposition.

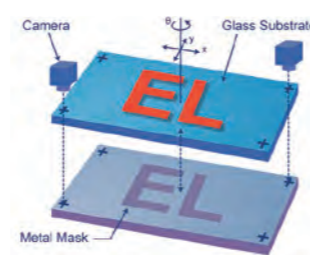
And in the final step, metal electrode film is formed. Silver and aluminum are used in this step, and the evaporation temperature is as high as 1,000 degrees Celsius or more, unlike with organic material.

Alignment Technology

The OLED's deposition process is characterized by the procedure of performing deposition and RGB patterning at the same time.

With organic material, patterns cannot be etched after the deposition is completed. Therefore, deposition masks are used during deposition in the patterning process. This step requires using the alignment technology for aligning the deposition masks with glass substrates with high precision. Alignment is performed by using a cameras to capture the deposition mask and glass substrate positions and then precisely controlling the positional relationship between these two.

In recent years, smartphones and TVs are using higher definitions for their screens. We are using our alignment technology to support the evolution of image quality to 4K and 8K.



Services

Maintenance Service•Sales of Maintenance Parts

In order to ensure stable use of your Canon Tokki's equipment for a long time, we can provide preventive maintenance services such as equipment inspections, replacement of parts/units, reconditioning of pumps and associated units, etc.

This prevents equipment failure, maintains equipment performance, and contributes to stable operation.

Modification/Customization Support

We are ready to offer a modification/customization plan best fitting your needs and budget so that your existing Canon Tokki's equipment can run at optimal level for many years to come, such as renewing old components with the latest ones, adding/upgrading the functions, etc.

Research and Development Policy

Canon Tokki's research and development policy is to provide innovative, value-added products that satisfy customers together with world-leading technology and quality, and outstanding service. In the rapidly-changing electronics industry, we research and develop products and technologies that satisfy customers.

Quality control

Quality policy

We will continuously pursue and provide the world's best technology, quality, and service to ensure "customer delight."

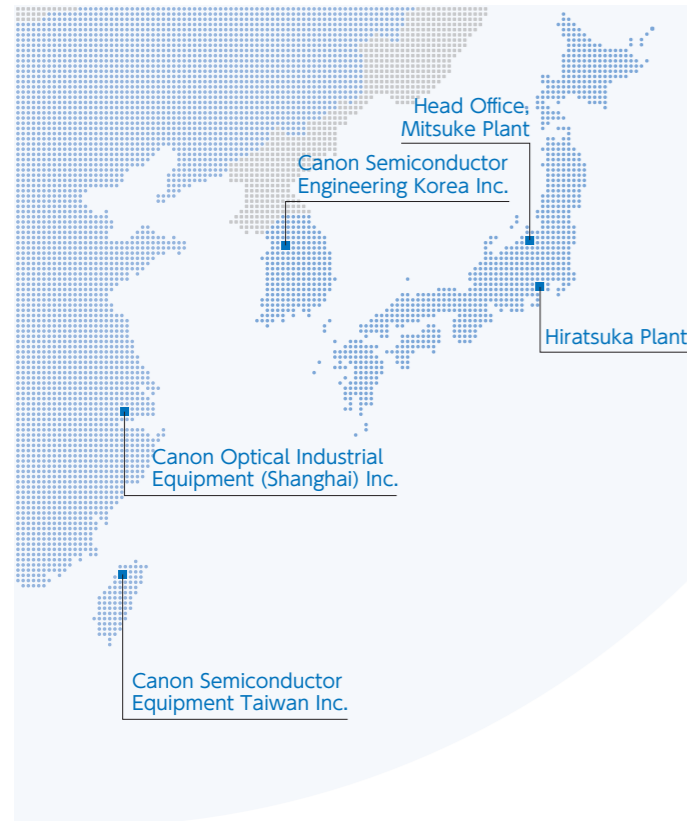
Management system

We always comply with the latest laws and regulations and supplier guideline for a product and service.

We utilize a quality management system and work on quality improvement by being improved continuously.



Canon Tokki Operations



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<https://tokki.canon/eng>



Corporate Profile

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Company name	Canon Tokki Corporation
Founded	July 29th, 1967
Parent Company	Canon Inc.
Stock Capitalization (Start-Up Cost)	¥6,572 million
Accounting Term	December
Number of Employees	647 (As of Dec. 31, 2022)

[List of Board Members]

Chairman & CEO	Hiroaki Takeishi
Vice Chairman	Teruhisa Tsugami
President & COO	Hiroyuki Ito
Senior Managing Director & CFO	Hiroshi Goto
Auditor	Akihiko Yokoyama
Auditor	Eiji Higuchi

[Historical Highlights]

July 1967

Tsugami Specialty Machine Co., Ltd. was established by Kenichi Tsugami in Shimbashi, Minato-ku, Tokyo, with capitalization of ¥1 million, and began selling machine tools and automation systems.

July 1972

Nagaoka Precision Co., Ltd. was established in Nagaoka City, Niigata Prefecture, and began designing and producing FA systems, peripheral equipment, and production tools.

April 1982

Tsugami Robotics Co., Ltd. was established in Yokohama City, Kanagawa Prefecture, becoming Japan's first authorized robot engineering company.

July 1983

Tsugami Specialty Machine acquired an equity stake in UPR Co., Ltd., a vacuum process equipment manufacturer, thereby entering the new field of vacuum thin-film deposition system.

January 1986

Tsugami Specialty Machine, Nagaoka Precision, Tsugami Robotics, and UPR merged to form the new company Tokki Corporation, Ltd., with the aim of expanding business in FA systems and vacuum thin film deposition equipment.

April 2003

Tokki completed the Mitsuke Factory in the Niigata Chubu Industrial Park in Mitsuke City, Niigata Prefecture.

December 2007

The capital and business alliance with Canon Inc. was completed, making Tokki a member of the Canon Group.

October 2010

Tokki became a wholly-owned subsidiary of Canon Inc. by corporate equity swap.

January 2012

Tokki changed its company name to Canon Tokki Corporation.