CORPORATE PROFILE

I-PEX

I-PEX Inc.

https://corp.i-pex.com/en

I-PEX

Innovative Product development & Engineering solutions eXpert

This is what we aim for. With our keen sensitivity, it is the sharpest tip that opens the way to the next generation in order to create a brighter future.
We bring surprise, joy and excitement to the world by creating new values that reflect society, reflect tomorrow, and stay one step ahead of the needs of the times.
A group of people who creates things that previously didn't exist or that no one could create. That is I-PEX.

“Why”

Reason for existing

Open up a new field that constantly generates excitement for the world

“How”

Capabilities and values

Open and enlarge the "sharpest tip" by connecting people, wisdom, and technology

“What”

Business development

Surpassing expectations through inspired manufacturing and creativity

Our Product Field

I-PEX technology that supports today, and builds tomorrow.

I-PEX products support convenience and comfort in a variety of everyday situations. I-PEX will create the future through the development of innovative products that enable a richer way of living.

HDDs (Hard Disk Drives)

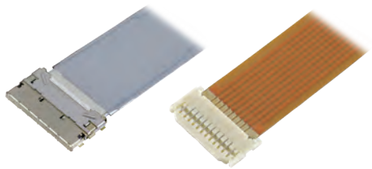
HDD mechanism components

Wearable devices and routers

RF connectors

Displays and digital appliances

FPC/FFC connectors

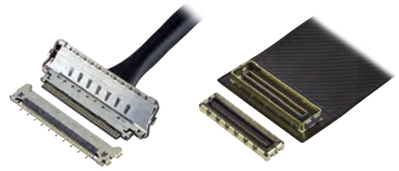


Automotive components

Sensors Wire-to-board connectors Smart entry keys

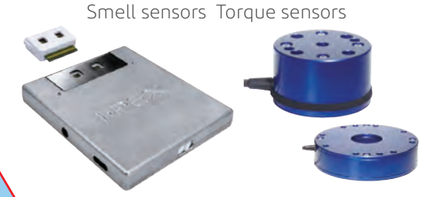
Laptops, tablets and servers

Micro-coaxial/Twinax connectors Board-to-board connectors



Robots, medical care, industrial manufacturing, etc.

Smell sensors Torque sensors

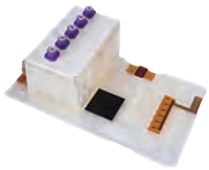


Electronic and automotive semiconductors

Semiconductor manufacturing equipment

DNA analyzers

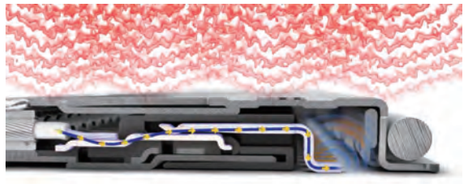
Forensic analysis devices



Connectors

Correctly, promptly, and precisely. Connect to open up the future.

We carry out in-house development and manufacturing of small connectors for high-performance electronic devices used in personal computers and smartphones, for example, and automotive connectors for automotive lighting and electronic control devices. We have expanded our business all over the world.



In-house development of high-performance connectors to meet a wide variety of needs

We develop high-performance connectors to meet the higher levels of complexity, sophistication, and various needs of electronic devices as they increase in performance and variety.

Contributing to the standardization of the latest standards through rapid development

We are leading the market as a top supplier in the industry by quickly developing connectors suitable for 5G applications, as well as those that can be used with the new wireless communication standards Wi-Fi 6 and Wi-Fi 6E.

Achieved a consistent production system on a global scale

We adopted an integrated production system on a global scale, through product planning, design, equipment manufacturing, and finally mass-production. We respond quickly to the rapid development of technology and meet the stringent quality needs of our customers.

High frequency/high-speed transmission connectors

Micro-coaxial/Twinax connectors

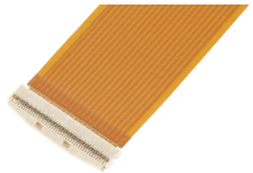
These connectors are used to connect displays, camera modules, servers, etc. They provide high-speed and high-capacity transmission to meet the trend of small and thin electronic devices that have high performance.

RF connectors

Cable connectors for high-speed radio communications antennas. They are used in many mobile devices, such as smartphones and wearables.

Board-to-board connectors

These connectors are used to connect boards inside equipment. They have 360 degree fully-shielded feature, and contribute to the space-saving designs and high-speed transmission of mobile devices.



FPC/FFC connectors

These connectors are used to connect flexible printed circuit boards or flexible flat cables to main printed circuit boards. They are widely used in digital appliances, touch panel modules, etc.

Wire-to-board connectors

Small, thin SMT (surface mount) connectors for automotive applications that are resistant to heat and vibration. They are widely used in applications that require high connection reliability, such as inverters and LED headlights.

Power terminals

Small-sized, high-current power terminals for board-to-board connection developed for key EV components. They contribute to downsizing and high output of on-board chargers, etc. and to the increase in battery capacity.

Semiconductor Molding Machines

Contributing to the accuracy and quality stability of evolving semiconductors.

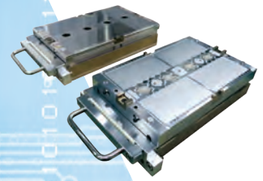
By developing and providing semiconductor manufacturing-related equipment, including fully automatic semiconductor resin sealing equipment, we have contributed to the automation of manufacturing and to quality stabilization.
In the semiconductor manufacturing sector, which is ever evolving towards the future, we will continue to take on challenges for further labor-saving, efficiency and quality improvements.

Meeting increasingly sophisticated high-quality needs

Since the development of the world's first fully automatic semiconductor resin sealing equipment, we have made upgrades over the past 40 years to provide equipment that can meet diversifying needs concerning enlargement of products, along with thin-type high-density products, etc.

◀ Exhibition at SEMICON Japan 81

Custom responsiveness to meet a wide range of needs



To meet customer specifications, we make proposals for optimal production equipment based on our accumulated technologies and diverse experience. In addition to in-vehicle semiconductors, we are highly regarded by a wide range of customers for products including automotive and consumer semiconductors, power modules, passive components, ECUs, and sensors.

Building a global local support system

We have established a local support system in each country that enables us to respond to customer needs quickly and in detail.

Semiconductor manufacturing equipment

GP-PRO SP-G

Fully automatic semiconductor resin sealing equipment suitable for mass production. Thorough dust control measures are taken to meet a wide range of needs for high quality, from consumers ICs to automotive ICs and passive components.

GP-PRO sf

Fully automatic semiconductor resin sealing equipment suitable for various kinds of small quantity production. A small and lightweight design with a simple structure. It is highly maintainable and cost-effective, making it ideal for small volume production.

S•Pot

Small bench-top molding machine suitable for prototype molding. Prototype molding, using small molds, can be achieved at a low cost in a short period of time, providing flexibility for new package development.

TS-PRO

A taping machine is necessary to prevent resin leakage that occurs when performing thin/single-sided resin molding. This contributes to significant cost reductions and improvements in lowering failure rates.

Molds/Automation System

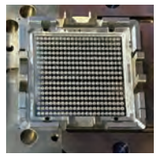
Providing solutions to meet all kinds of needs for automation.

We have cultivated our precision processing technology since our founding and our automatic machine technology based on our experience in mass production of a wide variety of products. We utilize these technologies to provide automation system solutions that include everything from design to production, and start-up of the machines, and thus contribute to solving our customers' problems related to production equipment and mass production.

Realizing fully automated production to maximize productivity

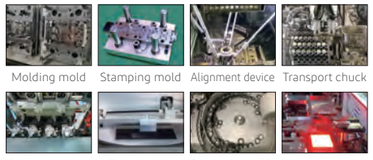
We realize a fully automated production with a single machine by combining "precision processing technology," "precision mold technology" and "automatic machine technology." We provide a complete set of services from proposal of production methods to design and construction of production machines for all-in-one automation system.

Solutions that support fully automated production



Mold specifications to meet high product requirements

We manufacture molds that can be used for products with high precision requirements based on the "module system," a mold manufacturing method of total division structure and all machine processing that we have established since our founding.



Fundamental technologies to meet the various needs for automation

By combining core technologies that I-PEX has cultivated in production fields to date, we can achieve automated mass production of products that has been difficult for other companies.

Customized automatic assembly machines best suited for products

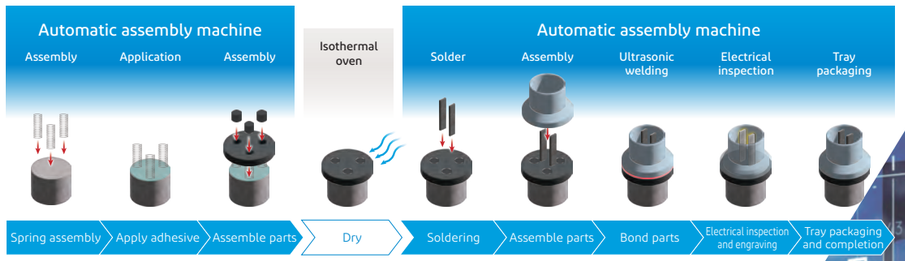
We assist our customers from the early stages of automatic machine development, and propose customized automatic assembly machines best suited for their products.

Proposing optimal production process and production line

We not only propose automatic machines, but also support our customers by reviewing their entire production process. By combining I-PEX's core technologies, including molding technology, with "adhesion," "bonding," "welding" and "electrical inspection" required in the manufacturing process, we can make a total proposal for the optimal production process and production line.

Automated production process (example)

We build automatic assembly machines that can integrate and automate our customers' independent processes to suit their products.



MEMS Foundry

MEMS foundry with the world's leading piezoelectric technology.

We have developed a piezoelectric MEMS foundry business with high-performance single-crystal piezoelectric thin film deposition and piezoelectric MEMS processing technologies. As a piezoelectric MEMS foundry that can provide integrated services from material development to mass production, we support our customers in developing high-performance piezoelectric MEMS.

Single-crystal piezoelectric thin film deposition technology with improved electrical and mechanical characteristics

By using our originally developed under-layer, we have successfully achieved the formation of single crystal films of various piezoelectric materials, including PZT (Piezoelectric Zirconate Titanate) thin films, which have been considered difficult to implement. We provide piezoelectric MEMS wafers (KRYSTAL® Wafer), which contribute to improving the performance of MEMS devices.

Proposing total solutions for design, materials and processing

Using our know-how to maximize the performance of single-crystal piezoelectric thin films and MEMS processing technology, we can provide integrated support from design support to deposition and processing of piezoelectric MEMS.

What are MEMS?

MEMS are devices that integrate microscopic mechanical components, sensors, actuators, and electronic circuits on a wafer manufactured using microfabrication technology, a manufacturing method similar to that used to make semiconductors. MEMS are expected to be used in various fields.


Gyroscopes

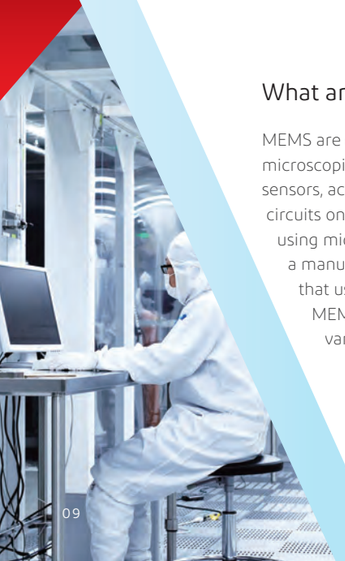

Speakers


RF filters


Ultrasonic sensors


Inkjet printer heads

Smell sensors



Sensors

Opening up new markets for the next generation.

We are taking on challenges for the creation of new markets through the development of sensors with unique design concepts based on new perspectives and ideas. With innovative ideas and research independent of existing technologies and creative collaboration with excellent partners, sensors are expected to expand beyond the existing business to a wide range of applications.

Smell Sensors noseStick and nose@MEMS

Smell sensors that utilize MEMS technology to recognize and identify patterns of odor molecules detected by multiple sensing elements. The "visualization of smells" helps to uncover a variety of potential uses that have not yet been realized. Such needs include detection of offensive smells, checking the quality of agricultural products, acting as a nursing care monitoring system, confirming the quality of daily necessities such as aromatic products, identifying and controlling quality for food products, and identifying odors for medical purpose. The applications for these sensors are endless.

noseStick

nose@MEMS

Electrostatic Capacitance Torque Sensor ESTORQ

▲ Adopted for use in collaborative robots

Electrostatic capacitance torque sensor ESTORQ®

ESTORQ® is a sensor for detecting and controlling the torque generated during the rotation of various robots and automatic assembly equipment. The simple structure adopting the electrostatic capacitance system realizes a dramatic improvement in mass production and cost compared to conventional strain-gauge torque sensors. It is flexible in terms of its design as required by customers and is expected to play an active role in a wide range of situations where torque detection is required.

Contract Manufacturing

I-PEX quality that goes beyond the required needs.

By combining the fundamental technologies of I-PEX such as molds and molding, stamping, plating, and assembly, we have developed an in-house automated production system tailored to each individual customer's product concept.
We provide a stable supply of various high-quality automotive parts and precision mechanical parts using a high-precision production process.

Ultra-high precision mold manufacturing and multi-molding technology

We supply high quality and stable products with our core technologies that have been continuously developed since our company's establishment. These technologies include ultra-high precision mold manufacturing and complex molding focusing on efficiency.

Realization of design optimization from the product concept stage

We respond to all matters quickly using our worldwide network. Starting from the product concept stage, we can optimize customers' productivity with technology proposals that are made for mass production.

A long-term reliable support system with a track record that spans more than 50 years

We offer high quality products and a post-production after-sales service backed by our long-standing supply track record in the automotive parts market.

Fully-automated insert molding system — Up to the completed sensor —

System preparation process

Equipment design and manufacturing

To ensure high productivity and quality, high precision molds and molding machines (keystones of the manufacturing process) are designed and manufactured in-house.


Stamping/plating

During the stamping and plating process, a metallic plate is stamped with high accuracy using a precision mold and then plated. This process creates the terminal, which is the metallic part that forms the electrical connection.


Fully-automated insert molding system

Pre-processing

Cutting of terminals, electric welding, bending processes, core cylinder welding, and assembly of relevant parts are carried out to manufacture the core part of the sensor.


Insert molding

The parts and metallic components manufactured in pre-processing are set in a mold, and then are insert-molded together with resin.

Post-processing

The mechanism elements are assembled, and once various tests, marking and vision inspections have been performed, the sensor is completed.


Automotive parts

Wheel speed sensors

Wheel speed sensors detect the speed of the wheel rotation and are used in anti-lock braking systems (ABS), which uses electronic control to prevent wheels from locking during sudden braking, requiring high reliability in harsh operating environments.

Angle sensors

These sensors detect the rotation angle and speed of an engine's crank and cam. They enable control of ignition timing and the injection of fuel, contributing to reduce CO_2 emissions and improve fuel efficiency.

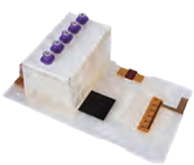
Precision molded parts

Smart entry keys

Card-type smart keys are developed in collaboration with leading automotive parts manufacturers. They take advantage of the semiconductor resin sealing technology and mass production technology that we have cultivated in-house, and have high elasticity and water resistance.

HDD mechanism components

We manufacture a variety of mechanical parts, including precision resin parts, which play an important role in the protection mechanism of the disk, which is the main component inside hard disk drives.



Forensic analysis devices

We supply microfluidic devices used for forensic analysis, made from a combination of 300 different components such as molded microchannel parts, filters, valves, and chemicals.

Journey of I-PEX

Our history of challenges that have opened up the “sharpest tip.”

1963 Establishment of Dai-ichi Seiko Co., Ltd.

Started out as a precision mold manufacturer, with the “module system” for producing molds developed by Akira Konishi, its founder.

1971 Export growth owing to its high reputation as a company “exceeding international standards”

Participated in the “National Plastic Exhibition” held in Chicago for the first time as a company in the Japanese mold industry. Opened a representative office in Singapore to expand mold exports.

1973 Tackling the challenge of becoming a precision components manufacturer

Proposed mass production of molded connector products to customers, and started contract manufacturing of precision plastic components.

1976 Domestic expansion of production locations

Established the first subsidiary in Chikushino City, Fukuoka Prefecture, and the first mass production subsidiary in Fuchu City, Tokyo Metropolis.

1979 Establishment of the first overseas production location in Southeast Asia

Established Singapore Dai-ichi Pte. Ltd. (now I-PEX Singapore Pte Ltd) as the first overseas production location.

1980 Entering the era of semiconductor mass production

Developed the world’s first fully automatic semiconductor molding equipment “GP-SYSTEM.”

1981 Making Fukuoka an operational hub for the future

Opened the Ogori Plant in Ogori City, Fukuoka Prefecture.

1988 Start of contract manufacturing of automotive components

Established a production location in the Philippines.

1991 Expansion of production locations to China

Established Shanghai Dai-ichi Mould & Plastics Co. Ltd. (now I-PEX Precision Mold & Plastics (Shanghai) Co., Ltd.) in Shanghai, China, as a production location.

1995 Development of the world’s first micro-coaxial connector

Worked on the development of micro-coaxial connectors for notebook PCs at the request of a major US computer manufacturer. The following year, launched the micro-coaxial connector CABLINE® series.

1997 Start of production of hard disk drive (HDD) parts

Became the first in the world to realize mass production of “ramp,” an important component used in HDDs.

2000 Expansion of production locations in the USA

Established Touchstone Precision, Inc. (now I-PEX USA Manufacturing Inc.) in Alabama, USA, as a production location.

2004 Integration of development, manufacturing and sales

Acquired I-PEX Co., Ltd. a pioneer in the field of high speed, wide-area transmission connectors as a subsidiary. Transformed from an OEM to a connector manufacturer.

2006 Accelerating growth with stock listing

Listed on the JASDAQ Securities Exchange*. Taking this opportunity, the company strengthened its development and manufacturing systems and its integrated production system.

*Listed on the First Section of the Tokyo Stock Exchange in 2011, and transferred to the Tokyo Stock Exchange’s Prime Market in 2022. Currently unlisted.

2009 Becoming a manufacturer that leads the global standards

The CABLINE®-VS micro-coaxial connector was certified as a VESA standard.

2014 Development of new fields with proprietary sensor technology

Released the Electrostatic Capacitance Torque Sensor ESTORQ®. This marked the beginning of development of MEMS devices.

2020 Established a new center for the engineering's core functions, and changed the company name to I-PEX Inc.

Opened “I-PEX Campus” as the core center of the Group’s engineering departments in Ogori City, Fukuoka Prefecture.
Made a new start as I-PEX, “Innovative Product development & Engineering solutions eXpert.”

2023 Launch of the Piezoelectric MEMS Foundry

Established I-PEX Piezo Solutions Inc. in Ube City, Yamaguchi Prefecture.

2025 Strengthening our connectors research and development

Relocated and expanded Tokyo R&D Center (Machida City, Tokyo Metropolis) as a research and development center for connectors.

Sustainability

Aiming for sustainable growth together with society.

I-PEX places importance on its responsibilities for environmental and social issues. We are strengthening our initiatives for sustainable growth, including measures to address climate change, creating an environment where diverse personnel can play an active role, and contributing to local communities.

From a recycling-based approach to new business

We are working to reduce our environmental impact through measures such as increasing production efficiency, using recycled materials, reducing waste, and reusing water used in our processes.
To stay ahead in addressing environmental issues, we offer RENERATH™, our storage battery systems series which utilize used batteries from electric vehicles and battery management systems. In addition to being useful in the event of a power outage due to a disaster, the RENERATH™ series also contributes to the realization of a decarbonized, resource-recycling society by reusing batteries.

RENERATH™

Switching to renewable energy

We are focusing on further reducing CO_2 emissions in order to achieve carbon neutrality. In addition to saving energy during production, we have begun replacing the electricity we use with renewable energy.

Creating an environment to support the growth of employees

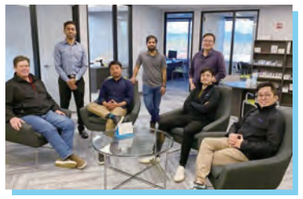
To support the growth of employees who continue to take on challenges in line with our corporate philosophy, we aim to create an organization in which employees and the company grow together by building and operating a human resource management system. We will create an environment in which diverse personnel can put their unique strengths to use through human resource development, system design and corporate culture reform.

Contributing to local communities

To achieve a sustainable society, I-PEX focuses not only on its own development but also on the growth of the regions in which it operates. We promote proactive social contribution activities such as supporting children and local events, and protecting the environment.

Creating New Value, All Over the World

Manufacturing that spans across the globe—I-PEX manufacturing.



To be the Sharpest

By creating original value that surpasses the imagination of customers,
we will become a partner that is the first choice for customers.
This passion, which is alive in each of us as we work around the world,
will help us to open up the next generation.

Top Message

We will continue to create new value as an Innovative Product development & Engineering solutions eXpert.

Reiji Konishi, President

The history of I-PEX began in 1963 when my father founded Dai-ichi Seiko, a manufacturer specializing in precision molds. By our 10th anniversary, we expanded into precision plastic molded products, applying our world-class mold processing technology. Since then, we have consistently created unique products and solutions based on our strength in “Perfection in PRECISION.” This dedication has transformed us into a multi-business company that utilizes not only its know-how in precision processing but also a variety of other technologies.

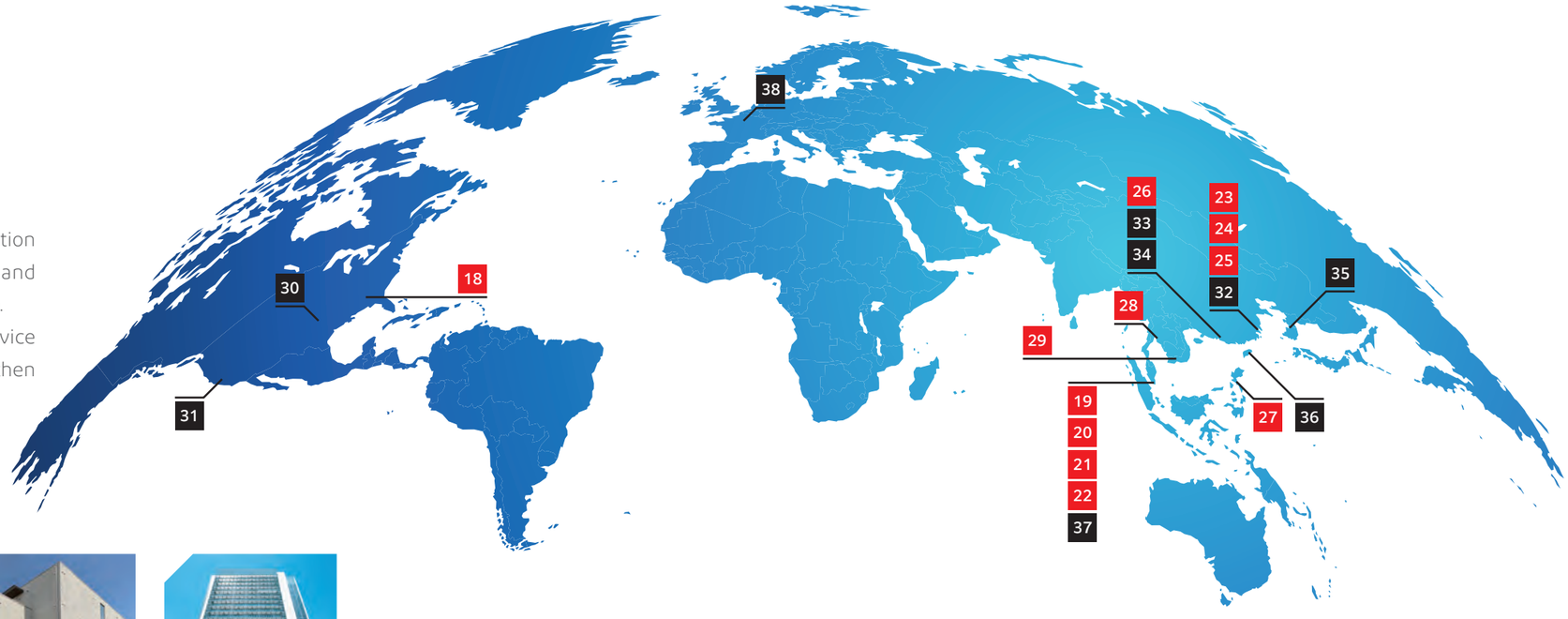
The cornerstone of our growth has been our commitment to creating value by venturing a step beyond the needs of the times and contributing to the development of the industry through our innovative technologies. Driven by this untiring spirit of inquiry, we have broadened our product and technology portfolio. To achieve further growth, we have strategically transformed our management and business structures and expanded our field of business, leading us to what I-PEX is today.

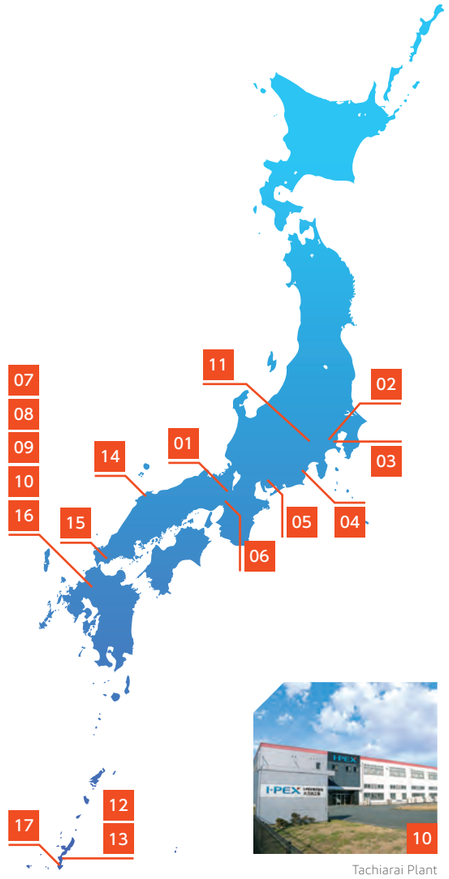
Dedicated to living up to our customers’ trust, we will pass down to the next generation our manufacturing DNA, based on untiring research and development that has been our hallmark since our founding. Simultaneously, we will enhance our technologies, venture into new business fields, and encourage co-creation with partners worldwide. We will strive to further improve our corporate value and continue to sharpen ourselves as an “Innovative Product development & Engineering solutions eXpert” that provides value in the form of inspiration and astonishment.

Global Network

Meeting diverse global needs.

Since our first overseas expansion with the establishment of a location in Singapore in 1971, we have expanded our plants, sales offices, and development centers throughout Asia, the United States and Europe.
We will continue to focus our efforts on the production system, service system and human resource development in each region to strengthen our ability to respond appropriately to global needs.






01
Headquarters


02
Tokyo R&D Center


03
Yokohama Office


04
Shizuoka R&D Center


05
Kariya Office


06
Osaka Office


07
I-PEX Campus


08
Ogori Plant


09
Onojo Plant

10
Tachiarai Plant


11
Yamanashi Plant


12
Okinawa Plant


13
Okinawa Innovation Center


14
I-PEX Shimane Inc.


15
I-PEX Piezo Solutions Inc.


16
DJ Precision Co., Ltd.


17
Okinawa Office/I-PEX Global Operations, Inc.

Overseas production location
Overseas sales office


18
Alabama Plant, USA


19
Yishun Plant, Singapore


20
Woodlands Plant, Singapore


21
Johor Bahru Plant, Malaysia


22
Bintan Plant, Indonesia


23
Shanghai Plant 1, China


24
Shanghai Plant 2, China


25
Shanghai Plant 3, China


26
Dongguan Plant, China


27
Laguna Plant, Philippines


28
Chonburi Plant, Thailand


29
Ho Chi Minh Plant, Vietnam

30 Austin, USA

31 Silicon Valley, USA

32 Shanghai, China

33 Hong Kong, China

34 Shenzhen, China

35 South Korea

36 Taiwan

37 Singapore

38 France