# Introduction to Business

## ■ Fundamental Technology Division

O Machine Design and Processing Section

Machine design/modeling/precision processing/precision measurement

O Material and Functionality Evaluation Section

Functional evaluation of material processing and materials

O Chemistry and environment Section

Chemical/environmental technology, material analysis, etc.

### Applied Technology Division

O Electrical and Electronics Section

Electrical/electronic technology, EMC (electromagnetic compatibility) technology, optical/microwave/millimeter wave technology

O Food and Biotechnology Section

Food/bio-related technology, food functional ingredients, food waste utilization technology

O Surface Finishing and Micro-Fabrication Technology Section

Surface treatment technology, new material-related technology, microfabrication technology

O Design Section

Support for strengthening the design power of the industry, product planning/sales promotion/design production

#### ■ Planning and Collaboration Division

O Planning and Information Section

Planning and adjustment of projects, adjustment of in-house research, research results publication, intellectual property management, planning/coordination/promotion of collaboration among industry, academia and public sectors, PR/information release

#### ■ General Affairs Division

Management of budgets, human resources, general affairs, and public facilities

#### ■ Chutan Technical Assistance Office

Technical support in the northern region, R & D promotion and human resource development support

### ■ Keihanna Branch Office

Coordination of institutions in Keihanna Science City and companies in Kyoto Prefecture

# Summary of Facility

Land area 1,380 m<sup>2</sup> Building area 7,296 m<sup>2</sup>

Structure The main building is steel-reinforced concrete with five stories above and one floor below ground. The annex is a one-story

steel-reinforced concrete building.

## History

1946 Kyoto Prefectural Machinery Manufacturer Guidance Center opens in Nishi-shichijonakura-cho Shimoqyo-ku, Kyoto

1962 Machinery Manufacturer Guidance Center and Institute for Industrial
Efficiency are integrated into the Kyoto Prefectural Guidance Center for Small
and Medium Enterprises

1966 Renamed as Kyoto Prefectural Small and Medium Enterprise Comprehensive Guidance Center

1989 Moves to present site. Renamed as Kyoto Prefectural Small and Medium Enterprise Center

2001 Keihanna Branch office is established

2005 Management Support Department transfers to Kyoto Industrial Support Organization 21, a public interest incorporate association. Renamed as Kyoto Prefectural Technology Center for Small and Medium Enterprises

2007 Chutan Technical Assistance Office is established

2012 Project to mark 50th anniversary since foundation

## **Branch Office Guide**

Chutan Technical Assistance Office TEL+81-773-43-4340 FAX+81-773-43-4341

The Northern Industrial Creation Center, 33-1 Nishibaba-shita, Aono-cho, Ayabe-shi, Kyoto 623-0011

#### Keihanna Branch Office TEL+81-774-95-5050 FAX+81-774-66-7546

Keihanna Open Innovation Center (KICK) in Kansai Science City (Seika / Nishikizu District, Kyoto Prefecture)

(9-6 Kizukawadai, Kizsukawa-shi / 7-5 Seikadai, Seika-cho, Saraku-gun), Kyoto 619-0294

## **Contact Us**

Opening hours: Mon-Fri 08:30 to 17:15 (Lunch break: 12:00 to 13:00)

• We are closed on all national holidays and between Dec 29th and Jan 3rd

• Equipment is available between 09:00 and 17:00.

### Please call to use our services.

■ For technical consultations, testing requests, equipment rental:

Fundamental Technology Division TEL +81-75-315-8633
Applied Technology Division TEL +81-75-315-8634

■ For publicity:

Planning and Collaboration Division TEL +81-75-315-8635

## Access

**134 Chudoji Minami-machi, Shimogyo-ku, Kyoto-shi, Kyoto 600-8813**General Affairs Division TEL +81-75-315-2811 FAX +81-75-315-1551

By JR Line

#### 5 minutes on foot from Tambaguchi Station

O By City Bus

• At Hankyu Omiya station, take a bus bound for "Kyoto Gaidai mae" (line number 32).

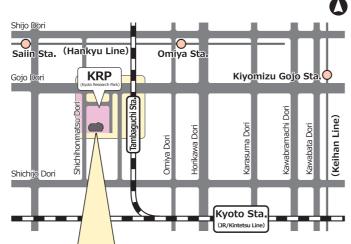
 At Hankyu Saiin Station, take a bus bound for "Kyoto Station" (line number 75).

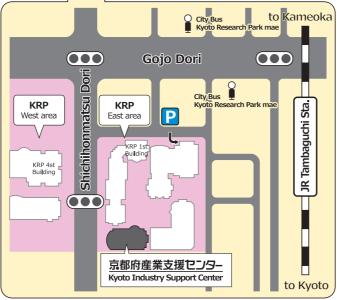
• At Keihan Kiyomizu Gojo Station, take a bus bound for "Kyoto Gaidai mae' (line number 80). (Take a bus at Kawaramachi Gojo bus stop)

Get off the bus at "Kyoto Research Park mae." Walk 200 m south along Shichihonmatsu Dori St., you will find the center on your left hand side.

 $\, \odot \,$  Underground parking lot (free for 20 minutes after entering)

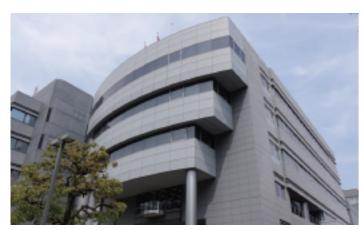
Daytime (08:00-20:00) 100 yen/20 minutes
Nighttime (20:00-00:00) 100 yen/60 minutes





2018,5





Kyoto Prefectural Technology Center for Small and Medium Enterprises is a public research institute. Its services include support for technical capability enhancement, such as technical consultations, requested testing, equipment rental, human resource development through study meetings and seminars, and the promotion of R&D and collaboration among the industry, academic and public sectors, in order to meet the diverse needs of small and medium enterprises and provide technical information that is useful to companies.

Together with the Kyoto Industrial Support Organization 21, KPTC provides a one-stop service for technology and management.

The Center has also established the Keihanna Branch Office in Keihanna Science City and the Chutan Technical Assistance Office in the Chutan region of Kyoto Prefecture.

# Support for technical capability enhancement Technical consultations

Our staff provides advice and information on the various challenges and issues concerning technology that companies address, such as new product development, quality control, technology improvement, and research and development. We also visit sites to give site-specific responses and advice.

## Requested testing

We conduct spectroscopy, chromatography, X-ray analysis, material testing for strength/hardness/attrition, non-destruction testing, electrical testing, precise measurements of shapes and dimensions, as well as environmental, physicochemical, microbial testing, etc. We also provide necessary technical advice.

## Equipment rental

In order to promote technological development, research and development, and quality improvement, we can lend pieces of test and research equipment and other items belonging to our center at the request of companies, so that company engineers can conduct testing and evaluation for themselves.

### ■ Development of human resources

We conduct study meetings and seminars in various fields to improve the technical skills and product development capabilities of engineers.

### ■ Promotion of R&D in response to needs

We promote R&D in various fields in response to the needs of companies who are working towards the innovation of their own technologies and new technological developments. We also hold annual research presentation sessions to disseminate results and transfer technologies.

### Collaboration and cooperation

We cooperate with companies and universities so joint research can be conducted. We also commission universities to conduct studies on issues that cannot be handled by KPTC alone.

# ■ Useful technical information releases for companies We provide useful technical information through public media. such as our

We provide useful technical information through public media, such as our website, e-mail newsletters, and magazines.

# Please use our center if...

- You are struggling with technical problems
- You want to evaluate your products
- You want to upgrade, apply or develop your technology
- You are considering improvements at manufacturing sites

## 1 Environmental test laboratory

Equipped with various environmental test machines. Using these pieces of equipment, we conduct reliability tests/performance evaluations of metallic/industrial materials, auto parts, electrical/ electronic parts of mobile phones, etc.



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3F

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Weatherability Evaluation System

# 2 Design laboratory

Conducts technical consultations in the design field and content design studies, including CG (computer graphics), and digital video.



## 3 Instrumental analysis room

Equipped with a analysis apparatuses, such as spectroscopic analyzers and chromatograms, to analyze industrial materials and food, supporting enterprises' technological improvements, product development and quality assurance activities.



LC-TOF/MS

# 4 Electron microscope room

Equipped with a scanning electron microscope, electron beam microanalyzer, and glow discharge luminescence analyzer. It is possible to observe the surface of a minute portion at high magnification and perform elemental analysis, and also make a depth analysis of elements by glow discharge.



Scanning Electron Microscope Energy Dispersive X-ray Spectrometer

## 5 X-ray analysis room

Equipped with an X-ray fluorescence analyzer, X-ray photoelectron spectroscopic analyzer and X-ray diffractometer. Using these pieces of equipment, we study the composition, chemical bonding state and crystal structure of elements without destroying them.



X-ray Fluorescence X-ray Analyzer Spect

X-ray photoelectron Spectroscopic Analyzer

# Surface processing technology development room

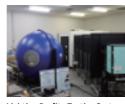
Surface processing equipment that gives new functions to materials has been introduced to conduct applied development with the film formation of DLC (diamond-like carbon).



Plasma Based Ion Implantation and Deposition System

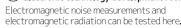
# TElectronic materials testing laboratory

Uses a  $\phi$  76-inch integrating sphere,  $\phi$  10-inch integrating sphere, and light distribution measuring device, to evaluate the quality of light by measuring total luminous flux and distribution of light sources, ranging from LED devices, light bulb types, to straight types of lighting equipment.



Lighting Quality Testing System

Electronic technology development room





RF Anechoic Chamber and RF Measurement System

Machining technology development room Equipped with 3D CAD/CAE, high speed 3D molding and 3D scanners, using the data produced by CAD and scanners to create the prototypes with high speed tertiary molding machines (powder bed fusion type 3D printer) and analyzing with 3D CAE.



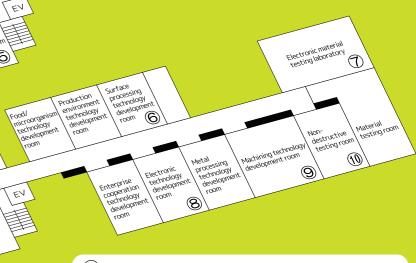
Additive Manufacturing Machine

Non-destructive testing room
Using X-rays, we can look through and

observe the structure inside parts and assembled products without destroying/damaging the products.



Micro-focus X-ray CT System



## 11) Precise measurement room

Equipped with a CNC 3D measuring machine, image measuring machine, precise circularity and cylinder measuring device, and a measurement system of fine structures of curved surfaces, to measure the size and form of complex forms of parts with various shapes.



Nano-indentation Taster



er Coordinate M Machine

# 12 Material properties laboratory

Equipped with a FE Auger electron spectroscopic analyzer, a micro Vickers hardness tester, a scanning probe microscope, etc. Using those devices, the observations and analysis of minute surface parts, observations of metal structure, Brinell, Rockwell and Vickers hardness tests, and adhesion evaluations of thir film are conducted.



Field Emission Auger Electron Spectrometer