Industrial Technology Innovation Center of Ibaraki Prefecture

Overview

Basic Policy

With the aim of creating companies that are highly competitive and active in growth fields, the Industrial Technology Innovation Center implements the following initiatives to 'promote the creation of innovation in companies' and 'foster companies with strength in proposing and speed in development'.

01

Research that fosters innovation

02

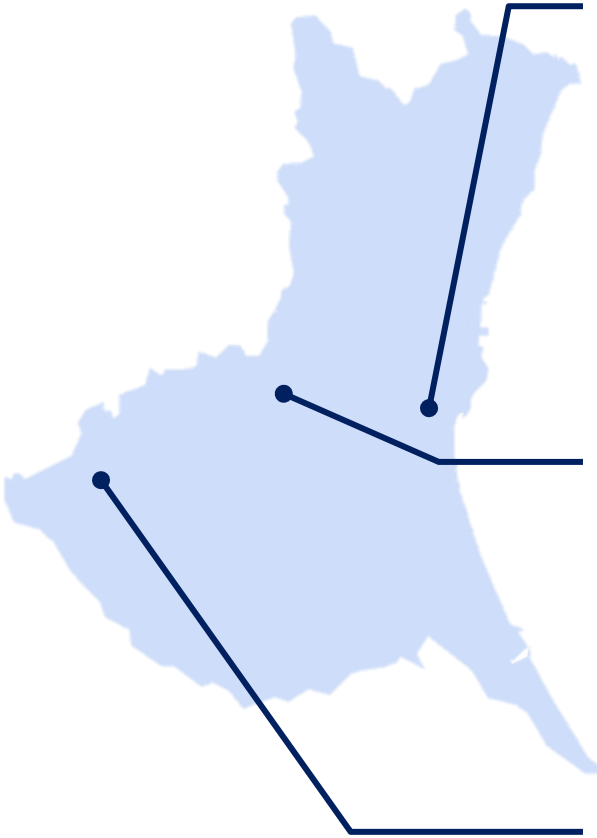
Support for starting businesses

03

Consulting and Cooperative Research

04

Human Resources Development



Main Office
(Ibaraki-machi)

Kasama College of Ceramic Art
(Kasama City)

Research Institute for Polymers and Textiles
(Yuki City)

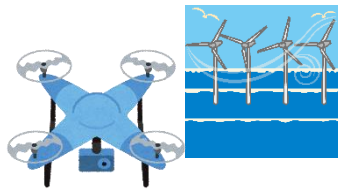
(As of April 2023, Industrial Technology Innovation Centre has 78 total employees, 54 permanent full-time employees)

01 Research that fosters innovation

In order to drive technological innovation of small and medium sized companies within Ibaraki Prefecture, we are conducting research and development with a focus on materials made in the IT, AI, robotics and aerospace sectors.

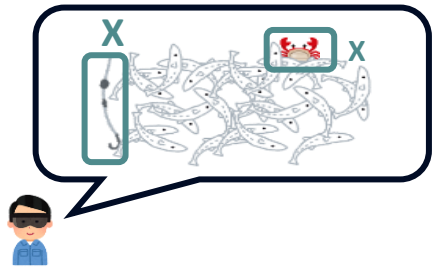
IT, Artificial Intelligence, and Robotics

i. Research on advanced functionality of drones aimed at next generation maintenance businesses
   → Optimizing the maintenance of offshore wind power farms using drones



Maintenance of offshore wind power farms conducted using drones

ii. Research on AI development technology and its practical applications using small amounts of data
   → Utilising AI to improve the efficiency of *shirasu* (whitebait) selection processes.



Implementation of AI in the sorting process of *shirasu* (whitebait)

iii. Research relating to Japanese sake made using a next generation traditional *kimoto* yeast starter.
   → Selection of superior lactic acid bacteria suitable for sake brewing and development of methods to produce sake of consistent quality using IoT.

IoT Japanese sake manufacturing

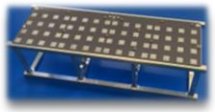
Final Focus of 2023

Aerospace

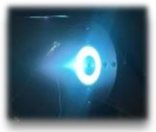
iv. Research on improving the functionality of microsatellites
   → Development of antennas, position control systems and propulsion systems which are mounted to microsatellites.

Position Control System

Antenna



Propulsion System



iv. Systems and equipment which can be mounted onto microsatellites to improve functionality

Materials

v. Research related to the grinding of CMC materials
   → Development of grinding technology for high-speed and high-precision processing of CMC materials (ceramic matrix composites) with high heat resistance.

02

Support for starting businesses (2023: 4 cases of commercial development)

Aiming to develop highly competitive enterprises that can succeed in a global society, the Centre provides consistent support, in cooperation with external organisations, to promote the creation of new businesses using IoT, AI and other technologies.

- **Fostering environments and networks conducive for business creation**
  - → Management of co-working spaces and conducting seminars and consultations

- **Training focused on business model development**
  - → Business model development training

Examples of support provided (including examples which are still ongoing):

2021:

- Ultra-high performance thermal insulated container which utilizes atmospheric re-entry capsule technology (TwinCapsula Inc.)
  - → Business partnership with Tiger Corporation

- Hook lock for sliding doors (Kuriki Manufacture Co., Ltd)
  - → Enhancing security levels and usability
  - → Launched in 2021

2022:

- Launch of pet funeral service business (Hanashin Co.)
  - → 2022 Start of pet cremation service (Pet Ceremony Koga)

2021

2022

03

Consulting and Cooperative Research

Proposing solutions by utilising the Innovation Centre's technology, equipment and network of contacts.

Support Programs	Cases in FY2022 (Total No.)
Technical Consultation	2,889
Commissioned Testing	14,029
Equipment Usage	4,696
Joint Research	46

FY2022: 30 cases of product creation and implementation

Implementation of robotic assistance in the polishing process (Sanyu Co., Ltd)

The centre carried out robot operation verification and robot hand design and trial production using its simulated smart factory for the automation of the polishing process for metal parts.

As a result, the time required for manual work in the entire polishing process was reduced by 34%.

Implemented system

Assisted in the productisation of Junmai Sake Neo-Classic (Murai Jyozo Co., Ltd)

Proposed the use of lactic acid bacteria discovered by the centre, which can produce lactic acid through fermentation even at low temperatures and prevent bacterial contamination.

The centre also carried out sensory evaluations of the sake produced and analysed the components for aroma and sweetness. The product they developed was launched in September 2022.

Final product

04

Human Resources Development

- Development of human resources who can assist in companies' research and development and foster innovation.

  (e.g., IoT, Robotics, utilisation of next-generation CAD/CAM technologies, creation of business plans, etc.)

- Training is provided to develop leaders in local industries such as Kasama Ware Pottery, Yuki Tsumugi (silk) and Hitachi Toji (certified skilled sake brewers).

Contact Us

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