

NEWS RELEASE

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Business Acceleration Program 2019 Awardees announced

Supporting startups who seek to resolve societal issues through innovation and business

TOKYO, Japan - The Innovation Network for Co-creating the Future (INCF), facilitated by the Mitsubishi Research Institute, Inc. (MRI; President: Takashi Morisaki), is engaged in activities to resolve societal issues through innovation and business. As part of this effort, the INCF held this year's "Business Acceleration Program (BAP) 2019" on September 6th and announced the winners of the Grand Award and the MRI Award.

With the goal of fomenting "a sustainable society where ten billion people can live in abundance," MRI's "Innovation Network for Co-creating the Future" uses innovative technology and open innovation to promote solutions to societal issues.

The INCF conducted the "Business Acceleration Program 2019" as part of its efforts to resolve societal issues through business, and solicited business proposals that utilize innovative technologies within six focus areas spanning wellness, water and food, energy and the environment, mobility, disaster prevention, and education and human resource development.

After the screening and presentation processes, the INCF selected seven teams from among 124 applicants as the "finalists" who were invited to propose business plans with a significant impact on societal issues. The finalists received a six-week mentoring service to refine their proposals and accelerate their business plans. Two other teams were selected for the "Honorable Mention Award" for their proposals on products and services offering a superior technology or business model.

At the Business Acceleration Program 2019 - Final Contest on September 6th, the seven finalists made pitch presentations. The Selection Committee consisted of five expert judges who are members of the INCF Advisory Board. The Committee evaluated the proposals and announced the following winners.

MRI will continue to support the winners, finalists, and applicants in a variety of ways, including technical and entrepreneurial strategy and implementation.

■ Awardees

<Grand Award>

Activatelab Co., Ltd.

Creating an inclusive society where people with disabilities can pursue a quality life and career opportunities.

Summary: Activatelab Co., Ltd. provides a social networking service for persons with physical disabilities. This service is based on “Bui-kun”, a software that handles information regarding functional capacity of people with physical disabilities to match them with employers, relevant information and services, and a community of other disabled individuals.

Reason for Award: The societal issue to be resolved is very clear, and the judges highly appraised the business potential of improving the employment rate of people with disabilities.

<MRI Award>

BionicM Inc.

Power assisted prosthetic legs that completely change user mobility

Summary: BionicM Inc. has developed a robotic, power-assisted prosthetic leg to support user mobility.

Reason for Award: The judges appraised the business’s potential for further growth by developing highly feasible solutions with an eye on overseas expansion, especially in China.

<Special Award>

Fish Pass Co., Ltd.

An online system for recreational fishing ticket, “Fish Pass” will shape the future of our rivers

Summary: Fish Pass provides an online ticket sale system with GPS functionality and extended local information services to support fishing area improvement, disaster prevention and safety, and tourism.

Reason for Award: The judges appraised the steady growth of the business and the potential for regional revitalization driven by its collected GPS data.

■ Finalists including the winners above (in alphabetical order)

- ◇ Activatelab Co., Ltd.: “Creating an inclusive society where people with disabilities can pursue a quality life and career opportunities.”
- ◇ KAICO LTD.: “Development of silkworm-based proteins for medicinal use.”
- ◇ Quantum Operation, Inc.: “Innovation to develop multiple continuous streams of health care data.”
- ◇ seak Co., Ltd.: “The agricultural franchise model ‘LEAP’”
- ◇ DPS Inc.: “Rapid recycling of low-concentration residual metals using DualPoreTM.”
- ◇ Fish Pass Co., Ltd.: “An online system for recreational fishing tickets, ‘Fish Pass’ will shape the future of our rivers”
- ◇ BionicM Inc.: “Power assisted prosthetic legs that completely change user mobility”

■ Honorable Mention Awardees

- ◇ Xcoo, Inc.: “Chrovis, an AI solution for genomic cancer medicine.”
- ◇ Nihon Agri, Inc.: “Operations related to the production, export, and sale of Japanese agricultural products.”

■ List of judges

Chair of the Committee:

- Hiroshi Komiyama Chairman, Mitsubishi Research Institute, Inc.

Judges in alphabetical order:

- Richard Dasher Director, US-Asia Technology Management Center, Stanford University
- Tomy Kamata CEO and Founder of TomyK Ltd. (Co-founder of ACCESS Co., Ltd.)
- Haruo Miyagi Founder and CEO, ETIC.
- Yasuo Sugiyama Professor, Graduate School of Management, Kyoto University

About MRI:

Since its founding in 1970, the MRI Group has played a trailblazing role in a wide range of fields, from economics and corporate management to policy and public affairs, science and technology. MRI has consequently established an outstanding reputation as a comprehensive think tank group with the ability to provide integrated solutions for the problems its clients and all of society face. To learn more, please visit www.mri.co.jp/en/.

For inquiry:
Mitsubishi Research Institute, Inc.
10-3, Nagatacho 2-chome, Chiyoda-ku, Tokyo 100-8141
Open Innovation Center
E-mail: incf@mri.co.jp

[Reference: details of the finalists]

■ Proponent: Activatelab Co., Ltd.

Creating an inclusive society where people with disabilities can pursue a quality life and career opportunities.

◇ Summary: Activatelab Co., Ltd. provides a social networking service for persons with physical disabilities. This service is based on “Bui-kun”, a software that handles information regarding functional capacity of people with physical disabilities to match them with employers, relevant information and services, and a community of other disabled individuals.

◇ Expected impact on society:

1) Potential demand and issues

- In Japan, there are approximately 12 million people with physically disabilities.
- Approximately 120,000 companies in Japan are obligated to employ people with disabilities. Of these, 45.9% achieved the legally mandated employment rate in 2018, which is a decrease of 4.1 percentage points from the previous year. Consequently, the number of fines paid by those that did not achieve the target increased.
- A significant cause behind the failure to achieve this goal is that the government prescribed only the number of employees to employers but did not provide any further knowledge or follow-up systems. As a result, there are still significant prejudices and misunderstandings among employers.

2) Services and technologies

- ActivateLab Co., Ltd. proposes a search engine that automates the matching of the bodily location of the physical disability with job-specific skills. Its UI enables the natural selection of attributes, which is a part of its patented system, “Bui-kun.”
- It provides a comprehensive consulting service for companies that are obligated to employ people with disabilities. Its suggestions are based on the perspective of utilizing people as a corporate force in addition to ensuring compliance with employment law.
- A curation service that allows users to tag and categorize information on the Internet with that of “Bui-kun,” and an SNS called “OpenGate” that is tailored for people with physical disabilities. The SNS supports the exchange of information on everyday infrastructure besides job opportunities.

3) Effects and contributions

- For persons with disabilities, it improves their quality of life by helping them to find employment. For employers, it eliminates the loss of employment opportunities and reduces fines due to a lack of compliance stemming from a misunderstanding of persons with disabilities. For society, it improves enforcement of national and local laws.

■ Proponent : BionicM Inc.

Power assisted prosthetic legs that completely change user mobility

◇ Summary: BionicM Inc. has utilized the world’s leading humanoid robot technology from the

University of Tokyo to develop a robotic, power-assisted prosthetic leg to support user mobility.. Passive prosthetics account for 99% of the market and are known to have problems such as weight, battery life, function, design, price, and others. The company aims to resolve these problems and enable users to live an active and safe life. With the rising incidence of diabetes and the consequent increased risk of lower limb amputation, BionicM has an important role to play in improving the QOL of amputees.

◇ Expected societal impact:

1) Potential demand and issues

- There are more than 10 million amputees worldwide, and 70% of these individuals are age 60 or above.
- Passive prosthetic feet account for more than 99% of the market. However, these can cause fatigue and other physical burdens, especially for the elderly who often lack the necessary physical strength and are forced to become bedridden.

2) Services and technologies

- By applying robotics, BionicM Inc. will develop a highly functional prosthetic leg with low physical load and cost. The product resolves the problems of passive prostheses, including weight, battery life, functionality, design, and price, and can provide users with self-sufficiency, safety, and a beautiful gait.

3) Expected effects and contributions

- Improving mobility and quality of life by reducing physical and mental burdens on users of prosthetic legs.
- Expanding the scope of users' activities may contribute to improving the employment rate of persons with disabilities.

■ Proponent: Fish Pass Co., Ltd.

An online system for recreational fishing tickets, 'Fish Pass' will shape the future of our rivers"

◇ Summary: The online recreational fishing ticketing system introduced by Fish Pass Co., Ltd. improves the convenience of angling and significantly contributes to the income of fishery cooperatives. The system uses GPS data, which enables the organizations to confirm the location of anglers, and improves the productivity of patrol and environmental maintenance activities, including the provision of disaster prevention safety to anglers. Also, the system links anglers' GPS data with the location of rivers and sends local information such as sightseeing to each angler. It will contribute to the revitalization of the regional economies by expanding the platform for river protection

◇ Expected societal impact:

1) Potential demand and issues

- The number of anglers is estimated to be 3.36 million. Reducing maintenance and management costs is necessary to ensure the conservation of rivers.
- The number of purchasers of recreational fishing tickets, which fund fishery cooperatives

that manage rivers, is less than half of the number of actual anglers. The fishery cooperatives face a shortage in funds of approximately JPY 2.5 - 3.0 billion nationwide.

2) Services and technologies

- Developing an online fish ticket sales system to make purchases more convenient.
- The company provides a fishing area improvement system, which includes disaster prevention and safety and angler insurance.
- In addition, the system links anglers' GPS data with rivers and surrounding regions and provides local information, such as sightseeing tips, to individual anglers.

3) Effects and contributions

- River conservation activities can utilize sales commissions derived from recreational fishing tickets, contributing to increased revenues of fishery cooperatives, 34 of which are already using Fish Pass as of July 2019.
- Based on current economic activity (JPY 16.8 million) attributed to two rivers in Fukui Prefecture, Fukui Prefectural University estimated that the income derived from fishing cooperative organizations and regional consumption will soon reach JPY 2.3 billion.
- Contributes to the revitalization of local economies by building a platform to protect rivers and enrich local communities.

■ Proponent: KAICO LTD.

Development of silkworm-based proteins for medicinal use.

◇ Summary: KAICO LTD. constructs a pharmaceutical protein production platform using Kyushu University's original silkworms. This platform makes it possible for companies and researchers to efficiently use the target protein expression system for research and development purposes, and also enables mass production. It aims to develop new drugs, diagnostics, and reagents with various partners.

◇ Expected societal impact:

1) Potential demand and issues

- The annual number of patients with malaria, HIV, and "neglected tropical diseases," which are eighteen WHO designated infectious diseases, is expected to exceed 1.5 billion.
- Whenever a pandemic or an unknown plague occurs in the world, we suffer the fear of infection. Therapeutic drugs or prophylactic vaccines will become necessary.

2) Services and technologies

- Utilizing original silkworms maintained by Kyushu University, KAICO LTD. developed a platform for the protein expression and production of recombinant proteins. It will become possible to make a rare protein that can lead to a vaccine.
- Companies and researchers can easily use the target protein expression system for research and development purposes and proceed to mass production.

3) Effects and contributions

- The platform enables various partners to develop new drugs, diagnostics, and reagents to reduce the fear of infection during a pandemic.

■ Proponent: Quantum Operation, Inc.

Innovation to develop multiple continuous streams of health care data.

◇ Summary: The finalist developed a next-generation IoT device for vital measurements which can also gauge blood sugar levels and other data. Its unique optical sensors obtain various inner body attributes. The company has created a “Shenzhen supply chain” with firms in China and is able to achieve high-quality products at lower prices.

◇ Expected societal impact:

1) Potential demand and issues

- The number of diabetic patients worldwide is 430 million and is expected to increase.
- In Japan, the number of diabetic patients is 8.5 million and the number of diabetic patients age 65 and over is the highest ever.
- Diabetic patients can take advantage of continuous blood testing with injection. However, as the financial and physical burden is substantial it is not reasonable to perform blood tests on patients with moderate diabetes or with a preventive purpose.
- Japan lags behind other countries in digitizing databases on medical metrics. In underpopulated areas, insufficient emergency systems and transportation infrastructure underly problems such as survival risks in emergency and regular preventive medical care.

2) Services and technologies

- Quantum Operation, Inc. develops built-in sensors for wearable devices which enable the automatic and continuous acquisition of medical data, including blood glucose levels.
- Having a database of medical data facilitates health management regardless of patients’ severity of symptoms or residence.

3) Expected effects and contributions

- The non-invasive small glucose sensor eliminates the need for injections to measure blood glucose levels. The only necessary needle will be for insulin administration, which significantly reduces patients’ economic and physical burdens.
- Patients with severe symptoms can remotely receive monitoring and advice. Patients with possible and mild to moderate symptoms can measure vital data for preventive purposes to monitor the progression of symptoms, which in turn will help to eliminate regional disparities in access to medicine and reduce medical costs.

■ Proponent: seak Co., Ltd.

The agricultural franchise model “LEAP.”

◇ Summary: seak Co., Ltd. proposes an agricultural franchise model that provides a package of

services necessary for all stages of agricultural management, such as farmland development, fund procurement, facility construction, cultivation, and sales. New farmers can thus start even advanced horticulture on the first day of installation with zero initial cost and debt. seak also introduces an income guarantee system to increase users' added values.

◇ Expected societal impact:

1) Potential demand and issues

- The total number of agricultural workers in Japan is 1.68 million in 2019, down 70,000 from the previous year, while the number of new farmers was 56,000 in 2018. The number of abandoned farmland due to the absence of farmers has increased every year, reaching 423,000 hectares nationwide in 2015.
- Since the shortage in the farming population is due to the continued aging of society, the decline in the number of new farmers is an urgent issue. However, major bottlenecks include the length of time needed to acquire skills (approximately ten years), the availability of farmland, facilities, and materials, and farmers' low income.

2) Services and technologies

- For greenhouse horticulture, the service provides equipment (such as greenhouses, soil, and seedlings) and know-how. A 3,000 square meter plot is prepared to utilize abandoned farmland. This package enables entry into agriculture at zero-initial cost.
- The company has established a system to diminish new farmers' income instability by purchasing all their products and guaranteeing a minimum wage of JPY 230 thousand per month.

3) Expected effects and contributions

- Increasing the number of new farmers in response to the declining and aging of the agricultural population and simultaneously making effective use of abandoned farmland.
- Dramatically improving productivity and scale by separating the ownership and operation of horticulture facilities.

■ Proponent: DPS Inc.

Rapid recycling of low-concentration residual metals using DualPore™.

◇ Summary: DPS Inc. developed DualPore™ particles that can realize high performance and rapid adsorption. The technology can efficiently recover low concentration residues of precious and heavy metals that are difficult to recover by conventional methods. The technology will realize resource recycling in urban mines where recovery has been difficult. Japan, which has few mineral resources, can become a resource-rich country through the realization of a resource-recycling society.

◇ Expected societal impact:

1) Potential demand and issues

- Metal recycling from home electric appliances has been progressing recently, and those appliances are called an urban mine. However, recovery of low-concentration residual

metals is technically challenging, and many of them remain in products and waste liquid.

- The market value of unrecycled platinum, palladium, and rhodium alone is estimated at JPY 370 billion in Japan and JPY 2.8 trillion worldwide.

2) Services and technologies

- DualPore particles developed by the company realize high performance and rapid adsorption and can efficiently recover low concentration residual precious and heavy metals that are difficult to recover by conventional methods.

3) Expected effects and contributions

- The amount of platinum, palladium, and rhodium that can be adsorbed and recovered is equivalent to 2 billion yen in Japan and 15 billion yen in the world.
- Japan, which has few mineral resources, can contribute to the creation of a resource-recycling society with this technology.