

Tackling Social Problems in Regional Japan Through ICT and Wisdom

Using information and communication technology (ICT) and artificial intelligence (AI) to connect people with one another and with field expertise, and unlock new solutions to address problems surrounding regional agriculture

Regional agriculture in Japan faces a range of challenges, including labor shortages and the transmission of agricultural techniques. In this research project, I address related challenges that cannot be resolved through digitalization alone. At present, I am engaged in creating a new agricultural framework that connects people with field expertise through ICT and AI in the Osumi Peninsula of Kagoshima Prefecture. These efforts are giving rise to a new model for regional revitalization that facilitates the transfer of tacit knowledge of seasoned farmers, the training of international human resources and Generation Z youth, and the utilization of unused agricultural land and other initiatives by nurtured human resources.



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“While regional areas in Japan face numerous challenges, they also hold great potential. I am pursuing practical research to unlock this potential.”

Developing a new methodology for regional revitalization by fusing the latest technologies with field expertise

The originality of this research project not only lies in the research, development, and implementation of ICT solutions, but also stems from its comprehensive approach to solving social issues and striving for sustainable development while aligning closely with the perspectives of the residents of a single location.

To this end, ICT solutions are introduced with a deep understanding of on-the-ground realities. For example, IoT-based sensor technology is utilized to monitor cultivation environments, serving as a complement to the keen observations of seasoned farmers. The resulting data is analyzed while cross-referencing with practical insights accumulated by such experts. Furthermore, tacit knowledge accumulated over years of experience through analysis of agricultural journals and observational data is codified and transformed into transferable knowledge that transcends

linguistic and cultural barriers.

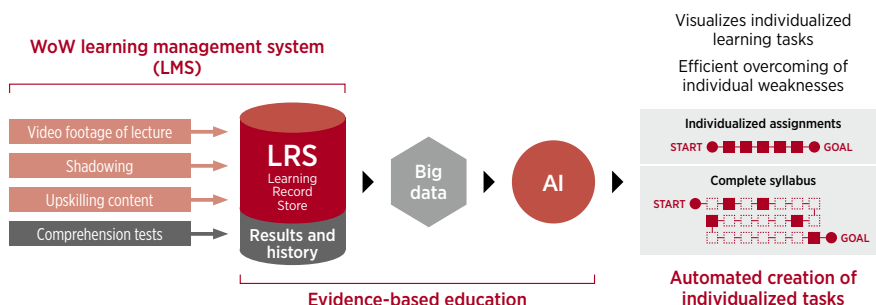
On the human resources training front, I utilize ICT and AI solutions in job placement support for, and training of, international talent. As for Japanese language education, which is a crucial factor for long-term settlement and retention, I have jointly developed a platform with a venture company, and have already attracted tens of thousands of users.

Another distinctive feature of the research project is that, as the principal investigator, I have a broad perspective on Asia and am proactive in my research. Rather than addressing Japan's regional and agricultural challenges from a solely domestic perspective, the goal is to provide solutions through exchanges of human resources, technologies, and agricultural products across various Asian countries. This illustrates the breadth and reach of the project.



Sensors and AI solutions support precision agriculture. The tacit knowledge of seasoned farmers is digitalized, and transmitted to the younger generation, transcending the boundaries of language and culture.

Overview of Japanese language education platform “WoW Academy”



A Japanese language education platform jointly developed with a venture company. Japanese language education plays a critical role in long-term settlement and retention of international human resources.

New agriculture and regional revitalization are emerging through industry-academia-government collaboration, ICT, and AI

In terms of collaboration with local communities, I am conducting a pilot project in the Osumi Peninsula of Kagoshima Prefecture, building on the trust cultivated with local farmers to welcome agricultural human resources from Sri Lanka. I am conducting comprehensive initiatives that include the transfer of agricultural techniques from seasoned farmers and cultivation management utilizing IoT and AI technologies. This model has garnered attention from other regions, and I have commenced a government collaborative project in Sukumo City, Kochi Prefecture. Going forward, I aim to collaborate with regions that face challenges nationwide.

I am collaborating with WoW SPACE Corporation, a venture company with roots in Keio University, in the areas of capital procurement through crowd funding, as well as training and support for international human resources. In terms of partnerships with educational institutions, I am pursuing various forms of collaboration, including the development of methods for recording and transmitting agricultural techniques through a collaborative online international learning (COIL) class with Kyushu University, the development of an e-learning system with Ehime University, and ICT development with universities in Sri Lanka. Finally, I also plan to collaborate and partner with high schools in the future.

