

Initiatives by Ina City to Promote New Industrial Technology: Towards the Realisation of “Living in Ina, Continuing to Make a Home Here” (Reference: Project Name) Ina City Super Ecopolis Project

Ina City, Nagano Prefecture



Background and Reasons for Deciding to Undertake the Project

Located in southern Nagano Prefecture, Ina City is enclosed by two alps, the Southern Alps and the Central Alps, with Tenryu River and Mibu River flowing through its centre. The city has nurtured abundant nature, history, and culture. Measuring 667.93 km² in area, the Ina City is the third largest municipality in Nagano Prefecture. Approx. 83% of the city’s area is covered in forest. Agriculture/forestry, precision equipment, and food are local industries that utilise the abundant water supply.

Population aging is progressing in the city’s lightly populated mountainous areas, and in particular essential services for those continuing to live in these areas—“shopping”, “transportation”, and “healthcare”—have become an issue because of the decline in local vitality and shortage of support staff such as drivers.

Project Aims

In 2016, the Ina City New Industrial Technology Promotion Council was established in Ina City as a government-private sector consortium, and initiatives such as using drones for distribution, advancing transportation, and promoting smart agriculture were launched. In particular, regarding “shopping”, “transportation”, and “healthcare”—common issues for regional communities nationwide—the following initiatives were commercialised by the municipal government: the YU-AI MARKET shopping support service using drones for distribution; the GURUTTO TAXI door-to-

door ride-sharing taxi service using an AI-operated automatic taxi dispatch system; and the MOBILE CLINIC, a physician-less mobile health clinic providing online medical consultations. The initiatives are aimed at realising a sustainable regional community that leaves no one behind while functioning efficiently through the use of new technologies.

Project Outline/ Project Features and Innovation/Results of the Project

- YU-AI MARKET shopping support service using drones for distribution



Distribution drones operate every afternoon on weekdays

Ina City’s mutual support shopping service YU-AI MARKET was launched in August 2020, with the purpose of providing support for residents who have difficulty shopping through use of a distribution drone.

Using their TV remote controls, residents can order from a selection of 420 products available at their local supermarket, and their order is delivered by drone by that evening (same day delivery).

In the year since this service was launched, around 5,400 products have been delivered, with the drones

making some 124 deliveries.



Local volunteers receiving goods delivered to the community centre

Local volunteers support the delivery service, watching over service users as their orders are delivered as well as acting as a bridge between the users and the municipality. The aim of this service is not to use drones and ICT devices, but to convey human warmth.

• GURUTTO TAXI door-to-door ride-sharing taxi service using an AI-operated automatic taxi dispatch system



An elderly person using the GURUTTO TAXI service

In regional areas, because few people use bus services and bus companies therefore cannot secure revenue, there has been a notable withdrawal of private bus companies. The COVID-19 pandemic has put even greater pressure on transportation operators' business management. Ina City began operating the interactive transportation service

GURUTTO TAXI as a new means of public transport that utilises AI technology.

AI instantaneously determines optimal service routes and ride-sharing, utilising a small number of taxis efficiently and realising door-to-door ride-sharing. In addition to being able to get in and out of the taxi at their front door, service users can book the taxi for any time within the operating hours. For these reasons, approx. 1,500 people have used this service since it was launched in April 2020.

The service is a tremendous help to users as they do not need to carry heavy bags from the bus stop to their home. The taxi comes to their home at the time they booked, so there is no need to wait. Users can also enjoy chatting with other users sharing the ride. Many users have commented on how convenient this service is for them to use.

• MOBILE CLINIC, a physician-less mobile health clinic providing remote healthcare



Photograph 5: Physician-less mobile clinic driving around the community

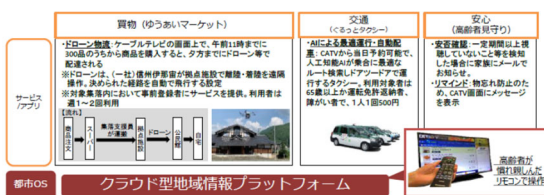
Users' most common reason for using the GURUTTO TAXI is "to go to the hospital/clinic". However, in regional areas there are few medical institutions, and the long travelling distances to hospitals/clinics and the long waiting hours once there are problematic. Also, due to the aging of the population, seeing patients for long hours and travelling long distances also place a burden on physicians.



An online consultation inside the mobile clinic assisted by a nurse

In order to solve these healthcare problems, a dedicated MOBILE CLINIC combining remote healthcare with MaaS (Mobility as a Service), a new mobility mechanism was developed with the cooperation of a MaaS specialist company and medical device manufacturer. Since April 2021, the Ina City Medical Association’s six clinics have been sharing one MOBILE CLINIC while operating the service efficiently. Online consultations and a communications environment in a dedicated vehicle are provided as an all-in-one package, and with nurses providing assistance in the clinic, both elderly patients and physicians can participate in consultations with peace of mind. Moreover, the number of service users is increasing because the MOBILE CLINIC also lightens the burden on family members assisting elderly patients.

• ICT Life Support Channel Construction Project



A common service platform has been created using cable TV

The “ICT Life Support Channel” is the common platform constructed by Ina City for shopping, transportation, and healthcare services where users can place orders or make reservations/payments

using cable TV.

Using next-generation data broadcasting standard hybrid cast data broadcasting, this multi-platform enables elderly users to order products and book taxis using their cable TV remote control—a tool they are familiar with using in their daily lives. Only four coloured buttons and arrows are used, making operation simple. Moreover, payment for YU-AI MARKET usage fees and purchases is made by either direct debit or credit card, eliminating the bother of cash payment.

Issues and Responses/ Future Developments (Anticipated Results, Outlook for the Project, Issues, etc.)

As a municipal policy, Ina City is aiming to create a city that leaves no one behind by fusing technology and manpower rather than only prioritising efficiency through the use of cutting-edge technology in order to create services that are easy for elderly people generally unfamiliar with ICT to use and impart a sense of human warmth.

While endeavouring to utilise IoT, AI, and other technologies, we are promoting digitalisation leading to enriched living and working-style changes beginning with regional communities.

Reference URLs

<http://honyaku.j-server.com/LUCINASHI/ns/tl.cgi/http%3a//www.inacity.jp/shisei/inashiseisakusesaku/shinsangyougijutu/index.html?SLANG=ja&TLANG=en&XMODE=0&XPARAM=q,&XCHARSET=UTF-8&XPORG=,&XJSID=0>

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Key Terms