

Inlisol Ltd. – Smart remote monitoring for elderly care

A rural start-up company used CAP funds to develop innovative technologies that help to prolong older people's independent life in their own home.

EAFRD-funded projects

Location: Uusikaupunki, Finland

Programming period: 2014-2020

Priority: P6 – Social inclusion and local development

Focus Area: Local development

Measures: M19 – LEADER CLLD

Funding: RDP support: 21 026 (EUR)

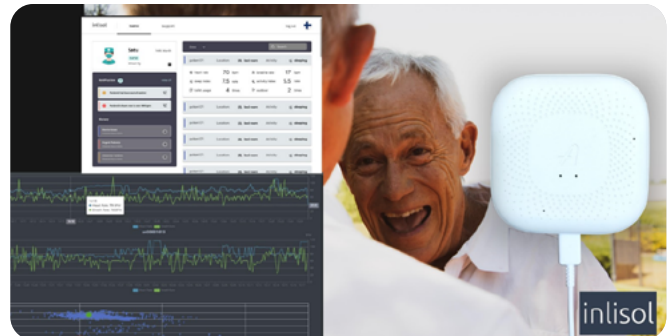
EAFRD: 8 831 (EUR)

National/Regional: 12 195 (EUR)

Timeframe: 22/12/2021 – 22/11/2022

Project promoter: Inlisol Oy

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Summary

CAP funding increased the resilience of rural society in the elder care sector, thanks to a start-up company which used LEADER support to develop a new remote health technology service for rural residents. The system is based on the Internet of Things (IoT), and transmits information about the status of an elderly person to the company's platform. The platform, in turn, processes the data using AI, and informs designated relatives or caregivers about the status of the elderly person and alerts them if, for example, the person has fallen in their home.

Project results

- This rural digitalisation solution provides better remote care for older, more vulnerable rural residents because it makes it possible to detect falls, which increases their sense of safety and overall well-being.
- The EAFRD support enabled the creation of the company Inlisol Ltd., as well as a demo room, which led to the project team securing additional funding for the company's pilot project and the creation of eleven new jobs.

Key lessons and recommendations

- A start-up company should first study the sector, its activities and the technology that is already in use, to fully understand the need or problem that requires a solution. After that, it should focus on the solution itself and attempt to outline a sustainable economic model that will ensure its success. The product should be deployed in the planned environment as soon as possible, in order to adapt and validate it.
- It is important that the project team already has enough experience and an established professional network to support the kind of cross-sector collaboration (in this case engineering and nursing) that the development of innovative products requires.
- The new product reduces the workload of nursing and caregiving staff, allowing them to focus on delivering higher-quality care. This increases the efficiency of care work, while also reducing staff stress levels and absenteeism.

Context

EU citizens are living longer, which will significantly increase the number of people over 65 in the coming decades. According to Eurostat, in 2019, 90.4 million people aged 65 years or more lived in the EU, of which 39.7% lived in intermediate regions, 38.2% in predominantly urban regions, and 22.1% in predominantly rural regions. Eurostat has estimated that by 2080, the proportion of people aged 65 years and over could reach around 29.5% of the total EU population.



This demographic shift poses challenges to national economies, healthcare systems, and the availability of qualified care staff. Older people are more likely to reside in rural and intermediate regions, compared to younger individuals. Rural areas face additional burdens due to both age-related changes and geographical distances when navigating the growing demand for quality healthcare services.

The COVID-19 pandemic highlighted the importance of remote healthcare systems, especially for the over-65 population, with more than 30% living alone. Ensuring the health and safety of the elderly population is crucial to maintaining their independent living and overall well-being. Inlisol's innovative approach offers solutions to increase the resilience of rural society in the elder care sector.

Objectives

The beneficiary start-up Inlisol Ltd. addresses these rural demographic challenges by providing easy-to-use, affordable and efficient elder care services through the use of innovative remote care-enabling technology.



What is inlisol

Inlisol is creating digital solutions for older adult remote care, using 60 GHz Doppler radar sensors with advanced algorithms and cloud-based AI/machine learning, enabling 24/7 real-time monitoring; activity, vital signs and trends, and alerting care professionals, if and when necessary.

Predictive AI, that can detect changes in patient's health, well before patient or nurse or doctor can detect them.

- Empowered Care Professionals
- No wearables
- No cameras
- Fast and easy setup

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Activities

Inlisol Ltd. was created with the help of a start-up grant funded by the Finnish Rural Development Programme, and the company built a demo room to showcase its innovation. The demo room included two Doppler radars. One was dedicated to monitoring vital functions such as breathing and heart rate, while the other was used to determine a person's location in the room. Most of the development work focused on software to make use of sensor data and the creation of algorithms, with the help of Artificial Intelligence (AI), for real-time data access by nurses and healthcare professionals.

The main goal of the demo room was to showcase how remote monitoring technology can be used in rural elderly care to detect and report falls, and alert care staff. To convince care professionals and break into the market of care-enabling technology, Inlisol's solution was designed around a state-of-the-art Internet of Things (IoT) application that is easy to use. The EAFRD-supported demo room kickstarted the company's commercial development, and LEADER funded the foundation for Inlisol's ongoing innovative solutions.

The demo was later presented to care professionals, which led to a pilot contract with a care unit. Further funding came from a EUR 50 000 grant from the European Regional Development Fund, which enabled the necessary preparations for the pilot. The pilot was successfully carried out with the first customers: ten residents and more than twenty nurses and healthcare professionals, after which the City of Helsinki started a pilot applying the company's rural experience in the Helsinki Metropolitan Area. An investor was convinced to support the company after seeing the results of the pilot.

The company also secured additional expertise through collaboration with Finland's Tampere University and the University of Turku. Inlisol also gained a full-time postdoctoral researcher with the help of a grant from the PoDoCo foundation in Finland, and started collaborating on the development of AI in remote care work.

Media coverage and recognition followed, and the company was selected to represent its home municipality in the annual magazine of the regional Chamber of Commerce. Expansion plans are underway in Europe and Japan, with discussions in progress with a large private service provider in the Nordic region.

Main results

- Inlisol provides better remote care for older, more vulnerable rural residents because it makes it possible to detect falls, which increases their sense of safety and overall well-being.
- The EAFRD funding support enabled the creation of Inlisol Ltd., as well as a demo room, which led to the project team securing additional funding for the company's rural pilot project and the creation of eleven new jobs.
- The pilot and its results convinced the City of Helsinki's service centre to make use of the LEADER-funded rural experience to start an urban pilot in the Helsinki Metropolitan Area.
- The new product reduces the reporting and patrolling workload of nursing and caregiving staff, allowing them to focus on delivering higher-quality care. This increases the efficiency of care work, while also reducing staff stress levels and absenteeism.



- › By prolonging elderly people's independence through providing a safe way to continue living at home, the technology helps to reduce unnecessary hospital and care home stays, which saves public money.
- › Remote monitoring cuts down on unnecessary travel, particularly in sparsely populated areas, thereby reducing greenhouse gas emissions from driving.
- › In rural areas, Inlisol's innovation can reduce social inequalities and help maintain service levels. Remote monitoring technology enhances older people's autonomy and their ability to live at home independently, which gives family members peace of mind.

Key lessons and recommendations

- › CAP funds can be used to help diversify rural economies and create off-farm jobs.
- › The project allowed Inlisol Ltd. to combine nursing and engineering in order to help solve one of the biggest challenges facing humanity: the ageing population. The project team were able to discuss the development of the new technology with engineers, doctors, and scientists, as well as care recipients and their families. Most importantly, the development phase enabled vital conversations with the nurses and care workers who physically do the valuable work of providing care to the elderly. All of these perspectives fed into the design and testing process.
- › A start-up company should first study the sector, its activities and the technology that is already in use, to fully understand the need or problem that requires a solution. After that, it should focus on the solution itself and attempt to outline a sustainable economic model that will ensure its success. The product should be deployed in the planned environment as soon as possible, in order to adapt and validate it.
- › It is important that the project team already has enough experience and an established professional network to support the kind of cross-sector collaboration (in this case engineering and nursing) that the development of innovative products requires.

Quote

"I am pleased that technology is making the care staff's work easier."

Kirsi Routi-Pitkänen, Director of Services for the Elderly

Additional information:

<https://inlisol.com>

www.haloomaaseutu.fi/uudessakaupungissa-kehitetaan-alykasta-teknologiaa-ikaantyneiden-hoivan-tueksi/



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