

# pacšana

Irish homecare technology company, PacSana is an Enterprise Ireland supported company and HIHI Annual Open Call 2020 winner.

Subsequent to a HIHI clinical evaluation project which confirmed that PacSana's target market was geriatric care, offering most value in community settings. PacSana returned to HIHI to pilot its sensor technology in the community. The PacSana sensors provide critical insight and understanding of users' movement and health status.

## About Health Innovation Hub Ireland

Health Innovation Hub Ireland (HIHI) was established by the Department of Business, Enterprise and Innovation and the Department of Health, supported by Enterprise Ireland (EI) and the Health Service Executive (HSE) to drive collaboration between the health service and enterprise. We offer companies the opportunity for pilot and clinical validation studies and the health service access to innovative products, services and devices that they may not otherwise be exposed to. HIHI is built on the recognition that collaboration with enterprise can benefit patient care, patient pathways and outcomes. We assess all concepts

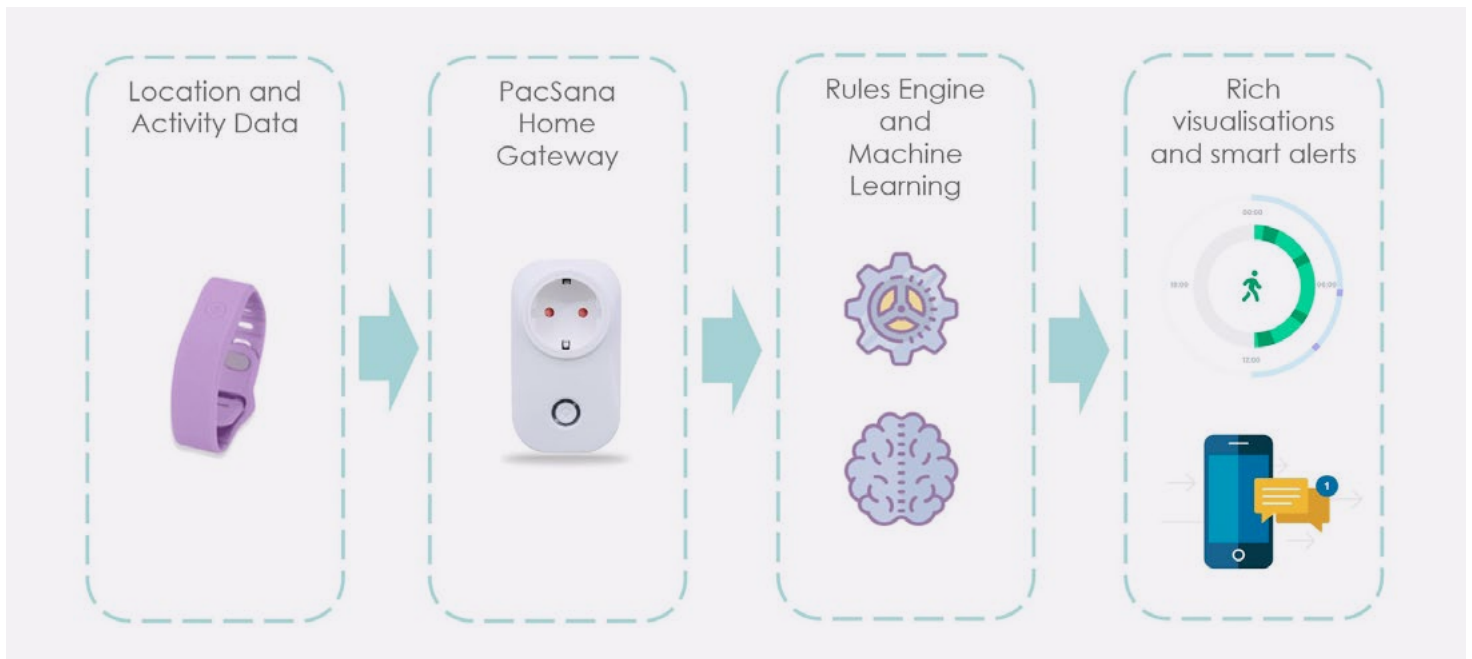
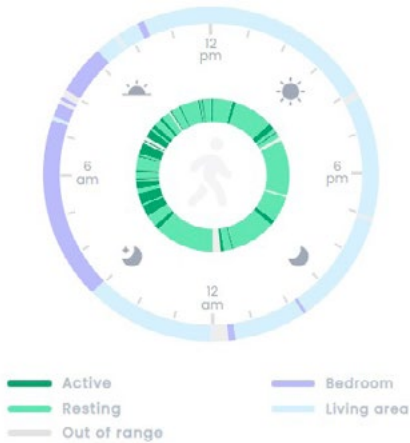
for healthcare innovation from those on the frontline - from clinician to porter. We encourage healthcare professionals to get in touch with HIHI if they have an idea or solution to how something in your job might work better.



## The Healthcare Challenge

The share of the Irish population aged 65 and over is projected to increase substantially over coming decades. Accordingly, the demand for health and social care services for older people will increase, including demand for home help care and for residential and intermediate care places in nursing homes and other settings. Recent advances in technology and

digital healthcare solutions provide an opportunity to augment traditional healthcare services and keep older or vulnerable people living at home for longer. Technology solutions such as movement sensors can give care teams greater insight into their patients' habits and movement patterns over time, in addition to identifying any causes for concern.



# The Healthcare Solution

The primary sensor is a movement tracker contained in a bracelet. The bracelet is slim, light, water resistant and has a battery life of approximately 11 months. The user can wear the bracelet at all times and data is gathered on their activity levels and movement patterns within the home. The data generated is transferred via Bluetooth to two gateways located in the home. This sensor can provide data on a person's wellbeing at a glance. At anytime, anywhere, a carer can check the sensor

data for excessive rest through the day; excessive activity, e.g. disturbed sleep; unusual times to be out of the house; absence of movement.

The 'wear-and-forget' movement bracelet is designed with comfort in mind. Waterproof with an 11-month battery life, there is no reason to take it off. This, together with the respect for the patient's privacy, helps ensure their enthusiastic support, resulting in high compliance rates.



## HIHI Role

The aim of this study was to examine the usability and feasibility of the use of a bracelet movement sensor for older people living in the community. HIHI secured pilot partnership with the Sligo Integrated Care Team for Older Persons (ICTOP), co-designed the evaluation, supported ethics and study delivery. The study assessed the benefits and challenges of adding remote technology solutions to the service.



## Outcome Report

The pilot of PacSana with older people living in the community in Sligo demonstrated the benefits of installing the technology in a rural community.

- A week's user data shows sufficient wellbeing insights to target valuable resources at those in need.
- The PacSana Gait Speed measurement helps identify who would benefit from an intervention such as strength and balance exercises, house modifications or hip protectors.
- The Active Minutes feature identified those who were not moving enough to realistically manage Activities of Daily Living.
- Movement patterns were easily accessible for the clinician, which can be used by the family/carers to monitor remotely and enhance patient independence.
- The PacSana bracelet was easy to wear and has a long battery life.

Technical challenges such as poor broadband in some rural settings were experienced.

## Testimonials

*"Facilitation by the HIHI programme enabled us to speak with clinicians who work daily with geriatric patients. Their feedback has helped us to hone the product, to focus on features that maximise an older person's potential to live independently in their own home."*

Mark Nolan, Chief Technology Officer, Pacsana

*"It was a great opportunity to team up with PacSana facilitated by HIHI. The insights generated by the data and patient feedback were very interesting. As clinicians, we felt that this bracelet will hugely benefit frailer client cohort for remote monitoring and to the less frail cohort of patients for monitoring activity. The alert feature with 24 hours monitoring and notifications will be hugely beneficial for the family members."*

Sophie Alookaran, Registered Advanced Nurse Practitioner, Memory Assessment Support Services, Sligo



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