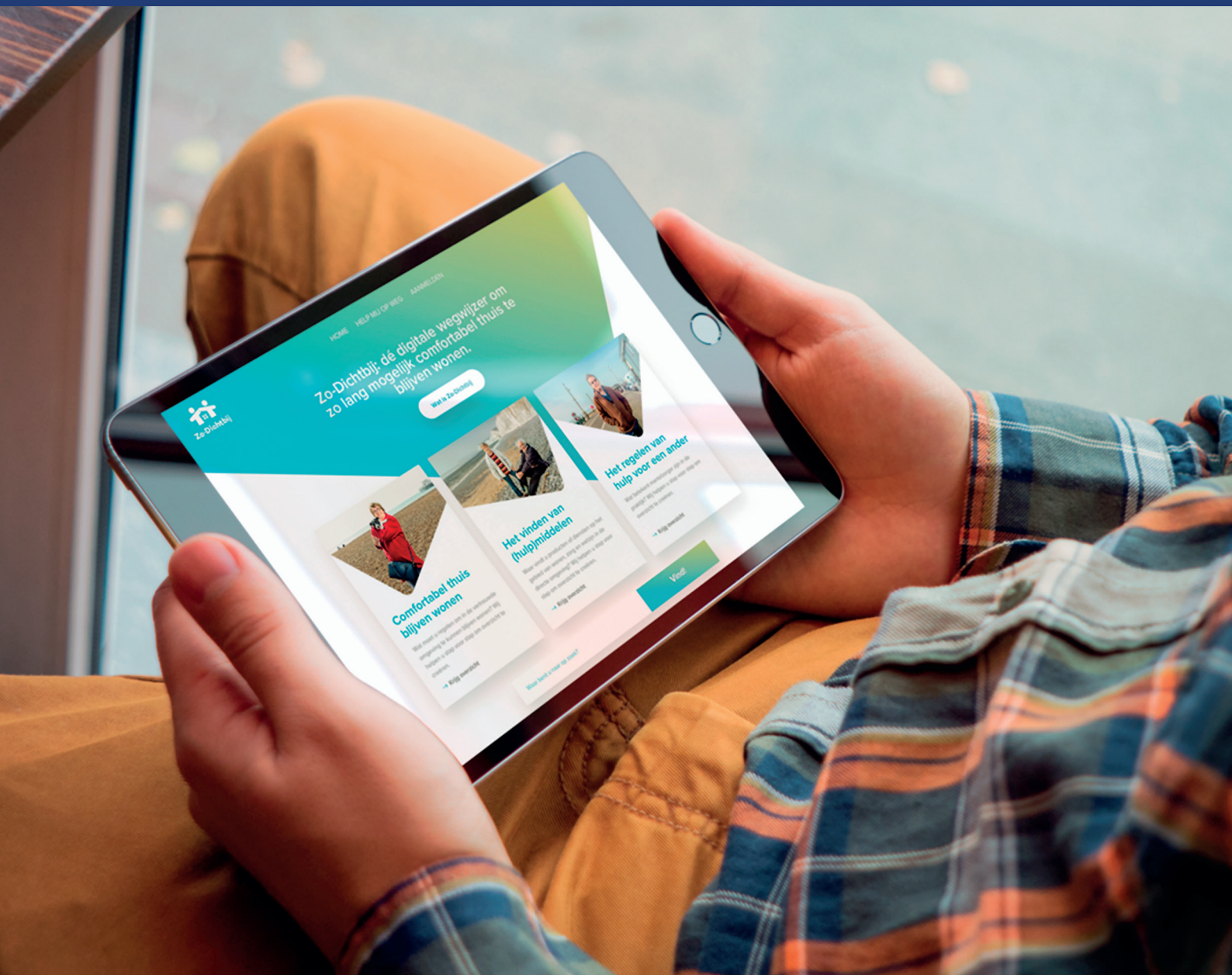
IMPACT

A PLATFORM FOR INDEPENDENCE



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A platform for independence

*A brokering platform coordinated by **Dr Wally Keijzer-Broers MBA** hopes to assist older adults and their informal caretakers with the search for the products and services they require*

As people age they can become more and more isolated and their independence can suffer as they become increasingly reliant on support. There is a huge potential for technology to assist in helping the elderly live their best lives. This is known as smart living and involves connecting and supporting daily activities at home with integrated ICT.

A project started by Dr Wally Keijzer-Broers, whilst studying for her PhD at Delft University of Technology in the Netherlands with supervisor Dr ir Mark de Reuver, has created a digital platform solution that it is hoped will enhance the capabilities of the elderly to retain independence. The project – Implementation of a matchmaking platform for healthcare services (Close-By) – began in 2013 and will conclude in 2020. It came off the back of a longitudinal study, also conducted in the Netherlands, that sought to put older citizens back in the drivers' seat when faced with accessing products and services that enable them to live comfortably and independently in their home environment, as well as assisting them with finding day-to-day activities to enable them to stay socially involved.

The Netherlands, like a number of European countries, is facing the predicament of how to provide adequate quality of care for its elderly population, whilst keeping costs within budget and with an increasing shortage of staff. A key element of the Dutch government's scheme is to keep citizens in their own homes for as long as possible. This has led to an increase in informal caretakers charged with caring for elderly relatives without prior knowledge of what is involved. Keijzer-Broers and her team hope the Close-By platform will help informal caretakers to find solutions to their individual requirements, whether they are from a medical, technological or social aspect.

AN IMPORTANT AGENDA

This work is particularly innovative given that smart living services or 'smart homes' are still very much in the early stages, as Keijzer-Broers highlights: 'Although smart living has been on the agenda of policy makers for decades, and despite the commercial actions taken in different sectors (health, ICT, building and energy), smart living services have not yet reached the diffusion phase or mass market, mainly because people are unable to find them in a fragmented marketplace.'

The researchers' focus is on the young and vital elderly (those aged 55-75), who want to be involved in society while retaining control over their own lives. The team refers to this demographic as the sandwich generation – adult children that are effectively 'sandwiched' in between their ageing parents and their own maturing children, or even grandchildren and their work. The researchers believe that the young elderly, due to this dual burden, are subjected to a significant amount of stress and their goal is to unburden the informal caretakers. 'Our human-centric system will have a huge impact on the target group to make informed decisions in collaboration with (informal) caretakers,' explains Keijzer-Broers. 'By using components that already exist, and shape and reshaping them to specific building blocks, the platform will demonstrate that the intelligent application of widely available technologies has the potential to have a positive impact on the delivery of healthcare.'

The team hopes this will help create a viable market and allow more companies to work on innovative products in the field. The idea is that we will produce a reusable ICT platform to create new services or continue supporting those that are already developed. In addition, the platform is expected to help improve information exchange and interaction about smart living between end-users, service providers and government.

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COVERING GROUND

Using the Close-By platform, people can: search for products and services in the wellbeing domain available in their neighbourhood; find local activities, contacts, tips and tricks; either use the platform anonymously or create and store a profile with a personal dashboard; and use additional functionalities such as a diary, agenda and tasks. They are able to create a personalised dashboard that can contain all of a users' social information, enabling informal caretakers to easily manage their lives.

The idea is that the innovative platform will: provide products and services that are beneficial, of high quality and are affordable to citizens and add value to their daily lives; provide services that are sustainable in the long term; and create new business opportunities for social entrepreneurs. It will first be made available in the Netherlands, but the hope is that it can be rolled out to additional countries in the future.

When creating 'smart homes', Keijzer-Broers is keen to stress that it is not just about adopting every possible technological innovation available. 'We have taken part in a number of interviews where we have tried to get to the root of the needs of those both being cared for, but also the informal caregivers involved. Whether this is that they're lonely and in need of social interaction, or they need help in terms of access to the floor of a building they live on,' explains Keijzer-Broers. 'It's then about finding the technology, services or information to answer their own issues, rather than adopting every innovation.'

OVERCOMING CHALLENGES

According to the researchers, designing the platform posed three key challenges. First, the fact that it is a multi-sided platform, which can be challenging to launch as Keijzer-Broers explains: 'Launching a multi-sided platform is challenging as it requires overcoming the chicken-and-egg problem of simultaneously attracting end-users and service providers.' However, the researchers believe that the portal's basic features will have sufficient value for end-users to adopt it. The team has also faced challenges in the form of specific regulations that apply regarding availability, reliability, data protection and certification of devices and operational processes when offering health and medicine services.

'Although the project specifically does not focus on medicine applications, but on care services, these services also have specific regulations, which differ per country, even within Europe,' Keijzer-Broers elaborates. A third challenge relates to the fact the financial systems of health and care are highly complex, with different types of reimbursement fees covered by different actors, such as national and local government, insurers, employers and consumers and, as Keijzer-Broers points out, the financial system and stakeholder environment again differs per country.

The team has also found that creating awareness among end-users about existing solutions to help them age in place is challenging. But as Keijzer-Broers explains: 'Within the smart living domain we can help elderly people age-in-place: from home modifications to providing assistive living technologies, which can be defined as adaptations to the environment, ranging from the elimination of slip and trip hazards like throw rugs, or grab bars and railings, to complex remodelling of the house to accommodate daily living.'

Another key obstacle has been acceptance of technology for ageing in place. 'Close-By is rooted in social innovation. This is not a commercial enterprise where companies will be able to access participant's data. Our goal is to help people stay independent, but also socially active and therefore enjoy productive lives into old age. But it can be difficult for people to feel secure that their online information is safe and secure. This is a key obstacle we are trying to overcome,' explains Keijzer-Broers.

REACHING FULL POTENTIAL

In order to disseminate project news and findings, in addition to their website the researchers make use of social media, including the channels of their Living Lab partners. Their cross-media strategy involves publishing in journals, interviews and speeches at conferences, workshops and podcasts.

Looking ahead, the team plans to conduct research on the valorisation phase following the development of the platform. The researchers also intend to explore the full potential of healthcare platforms in general, looking specifically at the Internet of Things (IOT), wearables and mobile solutions.

Project Insights

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COLLABORATORS

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PROJECT COORDINATOR BIO

Dr Wally Keijzer-Broers MBA obtained her PhD (Developing a Service Platform for Health and Wellbeing in a Living Lab Setting) at Delft University of Technology in the Netherlands. She founded the NPO Zo-Dichtbij, which helps people organise their daily activities in a smarter way and supporting them to age-in-place. Currently she combines research and social entrepreneurship while valorising the platform.

Impact Objectives

- Refine a digital platform designed to help older adults and their informal caregivers to access products and services that will enable them to live comfortably and independently in their home environment
- Ultimately enhance the capabilities of the young elderly to retain their independence
- Work towards the creation of a viable market, which will allow more companies to work on the formation of innovative solutions in the field of smart living

A better quality of life

***Dr Wally Keijzer-Broers MBA** explains how the innovative **Close-By** digital platform is striving to enhance the lives of older adults*

Could you begin by introducing Close-By?

Close-By (Implementation of a matchmaking platform for healthcare services) or Zo-Dichtbij (its Dutch name) is a digital platform that enhances the capabilities of older adults, enabling them to retain independence and social inclusion, and helps to improve their quality of life. It is a spin-off from my PhD work at Delft University of Technology in the Netherlands (2013-16) and the European Union's Ambient Assisted Living Programme (AAL) project Care@Home, which ran from 2011-14.

The concept tackles the societal problem of an ageing society by developing a simple, but scalable, online tool for a specific context (older citizens with limited digital skills) packaged in a general solution concept (social innovation) to enlarge social inclusion and reboot equality.

The platform provides a place where elderly people and their family members can jointly engage and find care provisioning, inviting people to start online, but to get offline as soon as possible. Whether people are tech savvy or not, natural language processing (like speech to text) will support them in utilising the platform.

What issues do you hope the Close-By platform will address?

Globally, 40 per cent of people over 60 live independently, which means completely alone or with a spouse. As countries develop and their populations continue to age, the percentage of people who live independently will increase. Instead of moving out to an institution, a self-management tool can help older citizens to age-in-place in a smart way, irrespective of age and capability level. Thanks to the platform, people will be able to live longer at home and be socially included, and utilise high-tech opportunities for care without having particular skills.

How involved are patients in the platform trial?

End-users, like elderly clients, and informal and professional caretakers, are part of the whole design cycle – problem formulation, design requirements, building, intervention and evaluation, and implementation of the platform. For example, via surveys, interviews, focus groups and user tests. Their participation is vital for our social innovation. This is not a commercial venture in the first place. Therefore, it's not only about creating a viable product, but to embed this social innovation within society. Our main focus is in understanding the needs of our target audience and meeting those needs, whether from the standpoint of the practical care needed or social interaction. The requirements are not developed at once, but are shaped during the Action Design Research process.

What is the importance of your work in real-world terms?

Our social innovation, developed in a public/private setting, strives to pursue a triple win for policy makers across Europe, but starting in the Netherlands: first, providing products and services that are beneficial, from mechanical solutions to sensor technology, of high quality, and are affordable to citizens and add value to their daily lives; second, providing services that are sustainable in the long term; and third, creating new business opportunities for (social) entrepreneurs.

Who are the key project participants and what do they bring to the table?

Our Living Lab is very much a collaborative effort between several organisations in order to fulfil the many different roles needed to ensure the success of the Close-By platform. We are working with both IBM and West-IT on the development of the platform itself, whilst Burst has been intrinsic in terms of improving the user experience and helping us understand who our users are. We are also working alongside Vodafone Ziggo to improve our connectivity and Talenter is guiding us through local government issues in the social domain. Other partners include ICTU (reference architecture from the government); MedRecord (medical APIs); eHealthCompany (governance); KPMG (strategic advice); and Foundation Zo-Dichtbij led by myself as a social entrepreneur.

In addition to public/private parties and academia, we involve end-users as a fourth group of innovation actors to the Living Lab setting in a so-called Quadruple Helix: a collaboration between large, medium and small-sized enterprises, the University, public organisations and end-users.