



## MEET IROBIQ

The University and a cluster of South Korean companies are officially launching the world's first large-scale multi-robotic study at an Auckland retirement village this month.

Researchers are conducting six separate robotics studies involving 31 robots sourced from South Korea, one from Japan, and 100 staff and 100 residents from Selwyn Village in Auckland.

The Healthbots project is an international collaboration between UniServices, South Korea's Electronics and Telecommunications Research Institute, and South Korean companies, ED Corporation, Yujin Robot and Isan Solutions.

Head of the Healthbots project Associate Professor Bruce MacDonald from the Faculty of Engineering says its aim is to make robots that are helpful assistants for older people and for their caregivers.

"We want to help older people to be more independent where they want to be, and to be happier and more socially interactive using the robot as a kind of conduit for interaction. We want to help care staff by doing simple tasks and giving staff more time to spend on the more human and more caring things that both staff and older people prefer to do together."

Bruce has put together a multidisciplinary

team that includes engineers and computer scientists as well as the human touch with medical specialists Dr Liz Broadbent, a Senior Lecturer in Psychological Medicine and Ngaire Kerse, Professor of General Practice and Primary HealthCare.

The large-scale study will evaluate five different types of robots: Friend, Guide, Paro, iRobiQ and Cafero robots. They can perform tasks such as recording the residents' heart rate or blood pressure, providing entertainment in the form of music videos, and reminding residents to take their medication and alert staff if someone falls. The residents can Skype from some of the robots, find out what daily activities are on at the village and play games to help their mental fitness.

The robots are being placed around Selwyn Village's Pt Chevalier premises including in its cafe, medical centre, hospital and in residents' rooms and in the communal spaces.

Some of the robotics studies being carried out include medication reminder trials, activity trials and companion trials.

The medication trials use robots to remind residents to take their medication. If residents fail to do so then the robot alerts the on-site

staff. The robots, which can monitor their users' blood pressure and heart rate, can also send regular reports to the on-site doctor.

The activity trials involve residents wearing wrist or waist bands which monitor their whereabouts. If they have a fall then the monitor bands send an alert to the nurse's station. Another trial involves the Paro robot pet, based on a Canadian harp seal which has tactile sensors and responds to being patted by moving its tail and opening and closing its eyes. The robot, which produces sounds similar to a baby seal, is being trialled with dementia patients to see if it has a positive psychological effect. According to overseas studies the therapeutic robot can reduce patient stress and improve motivation and relaxation.

Ngaire Kerse says the studies are important because the enhancement of the environment with stimulating and interactive activities can improve the quality of life and relieve loneliness for older people.

"Robots could provide an interesting option and also be an aid to communication and health monitoring."