

# Room sensing technology for senior care

**Tendertec is developing a personalised safety and monitoring system that enables seniors living alone to automatically alert their carers in the case of a fall.**

**Of the 12 million UK adults aged 65+, a third currently live alone and 40 per cent suffer from at least one long-term condition. Around one in three who live at home will have at least one fall per year, and about half will have even more frequent falls. Falls cost the NHS more than £2bn per year and add pressure to family budgets and social care services, which are already challenged by increasing costs, staff shortages and budget restraints.**

Dr Afroditi Maria Konidari and Rui Zhang founded Tendertec in Cardiff after experiencing first-hand the impact that falls and ineffective care technology can have on senior fallers and their families. Through their research and Rui's experience in the tele-healthcare industry, they identified a need for intuitive and autonomous technologies to deliver personalised senior care and ensure that falls don't go unnoticed. They came up with a new way of using state-of-the-art sensors, typically used in heavy duty industries, in conjunction with advanced Machine Learning and Artificial Intelligence (AI) capabilities.

With one wall-mounted sensor per room, the company's system uses AI algorithms to process data fed from proprietary sensors which scan the rooms to detect falls. Unlike existing technology used for monitoring, such as pendant or wrist alarms and inactivity sensors, the new system is 'fit and forget' as it does not require any end-user engagement. This means there are no pull cords, buttons or strings for the user to deal with.

The system enables carers to detect and verify falls in real-time and remotely, thereby eliminating false alarms and reducing the time

seniors end up spending on the floor after a fall, which can be detrimental to their health and recovery. It helps carers to make beneficial, data-driven decisions, such as triaging an alert to the right responder and personalising care plans in order to prevent minor falls from evolving into major traumatic falls.

While developing the system, the company has involved end-users, their families and care professionals at every stage from initial research to deployment of the technology. This has allowed them to meet the needs of everyone in the chain of care provision, from vulnerable people receiving care and their concerned loved ones, to care providers and national health and social care systems.



By bringing this new innovation into the field of assisted living technology, Tendertec aims to help care providers improve service efficiency and quality of care, in addition to helping the NHS achieve significant savings through a reduction unnecessary A&E attendances, hospital admissions and stays.

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