UNIVERSITY of STIRLING

Promoting **Inclusive living** via **Technology-Enabled support**

The INVITE project

Vikki McCall and Emma Tobin

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In partnership with

STONEWATER

Funded by

Longleigh Foundation
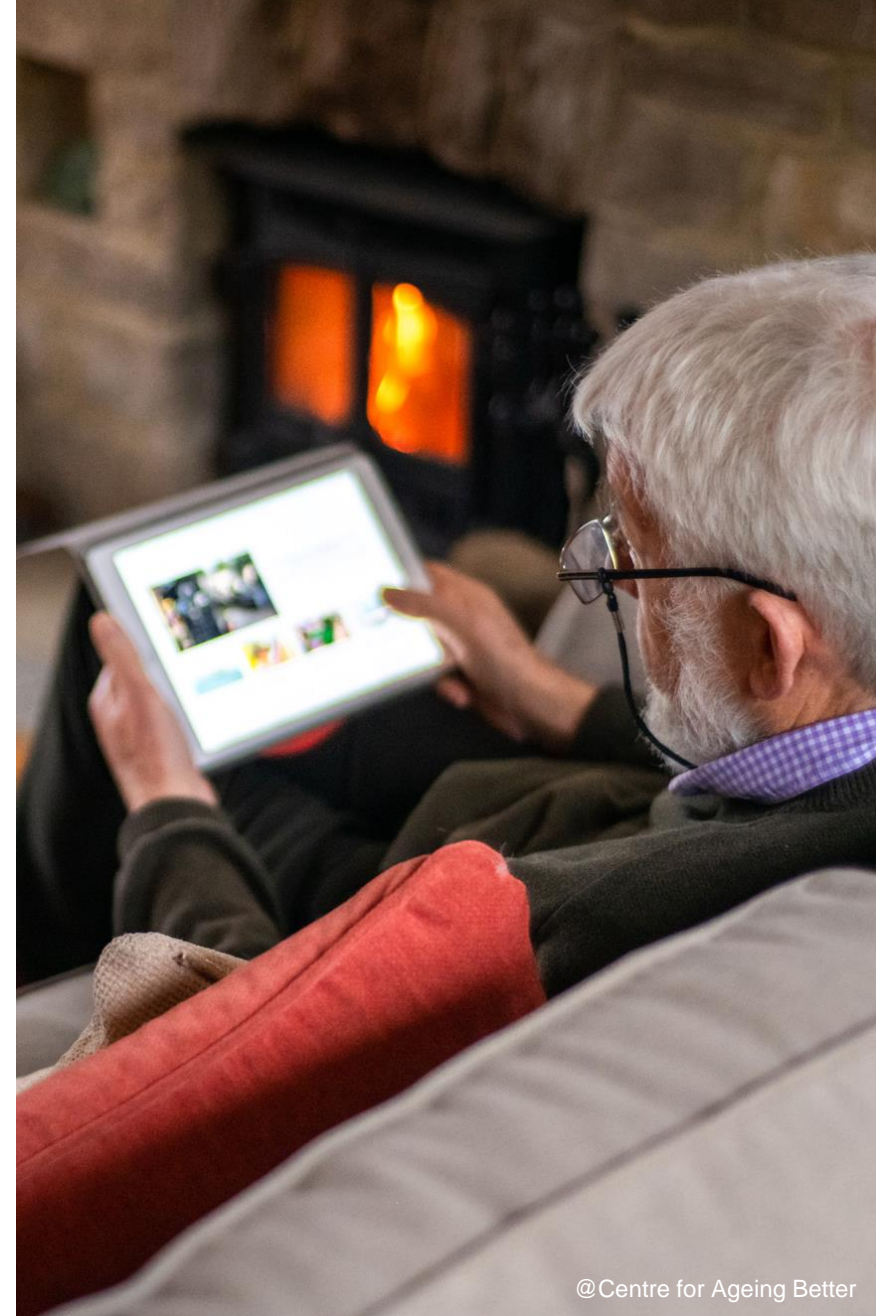A grant-making partner for the social housing sector
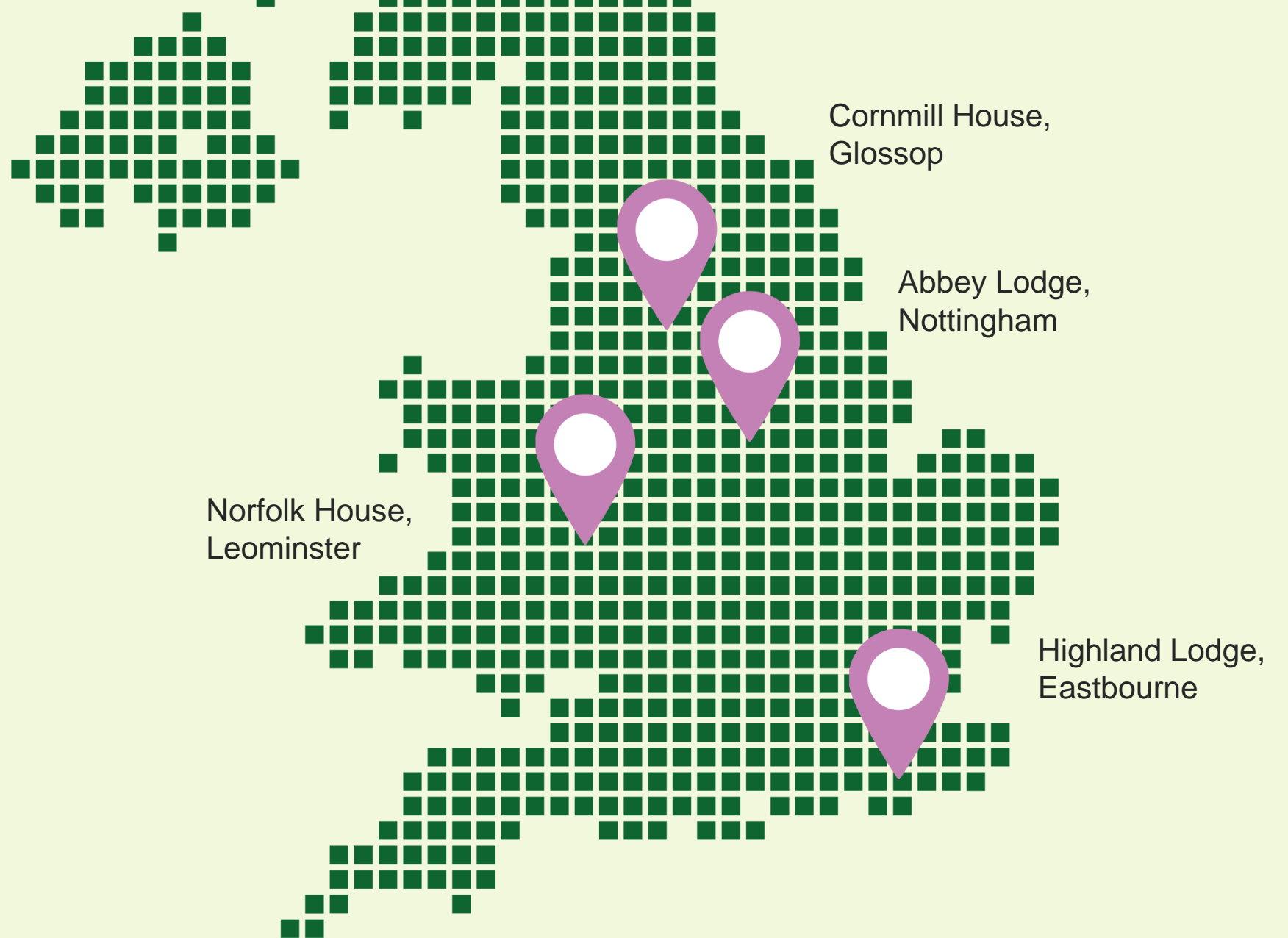
INVITE Project
Promoting Inclusive living via Technology-Enabled support

- The INVITE project aims to investigate how assistive and everyday technologies can be implemented in retirement living properties to improve residents' quality of life, and sustain inclusive communities.

- The research has been led by University of Stirling in partnership with Stonewater Housing Association (funded by the Longleigh Foundation) to explore how technology can maximise opportunities to support residents to live well and safely, including when they develop conditions such as dementia.

  ✓ Scoping review on co-production of technology solutions with older people.

 ✓ Longitudinal qualitative fieldwork trialing co-produced technology solutions with residents over 6 months.

@Centre for Ageing Better

Locations

Cornmill House, Glossop

Abbey Lodge, Nottingham

Norfolk House, Leominster

Highland Lodge, Eastbourne

Methodology

- Scoping literature review of co-production of technology enabled care solutions with older people.

- Around 100 residents and staff took part in the project, via a mixture of staff workshops, coffee mornings, wellbeing and quality of life surveys and resident interviews.

  - Phase 1 - working with staff (Aug – Sep 2021).

  - Phase 2 (Oct 2021- Feb 2022)- initial site visits & introductions to demonstrator technologies, resident interviews and device allocation & installation.

  - Phase 3 (May 2022) - Follow up interviews with residents and site visits.

- Created a technology demonstrator list, with relevant customer-led technological interventions were set up at each site.
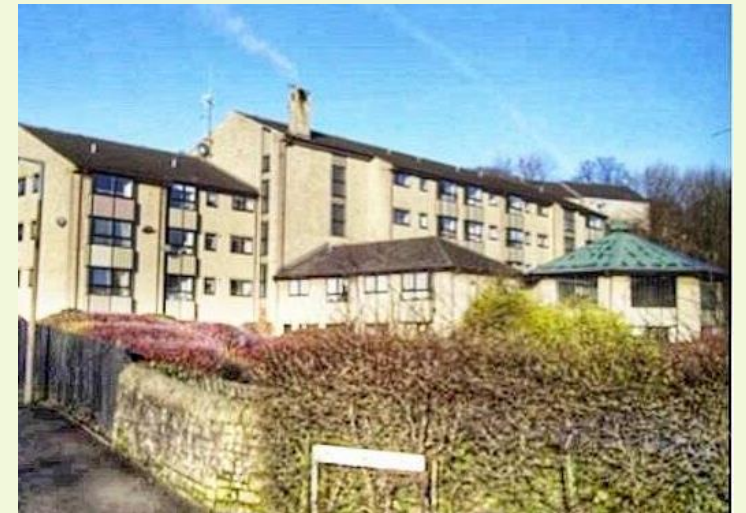
Publications include

- Scoping Report

- INVITE Webpages

- The Do's and the Don'ts practitioners guide

- Supporting blogs

- Series of podcasts with academics, Stonewater staff and residents
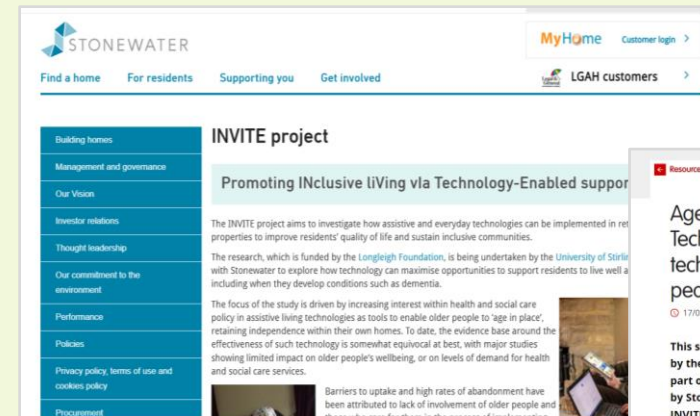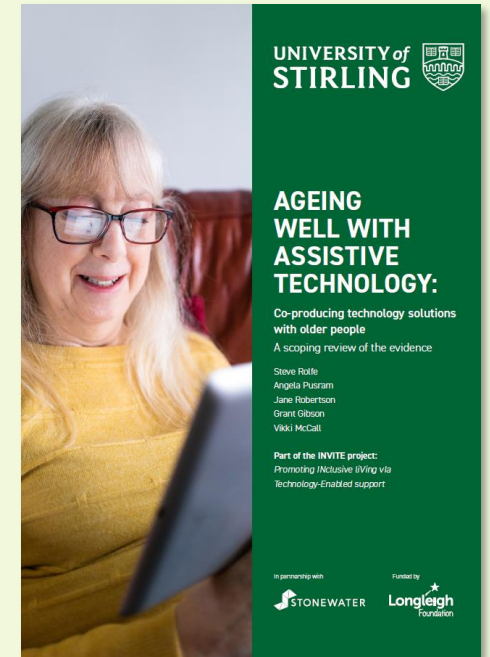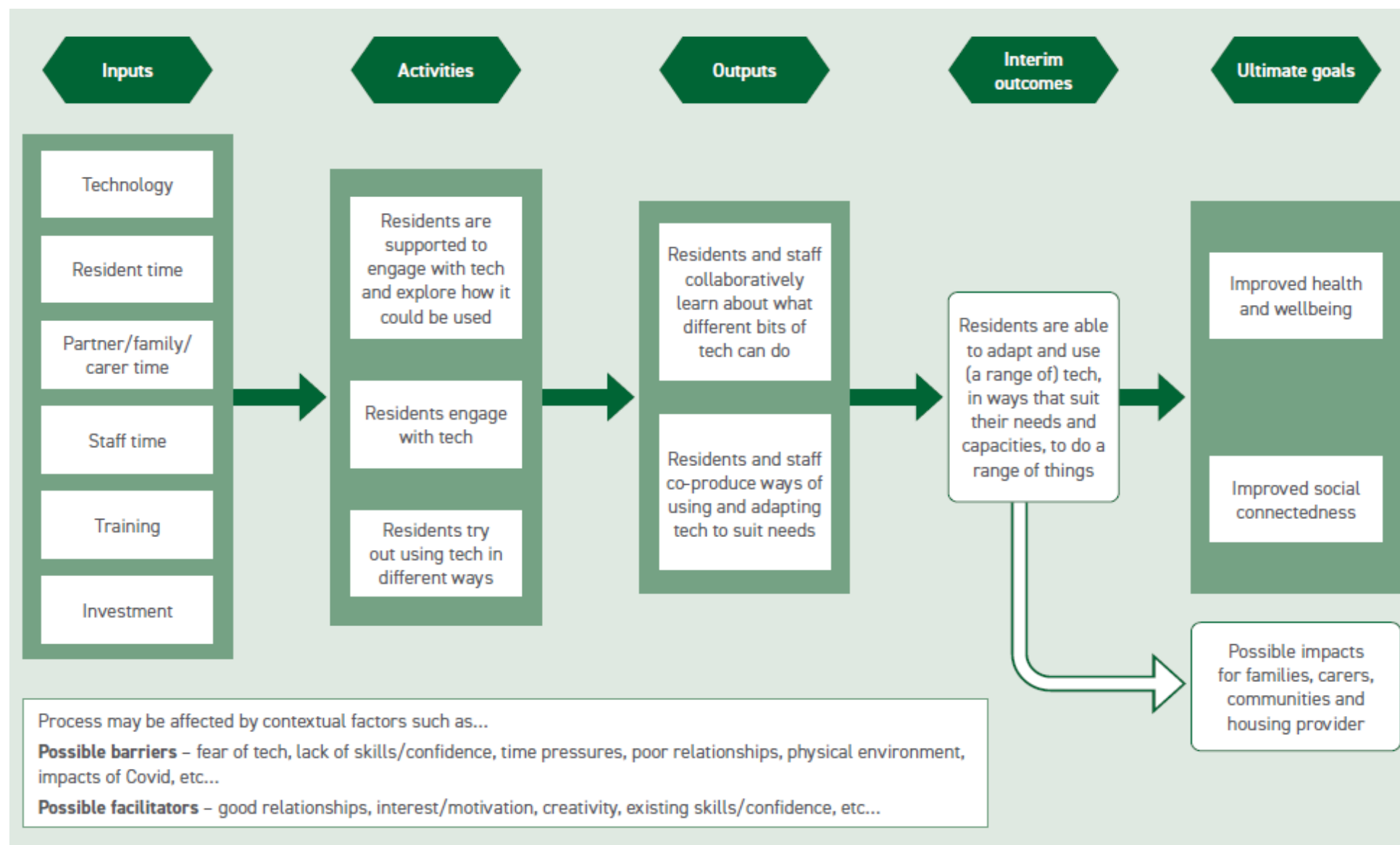
- Final report

- Lay summary

Figure 1 – Theory of Change for assistive technology introduction and impact

Inputs
- Technology
- Resident time
- Partner/family/carer time
- Staff time
- Training
- Investment

Activities
- Residents are supported to engage with tech and explore how it could be used
- Residents engage with tech
- Residents try out using tech in different ways

Outputs
- Residents and staff collaboratively learn about what different bits of tech can do
- Residents and staff co-produce ways of using and adapting tech to suit needs

Interim outcomes
- Residents are able to adapt and use (a range of) tech, in ways that suit their needs and capacities, to do a range of things

Ultimate goals
- Improved health and wellbeing
- Improved social connectedness
- Possible impacts for families, carers, communities and housing provider

Process may be affected by contextual factors such as...

Possible barriers – fear of tech, lack of skills/confidence, time pressures, poor relationships, physical environment, impacts of Covid, etc...

Possible facilitators – good relationships, interest/motivation, creativity, existing skills/confidence, etc...

Phase 1 & 2 Interviews

- The first 2 phases of fieldwork aimed to explore resident needs, priorities, what they find challenging day to day.

- We used 'Talking mats' - an SLT tool to support identification of resident priorities, wants and needs in relation to technology.

- This led us to create a technology demonstrator list of approximately 40 items that could help support those day to day activities.

- This makes sure that solutions are person-centred and co-produced – giving residents what they want and need, not what we think they want.

Assistive Technology

Both high and low tech options were part of the solutions to support some of the recorded challenges experiences by residents.

Assistive Technology

How we gathered impact data

- A rolling series phone/online check-ins between January and May 2022, followed up with 3–4-day site visits to conduct summary interviews at the end of the trial period.

- The number of residents taking part expanded in this period as word got out about the project – new participants were initially interviewed by phone and then ordered any relevant devices.

- Named supported housing staff member supported residents with day-to-day queries.

- Exciting insights generated about 'what works' and what doesn't work in regard to technology

What do we see as technology?

- The co-production approach embedded in this research enabled a widening of what was considered and understood to be technology.

- The most popular items included Fitbits, hot water dispensers, a range of jar openers, tablets (Apple and Android), radios, inclusive gardening equipment, magnifiers and Alexa voice activated technology.

- This re-conceptualisation of technology – to include low-tech gadgets alongside state-of-the-art digital technology - shows that person-led approaches to understanding need and support can enhance the impact of the technology intervention.

What does supporting independence look like?

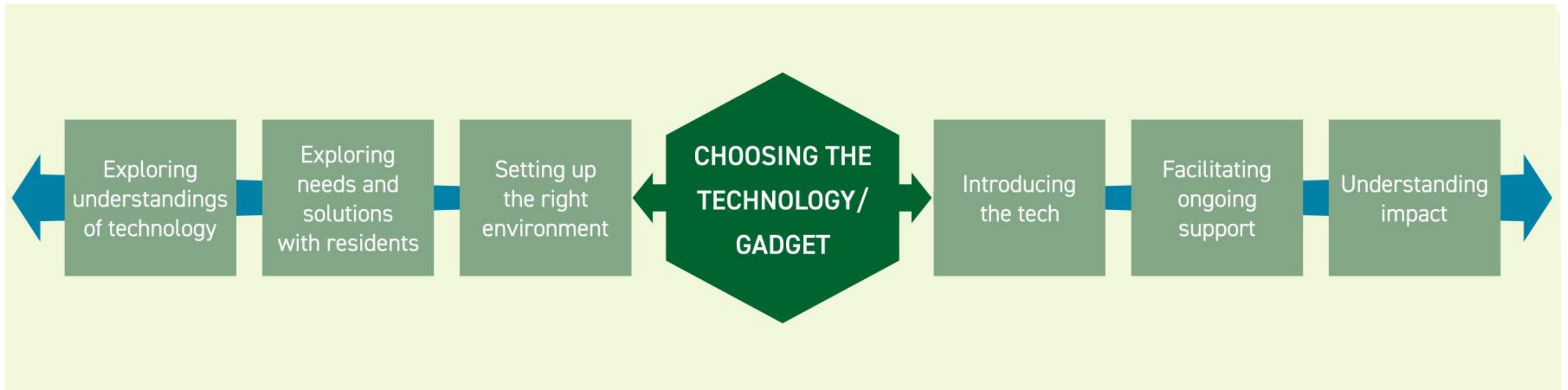The routine devices were often the most highly valued forms of technology.

I mean, it's nice that I can make a drink for myself, I can make a drink for us both, and feel completely safe, and independent. It really is wonderful.. it really has made a difference to my life.
(Nana, Cornmill House).

This device enhanced the feeling of independence for many residents. The hot water dispenser had the bonus of saving money in energy efficiency, alongside an inclusive design.

The technology in this example enabled support of an everyday routine everyday activity that many take for granted – making a cup of tea.

Technology as a process

Exploring understandings of technology → Exploring needs and solutions with residents → Setting up the right environment → **CHOOSING THE TECHNOLOGY/GADGET** → Introducing the tech → Facilitating ongoing support → Understanding impact

What does supporting health & wellbeing look like?

One resident in his 60's had long-term anxiety and depression, with difficulty managing and experiencing regular and spontaneous panic attacks.

The resident was provided with a Fitbit which communicated with the Fitbit mobile application (app) on his smartphone via Bluetooth. The Fitbit allowed the resident to track their heart rate, sleep and physical activity (e.g. number of steps). This helped the resident to identify risk factors associated the onset of a panic attack (e.g. increased heart rate) before the symptoms were visible.

"The watch has done a lot for me since I got it... it's changed my life!"
(Harold, Abbey Lodge)

The Fitbit has helped the resident to detect the symptoms of an oncoming panic attack, such as an increase in his heart rate. Furthermore, the resident has also been able to help regain control during a panic attack using the Fitbit's guided breathing session feature called Relax.

Creating 'small but huge' impact on day to day lives

- The key impacts identified in the study were as follows: facilitating social connectedness; staying connected digitally; maintaining relationships; exercising control and autonomy; improving mental and physical health; enhancing safety and security and finally improving opportunities for educational activity and entertainment.

- The evidence highlights a strong and recurrent theme where minor improvements to day-to-day living can have the biggest impact and that routine changes can have a transformative effect.

This can be from making a cup of tea independently, to joining 'Fitbit' walking group or receiving medication reminders on your tablet.

What does building confidence look like?

One resident is living with severe day to day pain in her wrist and her back due to arthritis. The resident is a keen gardener but due to restricted arm and body strength she was having problems using non-adapted gardening equipment.
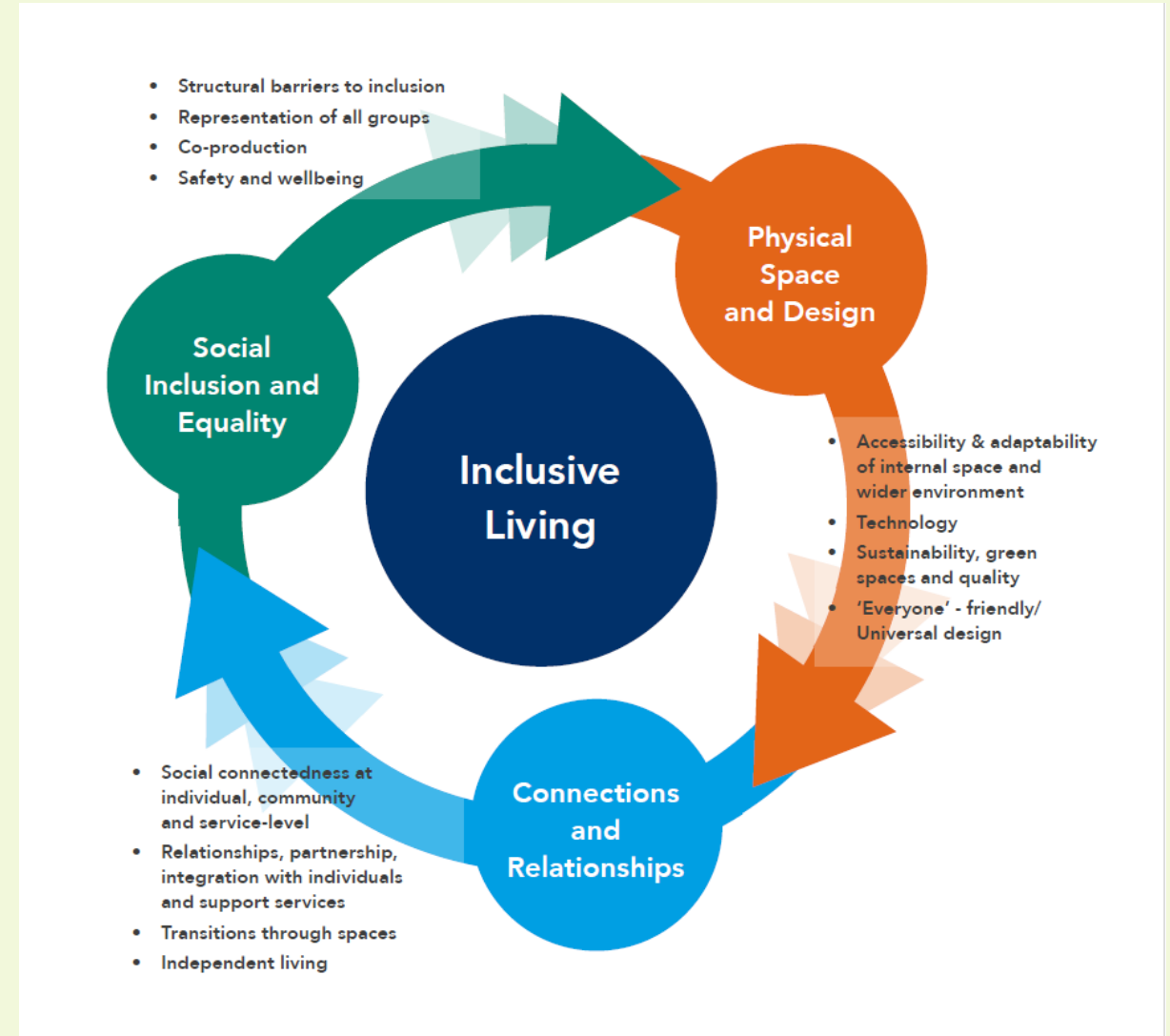
The resident was provided with two pieces of gardening equipment; an easy grip trowel and a long-handled fork. These both came with an attachable arm support cuff that alleviated the pressure on the resident's wrist.

"The trowel, I use all the time, loving it, and I'm loving the gel handle, and I'm loving the softer handle, ergonomic as you call it. I love that, I love the way it's shaped … I can dig a lot easier and certainly deeper that way, so I'm able to get a lot of the soil out. I'd love to have a gardening fork doing that as well …." (Bonnie, Abbey Lodge).

Importance of an inclusive living approach

- A number of barriers to using technology were identified, including concerns about privacy, annoyance with advertising, and a need for help in setting up and maintaining the technology.

- There is a clear need for extra support to be able to use devices and software more effectively.

- Technology that was seen as well-designed was the most popular, that people could integrate into their day to day lives.

- Structural barriers to inclusion
- Representation of all groups
- Co-production
- Safety and wellbeing

Social Inclusion and Equality

Physical Space and Design

- Accessibility & adaptability of internal space and wider environment
- Technology
- Sustainability, green spaces and quality
- 'Everyone' - friendly/ Universal design

Inclusive Living

Connections and Relationships

- Social connectedness at individual, community and service-level
- Relationships, partnership, integration with individuals and support services
- Transitions through spaces
- Independent living

The role of staff, friends and family in supporting technology intervention

- Housing staff play an important role in assisting residents to become more familiar with technological aids and comfortable with online systems.

- Support staff also play a role in providing information and advice to residents, generally signposting residents to resources where they might secure additional support.

- Family, friends and neighbours were also a key group in introducing, facilitating, building trust in, supporting and maintaining technology intervention.

- Negotiations and interactions to build trust, improve confidence and support problem-solving were part of the process of enhancing connectedness and familiarity with technology.

- What was clear from the study was the role that technology can play in facilitating (and not replacing) face-to-face interactions.

What does supporting co-production look like?

One resident in her 90's living with poor eyesight in one eye and arthritis in her hands was finding it difficult to eat independently and with dignity. Her daughter had been looking for gadgets to help her Mum but had only been able to find items which would not help (e.g. very large-handled cutlery).

The resident was provided with a scoop plate and easy grip. The resident's daughter talked about how these had made eating a lot easier for her and given back some dignity:
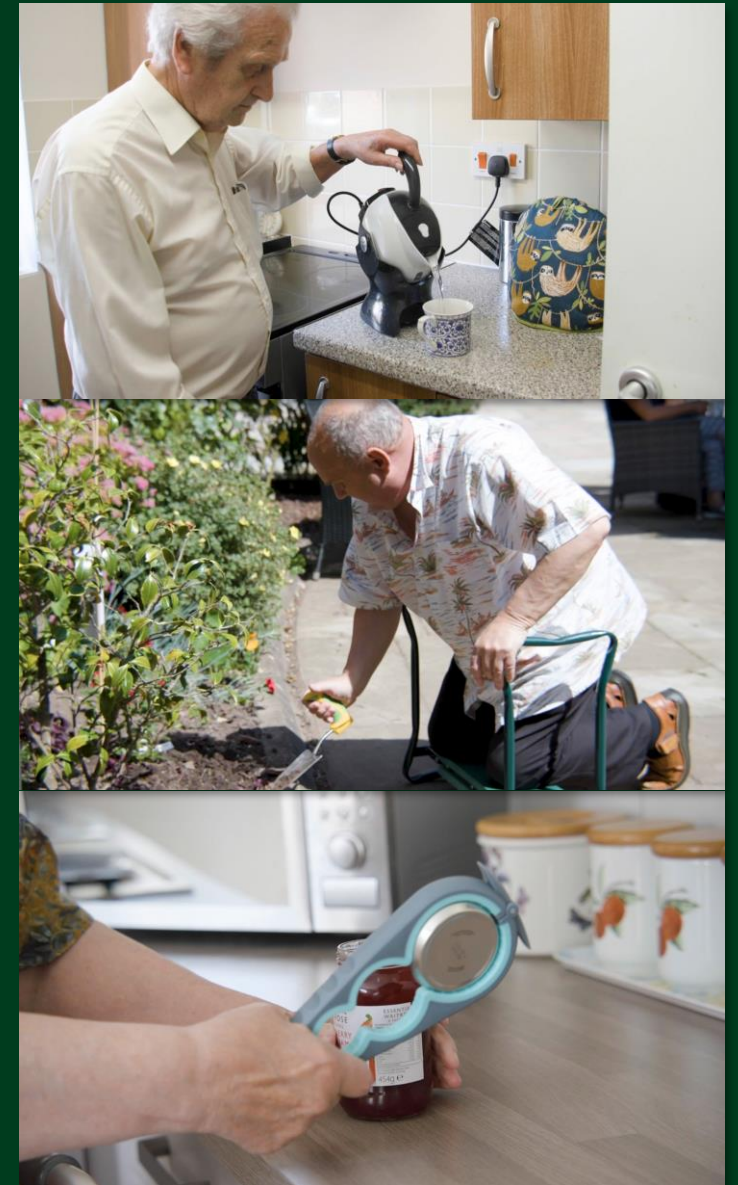
"With the round edged bowl she can now scoop her food and it doesn't fall to the floor because the bowl is raised at one side. Previously on a plate her food could be scooped onto the floor and she would not know where the food on her plate had gone" (Karen, Norfolk House).

This case study highlights the important role for family in problem-solving and need for awareness raising, and independent, supplier-neutral information on what technology is available and how to access it.
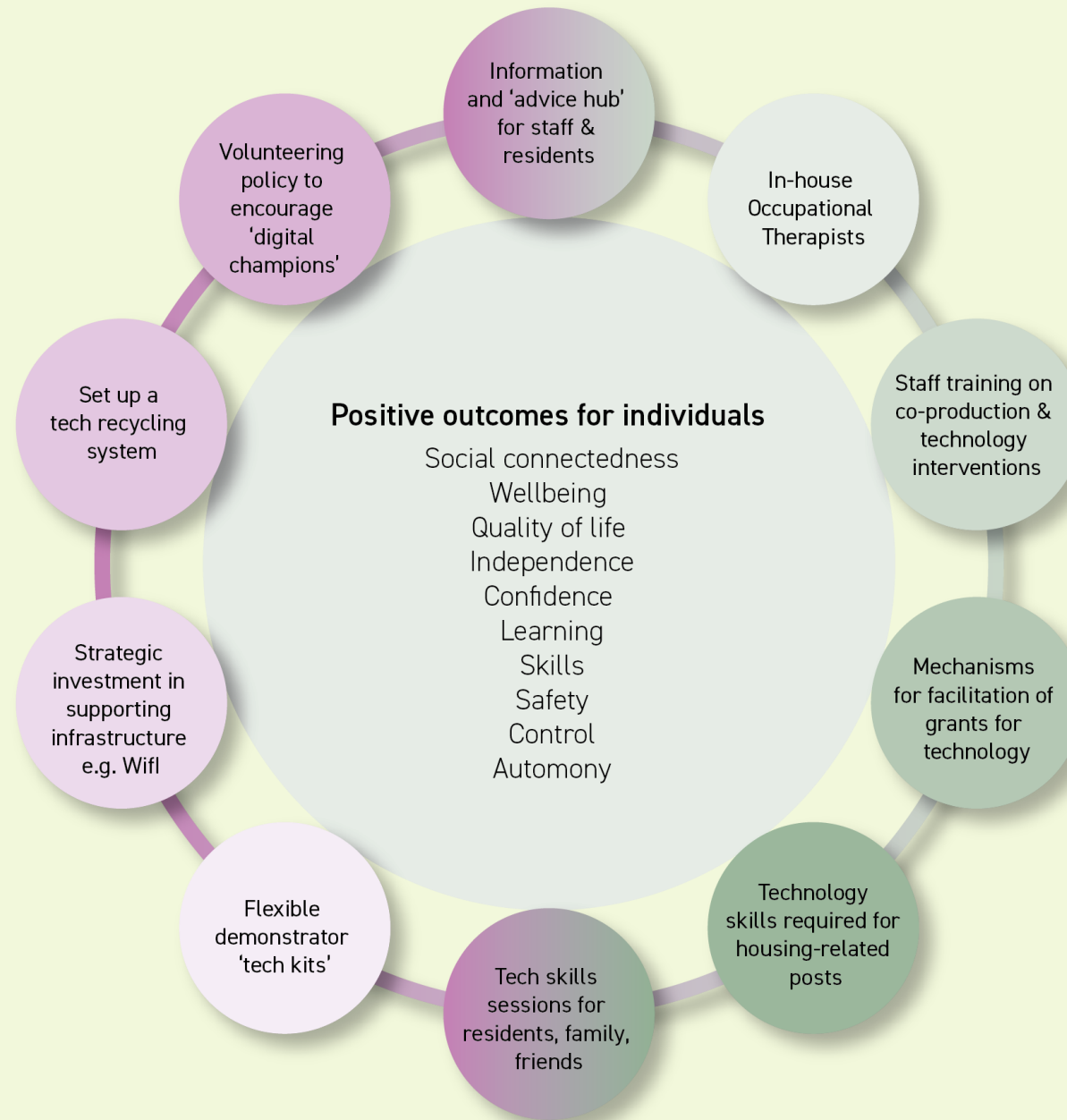
People know what they need. They just don't know what they don't know

- Residents, family and staff were generally interested and motivated around technology solutions but often 'did not know what they did not know'.

- The project found that co-production, demonstrating low-tech gadgets and building supportive networks around technology can act as a catalyst to building trust in technology.

- This process also includes investing in solutions to overcome common barriers related to resources and infrastructure, such as staff training, WiFi and mobile connections.

A model for housing delivery

Information and 'advice hub' for staff & residents

Volunteering policy to encourage 'digital champions'

In-house Occupational Therapists

Set up a tech recycling system

Staff training on co-production & technology interventions

Positive outcomes for individuals
Social connectedness
Wellbeing
Quality of life
Independence
Confidence
Learning
Skills
Safety
Control
Automony

Strategic investment in supporting infrastructure e.g. WifI

Mechanisms for facilitation of grants for technology

Flexible demonstrator 'tech kits'

Technology skills required for housing-related posts

Tech skills sessions for residents, family, friends

Strategic recommendations for the UK Government, Local Authorities	Partners
Increased investment at UK government level for housing providers to be effective facilitators of tech support including an ongoing 'tech fund' to be made available to housing providers and/or third sector charity groups to systematically enable them to facilitate technology across the housing sector.	UK Government, Housing Associations, Local Authorities, NHS, Health Boards, Third Sector organizations
Create nationwide housing sector support posts that focus on technology support, sharing best practice and information and advice that can focus on 'what works' with tech alongside promoting and publicising information and advice.	UK, Scottish and Welsh Government, Northern Ireland Executive, National Federation, of Housing Associations (Natfed), Scottish Federation of Housing Associations (SFHA)
Increased investment into the connectivity infrastructure to encourage the uptake of digital technologies to support independent living, improve health and wellbeing and reduce social isolation.	UK Government, Housing Associations, Local Authorities
Review and revise of procurement processes relating to technology to support purchasing low-tech, low-cost items quickly.	UK Government, Local Authorities
Widen the Disabled Facilities Grants (DFG), social work and NHS adaptations processes to include a wider variety of lower-level technology wider consideration of support needs within the home.	UK Government, Local Authorities, Health Boards, Social Work, NHS
Provide individual grant mechanisms something such as a 'bits and bobs fund' for accessing lower level technology support via simple application processes to allow an enhanced 'referral' system for residents, staff, family and friends.	Housing Assocaitions; Third Sector organizations
Improve evaluation processes and existing outcome measures to generate robust evidence linking technology to positive outcomes to build business cases for investment in adaptations.	UK Government, Local Authorities, UK Universities, UKRI
Increase support for effective partnership working between housing, health and social care to encourage person-led solutions, data sharing and lessen waiting times for support.	NHS, Local Authority Housing and Social Work departments, Health Boards, Housing Associations, RCOT
Create consistent language in information and advice around technology to circumvent the wide variety of understanding around technology, 'tech', or gadgets.	UK Government, Local Authorities

Operational Recommendations	Partners Needed
Integrate strategic staff training on co-production and technology interventions to facilitate the recognition of tech-based solutions and support the maintenance of tech going forward.	Housing Associations, Local Authorities, Health Boards
Create information and 'advice hubs' for staff and residents to create a forum for knowledge exchange within organisations.	Housing Associations, Local Authorities
Create Flexible demonstrator 'tech kits' to support information and advice about what is available. The demonstrator kits should be flexible and can be added to as technology changes and more is known about what works.	Housing Associations
Set up technology recycling systems so residents can donate their tech for use by other residents.	Housing Associations
Hire and/or set up secondments for in-house Occupational Therapists within housing organisations to support the wider staff base.	Housing Associations
Embed the requirement for technology skills into hiring processes for housing-related posts.	Housing Associations, Local Authorities
Set up consistent tech skills sessions for residents, family and friends to engage residents at different levels.	Housing Associations
Create a volunteering policy for residents, friends and family to be official 'digital champions' for ongoing successful technology introduction, facilitation and support.	Housing Associations
Take a proactive Inclusive Living Approach to planning for housing and adaptations to integrate inclusive design and prevention into cyclical planning, repair, maintenance, void management and other housing provision.	Housing Associations