Department of Health

Research and development work relating to assistive technology

2013-14

July 2014

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Cover image: The Future of AAC Services in England © Communication Matters

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This publication is available for download at http://www.dh.gov.uk/publications

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Introduction

About this report

Section 22 of the Chronically Sick and Disabled Persons Act 1970 requires a report to be laid before Parliament each year describing the research activity the government has funded to improve equipment for disabled and older people, known as Assistive Technology (AT).

The definition for assistive technology is one that was developed by the Foundation for Assistive Technology (FAST) in 2001 working with the sector and is as follows: “Assistive Technology is any product or service designed to enable independence for disabled and older people.” This broad definition means that a wide range of products and services are eligible for inclusion in the report, both high and low tech. Technological advances mean that the breadth of work covered is constantly expanding. The research covers not only specific products, but also systems, combinations of technologies and interfaces to mainstream technology, for example the internet.

For the purpose of this report, products and systems are further classified as assistive technology if their adoption and use is under some measure of control by the disabled and older end user and there is a level of meaningful interaction by the end user with the product or system. This therefore excludes telemedicine services such as videoconferencing between a GP and a hospital consultant, using equipment in the hospital and GP surgery, as these technologies are primarily used by, and operated under the control of, the healthcare provider. Neither does the report feature research on implanted technologies over which the user has no control or interaction, such as hip replacements. However this classification would lead to the inclusion in the report of research into the use of semi-implanted devices, such as gastrostomy feeding tubes, which are used, cleaned and maintained by the individual at home, though implanted in hospital.

The report aims to reflect research and development activity in relation to a wide range of impairments and health conditions and also to reflect the range of government funding programmes across health, social care, education, housing and employment. The report covers any aspect of research and development work in assistive technology, including service provision, research on motivation, cost or patterns of use, as well as technological development.

Methods used for gathering information

The information provided in this report is gathered by desk research, including regular review of online information provided by research organisations, user representative and funding organisations, as well as information from sector journals, and information solicited directly from the research teams. In the year from April 2013-March 2014 FAST recorded 222 projects carrying out research and development activity in assistive technology over the year.

FAST is grateful for the support of the research and development community in providing the information included in this report. While all attempts are made to ensure that the information provided is comprehensive, there may be projects which have not been identified and we would be grateful for notification of any such projects.

Report format

All the research into assistive technology included in the report is being carried out in the UK during the period April 2013-March

2014 and is being funded by the UK government or is funded by the European Union (EU) with participation from a UK organisation. The feature section of the report highlights some of the projects that have concluded during the past year, have findings of interest to the sector and are illustrative of the potential benefits of investment in research and development into assistive technology. Whenever the information is available, the outcome of the project and the next steps planned by the research team for exploitation of the research activity is highlighted.

The report includes, in Annex A, a full listing of government and EU funded research into assistive technology in the UK that has started, finished or was carried out during the year. The listing provides hyperlinks to enable readers to find further information on the FAST website, www.fastuk.org, including participant contact details and project progress. This information is freely available to the public, is regularly updated and provides the online format for this report. Further information on research and development in assistive technology funded by non-government organisations, on events, and service improvement activity can also be found on the FAST website.

Who is the report for?

This report is of interest to a broad audience including:

- Members of Parliament, government decision makers and research funding organisations who can assess the impact of the investment made in research and development in this area and identify areas that may require future funding;
- the research community and industry who can identify useful activity in their area of interest and who may wish to use the links to the FAST website to make contact with partner organisations and avoid duplication of effort;
- service providers and people who use assistive technology or support others to use assistive technology and who wish to understand how advances in technology can directly benefit disabled and older people living actively in the community.

Project participant © Nana, University of Sheffield

The policy context

The challenges facing health and care services are immense, with reductions in public spending[1] set to continue for the next few years, growing pressure from an increasingly old and unwell population, and public demand for improvements to the seven-day[2] safety of services. While the prospect is daunting, there are indications that the upheavals required may support the introduction of innovative, assistive technology-enabled services that can deliver a step-change in productivity and encourage the public to take greater responsibility for their own care.

A Call to Action

In April 2013 NHS England took on its full powers and in July 2013 it launched 'The NHS belongs to the people: a call to action'[3] which sets out the challenges facing the NHS and recommends that the public engage in an 'open and honest debate' about the future shape of the NHS. The report notes that, if services continue to be delivered in the same way, the present level of flat funding could result in a funding gap of £30 billion by 2021. Following consultation, in December 2013 NHS England published 'Everyone Counts',[4] which sets out a 'bold framework' of planning guidance for the commissioning of NHS services.

GPs at the heart of community services

One transformation model within the 'Everyone Counts' plans is based on proposals to invest in a wider role for primary care at the heart of a more integrated system of community-based services, particularly focused on providing support for older people and those with long term conditions in order to reduce admissions to hospitals and care homes.

The Department of Health and NHS England published[5] a joint plan to improve primary care in April 2014. 'Transforming Primary Care' sets out plans for proactive, personalised and joined up care, starting with the 800,000 mainly older people with the most complex needs, who will get a personal care and support plan, a named accountable GP, a professional to coordinate their care, and same-day telephone consultations. The plan recognises the importance of a safe, warm and healthy home environment, recommends that information about funding for adaptations should be provided, and confirms the commitment that three million people with long-term conditions will benefit from telecare and telehealth services by 2017 (the three million lives initiative).

A press release[6] about the plan also explains how more than 7.5 million people in England will be offered increased access to GP services through extended opening times and

1 Public spending: here.
2 7 day safety of services: here.
3 NHS England, A Call to Action: here.
4 NHS England, Everyone Counts: here.
5 Improving primary care: here.
6 Increased access to GPs: here.

new methods including Skype, email and phone consultations.

In January 2014 NHS England published guidance on commissioning and providing an integrated care pathway for frail older people[7] which explains that, if they are supported to understand their long-term conditions and educated to manage them effectively, they are less likely to reach crisis, require urgent care support and experience harm. The guidance outlines how multi-disciplinary community teams can safely manage people at home and recommends using assistive technology as 'part of the menu of options in place for patients to effectively self-manage their long-term condition'.

In order to support the role of the GP within integrated community services, in October 2013 the Prime Minister announced[8] a £50 million Challenge Fund, for pilot projects that will test options such as extended hours, weekend opening and telecare. Twenty GP collaborations have been awarded funds to run pilots for one year, to transform primary services in their areas and improve the patient experience. Under the new GP contract for 2014/15, published[9] in November 2013, it was announced that four million patients aged 75 or over will have a dedicated GP personally accountable for coordinating their care and there will be new incentives to encourage GPs to identify patients most at risk of admission to hospital and to intervene with preventative care.

In November 2013 Health Secretary Jeremy Hunt published[10] 'Dementia: A state of the nation report on dementia care and support in England', which proposes a number of ways in which dementia care will be improved and includes an interactive map where people can see data about dementia care in their area. The report mentions the potential of technology to support innovation in service delivery. Investing in support for people with dementia to access care and social services in their homes and communities was made a priority in a commitment by G8 health ministers at the dementia summit[11] held in December 2013. The Scottish Government launched[12] a second three-year National Dementia Strategy in June 2013 to improve standards of care, including plans to improve community services.

Guidance[13] from the National Institute for Health and Care Excellence (NICE), published in April 2013, said that services for people with dementia should include housing options such as extra-care, assistive technology, telecare and adaptations to the home and environment.

The government's NHS Mandate 2014/15 for NHS England,[14] published in October 2013, sets out a strategy for supporting people with long term conditions by helping them to actively manage their condition. The strategy

7 NHS England guidance: here.
8 Challenge Fund: here.
9 GP contract 2014/15: here.
10 Dementia care and support: here.
11 G8 Dementia Summit: here.
12 Scotland Dementia Strategy: here.
13 NICE guidance for dementia: here.
14 NHS Mandate: here.

will rely on progress in four areas, including: involving people in their own care; integration of services; the diagnosis, treatment and care of those with dementia; and the use of technology, including the 3millionlives initiative.

NHS England leads the 3millionlives initiative to get telecare and telehealth adopted at scale. In 2013 NHS England repositioned the campaign, rebranding it 'Technology Enabled Care Services' (TECS),[15] replaced the industry group with a stakeholder group and abolished registration fees in order to encourage the participation of smaller companies. It has set up four working groups looking at improving commissioning, procurement, measurements and information governance. The NHS England TECS national framework for 2014-17 will inform an NHS England delivery plan to be published in 2014.

In February 2014 the Parliamentary Office of Science and Technology published a note[16] on UK e-health, telehealth and telecare initiatives and the role these services might play in future. In March 2014 the Scottish Health Secretary announced[17] a further £10 million for telehealth and telecare projects that allow patients to better manage their health, care and wellbeing at home. NHS Wales launched[18] a £9.5 million health technologies and telehealth fund in April 2014. According to a report[19] in April 2013, the telemonitoring service in Northern Ireland, which monitors the vital signs of people with long-term conditions, had benefited 1,500 patients.

Transformation through integrated care

In the June 2013 spending round the government announced the establishment of the Better Care Fund,[20] £3.8 billion worth of funding in 2015/16 to be spent locally through pooled budgets to drive closer integration between health and social care. This is not new money: it is made up mainly of NHS funding and also includes £220m from funding for disabled facilities grants (housing adaptations). Decisions on how the funds will be spent in each locality have to be agreed by Clinical Commissioning Groups (CCGs) and local authorities and signed off by Health and Wellbeing Boards which bring together these local partners. Health and Wellbeing Boards submitted their spending plans in April. Some are identifying[21] the use of technology to help support integration, including joined up health and care records, online appointments, Skype calls, telehealth and telecare.

To further support integrated care 'to become the norm across the country', in November 2013 the government announced[22] 14 local 'integration pioneers', which will test new ways of working for everyone to learn from and to lead the way in joining up health and social care in England.

15 NHSE TECS initiative: here.
16 POST note on telecare and telehealth: here.
17 Telehealth and telecare in Scotland: here.
18 Telehealth and telecare in Wales: here.
19 Telehealth and telecare in N Ireland: here.
20 NHSE Better Care Fund: here and here.
21 HWB plans: here.
22 Integration Pioneers: here.

The Public Bodies (Joint Working) (Scotland) Bill[23] which was granted royal assent in April 2014, aims to integrate adult health and social care and improve community services, particularly for older people. Catchment areas for health boards will be realigned[24] with council boundaries, to help them work closer together in the provision of care in the local community.

Self care and the digital revolution

One of the 'Everyone Counts' transformation models is based on enabling people to manage their own care. One proposal for achieving this is to support the public, particularly people with long term conditions, to have access to their own medical and social care records and be provided with a personalised electronic care plan which is linked to their GP record.

The 'Everyone Counts' strategy document notes that greater access to web tools like NHS Choices, including their app library,[25] will help to transform the way the public can access self-management materials. The greater use of telehealth and telecare is also recognised as important in supporting people with long-term conditions to manage their own health and care. The Scottish Government has launched Living it Up, a project to support people in their own homes and communities by providing personalised information to promote health and wellbeing. Living it Up[26] is the Scottish element of the UK-wide dallas programme and is funded by a consortium led by the Technology Strategy Board, Scottish Government, Highlands and Islands Enterprise and Scottish Enterprise.

The drive to move from paper to digital health and care records continues and in October 2013 the Health and Social Care Information Centre (HSCIC) and NHS England announced the care.data programme[27] to provide joined-up information from different parts of the health and care service. A high profile debate about how to protect privacy as medical and care records go online led NHS England, in February 2014, to agree to put the programme on hold for six months in order to launch a publicity campaign to explain the scheme and ensure the public are aware of their right to opt out.

In September the government responded[28] to the recommendations of the Caldicott review[29] of information sharing across the health and care system. The emphasis from this review was that 'good sharing of information, when sharing is appropriate, is as important as maintaining confidentiality.'

Enabling people to manage their own care is also supported by empowering individuals to choose and control the services they need. From April 2014 everyone who receives NHS continuing health care funding will have a right to request a personal health budget[30]

23 Public bodies (Scotland) Bill: here.
24 Scottish health boundaries: here.
25 NHS Apps Library: here.
26 Living it up portal: here.
27 Care.data: here.
28 Response to Caldicott: here.
29 Caldicott review: here.
30 Personal health budgets: here.

rather than receiving commissioned services. Budgets can be used to provide therapies, personal care and equipment and managed as a notional budget, direct payment or a third party arrangement.

From April 2015 people with long term conditions[31] who could benefit can also ask for this option. In a report from the Nuffield Trust[32] published in August 2013, the authors propose that, for the system to work, new infrastructure around budget setting, care planning and system monitoring is required; funding for which would need to be found in existing budgets. The report notes some evidence to suggest that some efficiency can be achieved by 'piggy-backing' onto the systems that already exist to support personal budgets in social care.

The shift towards personal budgets began in social care through direct payments and the Putting People First[33] initiative for disabled people. Right to Control enables disabled people to use state funding to buy their own support services or equipment. Trailblazer pilots,[34] to test out the Right to Control approach for disabled people, were launched in early 2011. A report evaluating seven of the pilot Trailblazer projects[35] was published by the ODI in July 2013. The main conclusions from the report were that although there was no evidence of a significant positive impact on customers, this was because many customers were not following the intended Right to Control customer journey as provider markets were insufficiently developed to offer meaningful choice.

Centres of excellence

Since the 'Liberating the NHS' changes[36] came into being in April 2013 most local health services in England are being commissioned by Clinical Commissioning Groups (CCGs). However there are a few specialised services that are commissioned directly by NHS England.[37] Specialised services are those provided in relatively few hospitals, accessed by comparatively small numbers of patients but with catchment populations of usually more than one million. These tend to be located in specialised hospital trusts that can recruit a team of staff with the appropriate expertise and enable them to develop their skills. Configuring services so that specialised services are concentrated in centres of excellence is one of the transformation models in 'Everyone Counts'.

In November 2013 NHS England launched a six month consultation period [38] to help inform its five-year strategy for specialised services. NHS England will rely on Clinical Reference Groups (CRGs)[39] for support in commissioning. CRGs are responsible for preparing national strategy and developing service specifications which set out what is

31 NHSE Right to Ask: here.
32 Nuffield report on health budgets: here.
33 Putting People First: here.
34 Right to Control: here.
35 ODI evaluation: here.
36 Liberating the NHS: here.
37 NHSE specialised services: here.
38 NHSE services consultation: here.
39 NHSE CRGs: here.

expected from providers and define access to services.

There are a broad range of specialised services, including those for cancer, mental health, women and children and trauma. Within the Trauma programme area are 15 service areas, of which Complex Disability Equipment is one. The Complex Disability Equipment group of services now includes prosthetics (limb); specialist augmentative and alternative communication aids (AAC); and environmental controls. Specialist wheelchairs (including complex postural seating and powered wheelchair controls) had previously been included, but Ministers decided[40] in May 2014 that CCGs should commission all wheelchair services except those for serving members of the armed forces.

Over the past two years Communication Matters,[41] the 3rd sector organisation representing AAC users, has engaged with policy makers to make the case for funding the establishment of specialised services. Following his visit to the ACE Centre[42] which provides a specialist AAC service, David Cameron praised the work of the Centre at Prime Minister's Questions on 13 March 2013 and committed[43] to ensuring communication aids are made available to more people.

Paul Maynard MP led a Commons adjournment debate on this topic on 6 June 2013. In response, the Health Minister acknowledged that 'the ability to speak and communicate is a pretty basic human right'. This campaign led to the government to decide that NHS England would work with local clinical commissioning groups to develop a model of specialised AAC services based largely on the specification recommended in 2011 by the Communication Champion, Jean Gross.[44] This called for a 'hub and spoke' model in which specialised AAC services would serve approximately 10% of the AAC population and support the development of local AAC services for the remaining 90% of children and adults who need AAC. In March 2014 the Specialised Commissioning Oversight Group approved an additional £15 million to support the establishment of this model for AAC services.

The draft service specification[45] for specialised AAC services, which embodies the hub and spoke model, applies until October 2014. Thirteen organisations in health, education and the 3rd sector that have been identified[46] as having the capacity to offer specialised AAC hub services submitted tenders to provide these services in March 2014. Decisions on the commissioning of the specialised AAC hubs will be taken by NHS England in summer 2014.

The Scottish Government announced in April 2014 that it would be investing[47] £2 million to implement 'See Hear', a new strategy for

40 Specialised wheelchairs: here.
41 Communication Matters: here.
42 ACE Centre: here.
43 Transcript of David Cameron's speech: here.
44 OCC Recommendations: here.
45 NHSE AAC Service Specification: here.
46 AAC services mapping: here.
47 See Hear strategy: here.

sensory impairment. Services should include **'**specialist equipment where required' and the 'effective strategic procurement and provision of appropriate community equipment that promotes independence and can link to the developing use of telehealth and telecare'.

Pressures on care

The Care Act 2014 establishes[48] a new single legal framework for the provision of adult social care in England, emphasising personalisation, prevention and information, capping the costs to individuals who are funding their own social care, and setting new national eligibility criteria. In December 2013 the Bill moved from the House of Lords to the House of Commons for its second reading, followed by detailed scrutiny at the Commons committee stage in the spring. During the debate in the House of Lords, the Health Minister confirmed[49] that all equipment, and minor adaptations under £1,000, would continue to be provided free of charge in England.

While the Care Act does not specify the type of 'care and support' to be provided, in December 2013 the Welsh Government agreed[50] to include occupational therapy and aids and adaptations as key interventions in the Social Services and Wellbeing (Wales) Bill.[51]

According to provisional figures from the Health and Social Care Information Centre[52] published in October, local authorities across England spent £17.1 billion on adult social care in 2012-13. This is a two per cent real terms decrease on 2011-12 spending. Analysis by the Care and Support Alliance[53] published in December 2013 shows that within the overall squeeze on social care, people who need support in their own home (getting up, washing, dressing) and local community (such as shopping) are most likely to be losing out on care. Overall, the number of adults receiving this community-based care has fallen by almost a third (31%) since 2008.

There has been widespread concern about the contract conditions and wages for home care workers. In October 2013 the Equality and Human Rights Commission recommended[54] that local authorities change how they commission home care and ensure that workers are paid the minimum wage. Their report warns that the way that care is currently commissioned is unsustainable, leading to inadequate pay and poor working conditions for staff, with increasing threats to disabled and older people's human rights. On the one hand the challenges in providing care strengthens the case for using assistive technologies, on the other hand, care workers are vital partners in the introduction and use of these technologies.

48 Care Act: here.
49 Health Minister statement: here.
50 Access to AT in Wales: here.
51 Social Services and Wellbeing Bill: here.
52 Fall in social care spend: here.
53 Care and Support Alliance: here.
54 EHRC on home care commissioning: here.

In February 2014 Skills for Care and Development, began a two-year project[55] to develop a national learning strategy for assistive technology skills in the care workforce. It believes that: 'Assistive Technology (AT) is a growing and important part of supporting people to stay independent and well in their own home, and the workforce needs to develop new skills and knowledge for new tasks, with potential new roles and new styles of service delivery to ensure that assistive technology is used effectively'. They also published tools[56] to support the commissioning of assisted living tools in April 2014.

Welfare reform

The government is currently undertaking a programme of reform[57] to the welfare and benefits system, with a particular focus on supporting working-age people into employment wherever possible. Over the past year there has been an increasingly high profile debate on the impact of these reforms on disabled people.

The House of Commons debated a motion tabled by backbenchers on 27 February 2014 calling for an assessment of the cumulative impact of the government's welfare reforms on sick and disabled people and demanding an immediate end to the controversial work capability assessments for employment and support allowance (ESA). The motion was based on a petition from the War On Welfare (WOW) campaign.[58] Speakers ranged widely across the different reforms, with contributions from backbenchers which outlined the problems experienced by their constituents. Although the motion was passed, the Minister for Disabled People ruled out[59] implementing its demands, but offered to work with stakeholders to reduce problems. Government departments continue to communicate to the public the support that is available to people to manage the transition to new welfare arrangements.

Employment and support allowance (ESA),[60] which is replacing incapacity benefit, offers financial support for sick and disabled people unable to work and help into employment for those who could work with the right support. The government published[61] a discussion paper on employment support for disabled people and those with health conditions in December 2013. The paper, which will be followed by a delivery paper in 2014, provides a review of current policies. Plans include: a new Health and Work Service to start in 2014; specialised and personalised employment support; an improved gateway to services; and improving the Access to Work scheme which can be used to provide equipment.

According to government figures published[62] in January 2014, disabled people are moving into jobs, training or work placements at a rate of more than 100 placements every

55 Skills for Care: here.
56 Assisted Living commissioning skills: here.
57 Welfare reform: here.
58 WOW petition: here.
59 MPs debate welfare reform: here.
60 Employment support overview: here.
61 Employment support paper: here.
62 Support for work or training: here.

working day. Key initiatives include the Disability Confident campaign[63] to encourage employers to take on disabled people, the New Enterprise Allowance[64] which has helped almost 6,000 disabled people set up their own business, and Access to Work[65] which funds equipment and other support, helping 31,500 disabled people to keep or get employment in 2012/13.[66]

A report in April 2014 from the Commons Work and Pensions Committee found that the spare room subsidy (also known as the 'bedroom tax') is having a particular impact on disabled people, especially those living in adapted accommodation, or who need an extra room as a result of their disability, and who are unlikely to be able to move house or enter work. The Committee called for the government to take steps to mitigate its impact on disabled people.[67] However, in December 2013 the DWP highlighted[68] the fact that half way through the financial year 70% of councils had committed to pay out less than half of their total Discretionary Housing Payment (DHP) allocation to their residents and that millions of pounds to help people, including disabled people, adapt to removal of the 'spare room subsidy' was still available through local authorities

The personal independence payment (PIP) is a new non-means-tested benefit which is replacing disability living allowance (DLA). This is aimed at supporting working age disabled people with their daily living and mobility costs and it includes a new face-to-face assessment and regular reviews. Eligibility for the enhanced rate of the mobility component of PIP is restricted to those who cannot reliably walk more than 20 metres rather than 50 metres as under the DLA. Disabled people are concerned[69] that this change could affect access to vehicles through the Motability scheme.

The Independent Living Fund (ILF),[70] which provides money to help disabled people live an independent life in the community, will close on 30 June 2015. Universal credit, which will replace six existing working-age benefits, is being phased in gradually. It will be paid monthly and administered online. A report in April 2014 from the Commons Work and Pensions Committee[71] highlighted the support that vulnerable people will need to adjust to the new system.

In January 2014 the government launched[72] an initiative to enable millions of people who do not have internet access in their homes to find information about universal credit and to find work via their mobile phones or the red button on their TV remote control. The new services have been designed by the Department for Work and Pensions in partnership with the digital content provider lookinglocal.gov.uk.

63 Disability Confident: here.
64 New Enterprise Allowance: here.
65 Access to Work: here.
66 Access to Work statistics: here.
67 Work and Pensions Committee paper: here.
68 Spare bedroom discretionary funds: here.
69 Eligibility for PIP scheme: here.
70 Independent Living Fund: here.
71 Work and Pensions Committee report: here.
72 Universal credit on red button: here.

Bridging the digital divide

The UK's media and telecommunications sectors are recognised as drivers of economic growth and the government's policy for digital services is to equip the UK to succeed in the global race, to secure a stronger economy and a fairer society and to help people who aspire and work hard to get on. Following a two year review of the legislative framework governing media and telecommunications sectors, in July 2013 the Department of Culture, Media and Sport published 'Connectivity, Content and Consumers: Britain's digital platform for growth'.[73] The report notes that nearly all households and businesses in the UK can access at least current generation broadband and that the UK has some of the lowest priced broadband in the EU.

Government services are becoming 'digital by default' and in July 2013 the Government Digital Service published[74] an action plan about helping users who will need 'assisted digital support'. The plan sets out the measures the government is taking to support digital inclusion of older and disabled people including: work by the Cabinet Office to establish a cross-Government Digital Inclusion Team; work with the eAccessibility Forum to encourage industry to share best practice in eAccessibility; and work with Ofcom to ensure the accessibility of TV on Demand (ATVOD). The Welsh Government published a plan[75] for independent living in September 2013, aimed at removing the barriers facing disabled people, including measures to increasing the number of disabled people who are able to use the internet.

In September 2013 Ofcom published[76] its most comprehensive study into disabled consumers' use of communications services. Younger disabled people are taking advantage of the benefits of being online but for older, less affluent disabled people, internet access levels are low. Internet access is highest among people with hearing (64%) and visual impairments (62%), but lowest among people with mobility impairments (53%) or multiple impairments (51%).

More than a million people with hearing impairments use subtitles to watch television. In October 2013 the regulator Ofcom announced[77] a regular audit of the quality of TV broadcasters' subtitles and the first results from a two year programme were published[78] in April 2014.

Text relay is a vital service as it enables people with hearing and/or speech impairments to communicate with others via the telephone. A relay assistant acts as an intermediary to convert speech to text and vice versa for the two people in conversation. Ofcom have mandated[79] that a 'next generation' text relay service must be made available to all landline and mobile customers

73 Connectivity, Content and Consumers: here.
74 Government digital service plan: here.
75 Wales, plan for independent living: here.
76 Ofcom disabled consumers study: here.
77 Ofcom audit of subtitles: here.
78 Ofcom audit results: here.
79 Ofcom text relay requirement: here.

by April 2014 and have set out a rigorous approval process that all text relay services must meet in order to gain approval. In November 2013 Ofcom announced[80] they intended to approve the first enhanced text relay service, which will be offered by BT.

Accessible transport

In September 2013 the Commons Transport Committee published 'Access to transport for disabled people',[81] a report that highlights the 'widespread benefits' of accessible transport. The report calls for more information on implementation of the government's Accessibility Action Plan and recommends more accessibility and disability awareness training for bus transport, free airline travel for some carers, better coordination across departments, and closer collaboration with local government. It also recommends better marketing to raise awareness of the Transport Direct journey planning website[82] which offers accessible public transport options in its Door To Door Planner[83] and accessibility data[84] covering most of Great Britain.

The Department for Transport published a progress report[85] on its Accessibility Action Plan in December 2013. The Action Plan covers information and support for disabled travellers, the Blue Badge scheme, safe use of scooters and powered wheelchairs, support for mobility centres, and attitudes to disabled people among staff and the public.

Warm, safe homes

The Care and Support Minister announced[86] in July 2013 that supported housing projects will be built across the country to help older and disabled people live independently. This is the first phase of the Department of Health's Care and Support Specialised Housing scheme,[87] working with the Homes and Communities Agency and the Greater London Assembly. The 3,500 new homes will include few or no stairs, cupboards at reachable height for wheelchair users, adapted bathrooms and handrails.

The Government invested £500,000 in the Warm Homes Service over the 2012/13 winter period to prevent excess winter deaths, of which there were 31,000.[88] The service, delivered by 55 home improvement agencies, reached more than 6,000 people within a four-month period, many with long-term conditions, provided advice, and carried out jobs ranging from fixing faulty boilers to draughty windows. An evaluation of the service by Sheffield Hallam University,[89] published in November 2013, found that 'the benefits experienced by clients were sizeable when compared to the average cost of the intervention (around £200) and the benefits and cost savings of such a scheme could potentially be realised across health, housing and social care.'

80 Ofcom approval of text relay service: here.
81 Access to transport: here.
82 Transport Direct: here.
83 Journey Planner: here.
84 Transport accessibility data: here.
85 Accessibility Action Plan: here.
86 Specialised housing allocation: here.
87 Specialised housing scheme: here.
88 ONS winter deaths statistics: here.
89 Sheffield Hallam evaluation: here.

In November 2013 the Housing Minister announced[90] that the government will fund 15 new locally dedicated support services across the country to help up to 10,000 older people stay independent for longer. Working with Age UK, councils and home improvement agencies, the FirstStop services will offer support with adaptations, handypersons services, financial and energy advice, housework, shopping and befriending.

Better outcomes for children and young people

The Children and Families Act was given royal assent[91] in March 2014. Changes to the law include a new system to help children with special educational needs and disabilities (SEND). The Act replaces SEN statements and learning disability assessments with new integrated birth-to-25 education, health and care (EHC) plans, gives children, young people and their parents greater control and choice and offers families personal budgets and better co-ordination of education, health and social care services. Guidance has been provided[92] to help families understand the new system. The new system has been tested in 31 pathfinder areas and a report published in December 2013 found[93] that parents were happy with the new, joined-up approach.

The Children and Families Minister announced[94] in January 2014 a £30 million fund to help parents navigate the new special educational needs process. The fund will be used to recruit and train a pool of 'independent supporters, champions drawn from independent voluntary and private organisations, to help families develop EHC plans. The Act includes a duty on school governing bodies to make arrangements to support pupils with medical conditions. Individual healthcare plans will have to consider potential needs, including equipment and environmental issues, and the level of support needed.

With greater integration of services, clinical commissioning groups will assume responsibility for special educational needs commissioning from September 2014. NHS England's 'Everyone Counts' planning strategy recommends that CCGs work closely with local authorities and schools to meet the pledge for better health outcomes for children and young people.

The government announced[95] changes to the disabled students' allowances (DSAs) scheme in April 2014. DSAs cover the purchase of computers, laptops and specialist equipment, provision of support workers and assistance with travel costs. The scheme provided some £120 million of support for around 50,000 full-time undergraduate higher education students in England in 2012/13. The government proposes that changes are required as current arrangements do not recognise technological advances, increases in the use of technology or the introduction of

90 Local support services: here.
91 Children and Families Act: here.
92 Guidance for families: here.
93 Pathfinder report: here.
94 £30m to navigate SEN changes: here.
95 DSA announcement: here.

the Equality Act 2010. It has been almost 25 years since the DSA scheme was reviewed, unlike other areas of student support. The government wants to see a rebalancing of the funding with universities taking more responsibility for supporting students.

Videoconferencing from home © Richard project

The information barrier

A number of projects reporting this year highlight the barrier to adoption of technology caused by a lack of publicly available information about assistive technology. Keren Down, Director of FAST, discusses this issue with Ed Myles of the DLF, the independent provider of information on assistive technologies.

Ed, can you describe how the DLF makes information about assistive technology available to the public?

DLF Data is our database of over 10,000 products which are available from around 900 manufacturers and suppliers. This database is available to health and social care professionals under license and it also powers our public websites Living Made Easy and Ask Sara. Being public means that it only makes sense to feature around about two-thirds of the total database on these sites, so there are roughly 6,500 products on Living Made Easy. There are some products for which someone would need a thorough assessment from an Occupational Therapist and so these are not featured.

Living Made Easy started off as separate sites, Bathing Made Easy was the first, then Toileting Made Easy, and so on. Such was the success we broadened it out with funding from the Department of Health. Living Made Easy now attracts over 900,000 visitors during the course of a year. These are individuals who may well have an idea of the type of equipment they need to get hold of. Users tell us it is intuitive and easy to use and we consider that, for annual visitor numbers to be getting on for over a million visitors from a standing start five years ago, the service is a success story.

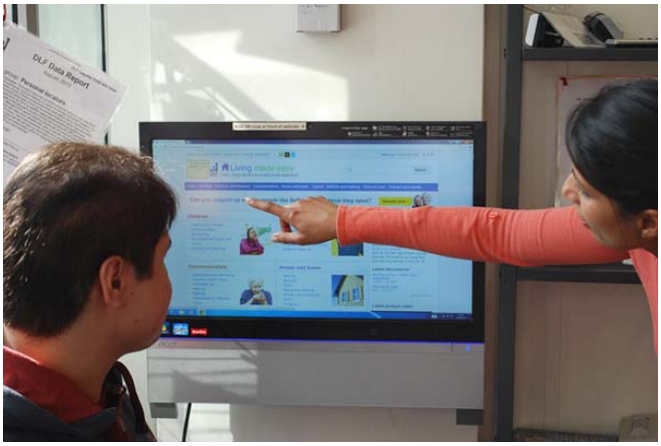
Ed Myles of the DLF

Ask Sara, which stands for ‘Self-Assessment Rapid Access,’ supports individuals who do not really know what equipment is available or what might help them. So the question stream that they follow begins with their condition, things that they are having issues with and then gradually takes them through a course of questions, the outcome being a report that identifies the assistive technology that will help them stay independent, safe and living with dignity in their own home.

Can you describe how the DLF is working with other organisations to get this information out to the public?

The model for Ask Sara is to license it to a range of organisations, including commercial organisations, but increasingly the largest group of licence holders is Local Authorities. Organisations can license Ask Sara to appear under their house style, so it can look like part

of a local authority's website. Often local authorities enhance the information from Ask Sara with information about in-house services and those available from local 3rd sector organisations.



Over the past couple of years more 3rd sector disabled people's organisations have recognised that this is a useful resource. For instance, the Stroke Association have a bespoke version of Ask Sara for the products and services that are relevant to individuals who survive stroke. When we worked with AT Dementia they decided to write their own question streams and, given the niche nature of dementia, this has worked out well. So we are always on the look-out for working with partner organisations.

Is it possible to identify why there has been an increase in the number of local authorities who are licensing Ask Sara?

There is increasing pressure on local authorities to provide support to people whose personal circumstances mean they are not eligible for services. Local authorities are being asked to signpost people towards services that can support self care, whether in the 3rd sector or from commercial suppliers. This requirement has been made even more explicit in the Care Act 2014. Local authorities have to put services in place aimed at preventing, reducing or delaying care and support needs and to make sure these services are integrated around the individual. I think there is a definite role for the DLF to support local authorities to provide high quality information about assistive technology services in a way that is cost-effective and is proven to be useful to the public.

Finally, can you identify what the future challenges are for information provision? For example, I know you are aware that many people would like to link directly through to sales from DLF websites.

In terms of linking DLF information directly through to sales, it is an interesting one for the DLF, we don't sell products, we don't make any money from products, we don't recommend products. We exist solely to give the public the best possible choice and to raise awareness of items that can help individuals live independently. The question of how we can monetise our database and the huge level of visitor interest in our database is a recurring theme for us, but what is absolutely paramount, and not up for any kind of negotiation, is our independence. I think commissioners underestimate the importance of information giving. There is no funding available for the marketing of services, but in effect that is what is going to be needed in order to bring about a sea change in the public's understanding of the products and services that are available.

Embedding telehealth

Across the European Union the cost of supporting people with long term health conditions accounts for around 70% of public healthcare spending. Many telehealth applications have been developed to support people with long term conditions but these have mostly been implemented through pilot applications, with limited impact on the overall healthcare system. The projects featured here investigated how people can be supported to engage in self care using cost-effective technology services and how to embed these services in care delivery.

RICHARD

The Richard project, led in the UK by the Centre for Health and Social Care Research at Sheffield Hallam University, aimed to create a shift from digital health applications which focus on individual conditions towards sustainable, regional care models, where innovation can be implemented by the healthcare system.

Funding from the European Union Framework Programme 7 (EU FP7) between September 2010 and August 2013 enabled the Richard team to establish a regional telehealth hub at Airedale NHS Foundation Trust in Yorkshire. The hub was launched in September 2011 providing an out-patient service supported by a 24-hour response service from experienced nurses, with physician support on call. The project used a range of technologies, including secure out-patient video consultation, a resilient IT and communications infrastructure and a shared electronic health record between acute and community services. This enabled individuals or their carers to use the video call system to contact the hospital team from their home at any time of day or night with a query about their condition.

The project evaluated the service through providing support to 1,138 residents living in nine residential and eight care homes in the region over a one year period and also providing a service to 26 people with COPD living in their own homes. The impact of providing the service to care homes was to reduce hospital admissions by 45%, length of hospital stay by 30% and total hospital bed days by 60%.

The number of calls for each of the 263 residents who used the service was between 1 and 23 calls each over the one year trial period. A care home staff member described the value of the service as “Absolutely brilliant – keeps residents at home but before installation we would call an ambulance. Staff [are] more confident knowing they have telemedicine to contact, and it has assisted staff in performing CPR on a resident”.

The impact of the service to people with COPD was to reduce hospital admissions by 45%, length of stay by 9% and total bed days by 50%. One carer's feedback was ""The Telehealth Hub came into its own last winter when snow and ice brought traffic to a halt. My husband's condition deteriorated suddenly, and having visual, instant contact with the team was very reassuring. A wonderful service."

The research team note that, if operated at scale, the service could result in substantial changes in patient flow into hospitals from care homes and due to COPD. Having established the functional resilience of the system at scale and indicated potential benefits, they note that, to understand the potential impact of wider implementation, a further formal evaluation would be required.

Richard partners viewing the system

To support organisations as they incorporate telehealth into their services, the partners published a telehealth implementation toolkit, 'Ready Steady Go' in 2012. Subsequent development of the toolkit has been based on the project consortium's experience and has been validated by partners in Italy, Sweden and Poland. The updated toolkit is free to download from the Richard website.

REACTION

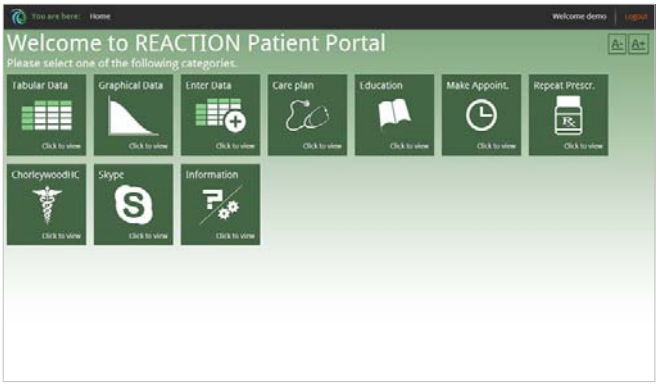
Diabetes UK estimates that the known, diagnosed UK population with diabetes is now 3.2 million people. The need for close control of blood glucose for people with type 1 diabetes and those with type 2 who use insulin therapy has led to the practice of daily monitoring of blood glucose. For people with type 2 diabetes who do not use insulin, the case for daily monitoring has been less clear. The Reaction project set out to establish whether a low-cost, short-term monitoring intervention would support people with type 2 diabetes to better manage their condition.

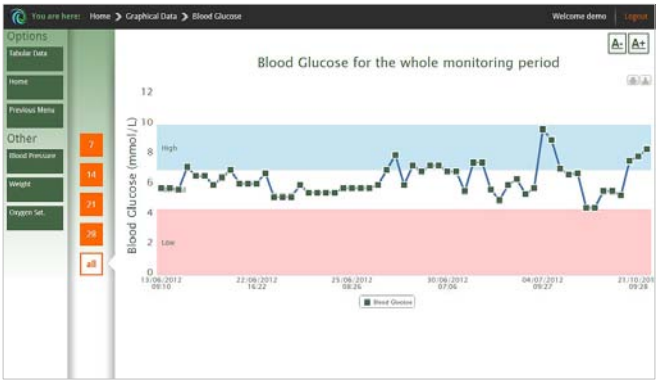
With funding from the EU FP7, project partners from Brunel University and Chorleywood Health Centre in the UK worked with partners from across Europe between March 2010 and February 2014 to develop the Reaction telehealth monitoring platform. The system uses sensor-based devices to gather data on blood pressure and glucose levels. This data is sent wirelessly to a home hub and then to a central store, from where it can be reviewed by healthcare professionals. The data can also be reviewed by the individual through a web-based portal and entered manually in the case of technical problems.

The system was piloted in Chorleywood Health Centre for 12 months between January 2013 and January 2014. All patients with diabetes were invited to participate as part of their regular review which takes place

twice per year. Patients completed 14 days of remote monitoring for blood glucose and blood pressure and, together with diet and activity level, this information was used to support the usual clinical diabetes review. Patients at risk were identified and, using clinical intervention and further monitoring, changes were made to their blood glucose management approach until good control was established. 166 patients were invited to take part in the study. 107 (64%) were monitored once during the study and 30 patients monitored on two occasions.

The findings were that 37% of patients have been called in to the health centre for intervention in the management of their condition as a result of the monitoring. The risk stratification information showed that previous estimates by GPs of overall risk were optimistic, with 22% at low risk (compared to an estimate of 41%), 47% at medium risk (similar to the estimate of 48%) and 21% at high risk (significantly greater than the previous estimate of 11%).





The main reason that intervention was required was that the patient was in denial about their disease, resulting in poor adherence to their medication, food and activity recommendations. The team found that the telehealth intervention was effective in confronting the individual with the situation, enabling a discussion with the health professional and establishing a more effective management approach. 51% of patients completed a questionnaire, of whom 88% felt that the experience had been beneficial, and indicating high levels of satisfaction with the equipment and the patient portal. 93% of patients had been able install the system themselves, which significantly reduced the costs of the intervention. 48% of patients had used the portal, primarily to check data had arrived or to enter it manually. They appreciated the feedback on measurements and how to interpret the results. Of interest was a finding that only 4% reported they had used it to view educational content.

The team report that there was a high level of satisfaction with the intervention by clinicians who found it helped identify patients in need of intervention, engaged patients in managing their condition and supported clinical decision making. The clinical portal was deemed good for reviewing patient data, but the team note that integration with existing electronic patient record systems has to occur to prevent duplication of data entry. The system supported new clinical management systems and new ways of working.

The team are now undertaking exploitation activity, highlighting the potential cost savings, efficiencies and quality of life benefits that could result from widespread implementation of such telehealth approaches across primary care. The focus on implementing the system through well-designed, self-install technologies has significant implications for reducing the cost of deployment.

The team propose that an episode of two weeks' monitoring using self-installation could be undertaken for £20, with 20 years of monitoring, twice per year, costing less than £1,000. They compare this with the benefits that accrue from delaying potential complications such as heart failure, stroke, amputation or blindness by 5-10 years and estimate that the cost saving could be in the region of £20,000 per patient. The team are currently working with the providers of GP electronic patient record services to address barriers to deployment that arose due to the need to duplicate data input.

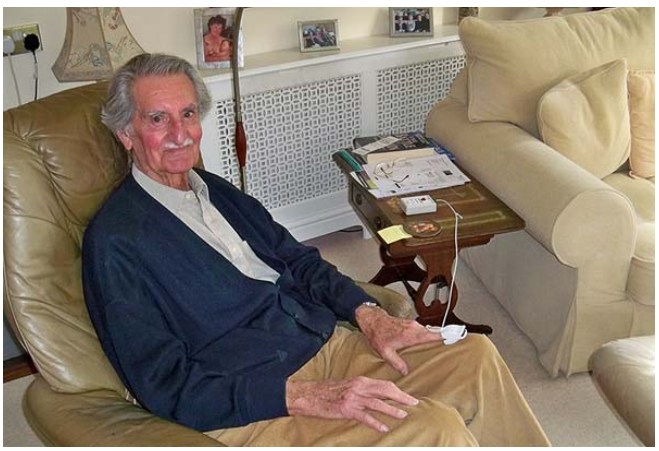
inCASA

Countries within the European Union are using a range of assisted living (telecare and telehealth) technologies to support older people to continue to live at home independently. The inCASA project investigated whether analysis of health and behavioural data, gathered by monitoring an individual at home, can inform decisions about when an individual may require a higher level of support.

The project, which ran between April 2010 and June 2013 with funding from the EU ICT Policy Support Programme (EU ICT PSP), developed a platform for remote monitoring based on non-proprietary, common standards

and sensor technologies that are simple to use and unobtrusive in the home, in order to deliver low cost services. The team, which included researchers from Chorleywood Health Centre and Brunel University in the UK and partners from across Europe, also developed methods to share an individual's behavioural and health data between care organisations to encourage collaborative working.

Trials to monitor people in their homes took place over 12 months between spring 2012 and summer 2013. A group of older people (mean age 82) with chronic disease and assessed as frail (average frailty (56%) or very frail (27%)) were asked to participate in the project. They had a range of sensors installed in their homes to monitor health and behavioural changes.



Home monitoring of blood oxygen © InCasa

Of the 44 participants enrolled, 36 completed a minimum of 30 days of monitoring with an average duration of monitoring of 122 days. Reasons that people declined participation included believing sensors were too intrusive and not feeling sufficiently frail. As a result of the information gathered from home monitoring, 55% of participants were referred to see a clinician, 44% received a change in treatment and 70% of those who were assessed as of average frailty and above were assessed as requiring an intervention.

Participant perception was generally good, with those that took part expressing no concerns over privacy or discomfort. Most believed the platform gave enhanced care that was over and above what they considered normal. They felt more actively involved in their care and appreciated the improved sharing of information between professionals. The professionals experienced benefits relating to the ability to share data and improved communication between services and the ability to see a correlation between the individuals' habits and health data.

Preliminary analysis was undertaken to determine whether there was a correlation between changes in behaviour and health data for participants who went on to have a significant health event. A clear relationship between variations in blood oxygen and activity levels was observed. Findings reported include a reduction in hospital admission and length of stay and a reduced number of contacts with the general practitioner. The team note that further work is needed to validate the results at a larger scale.

Telehealthcare markets

Over the past five years there has been a significant increase in funding made available to support the development of a large scale market for assisted living (telecare and telehealth) services that is capable of delivering affordable and diverse services.

The motivation for making this a funding priority was the recognition that technical development of assisted living technologies was much in advance of the capacity of the NHS and local authorities to commission or deploy them. In the UK funding from the Technology Strategy Board has focused on finding the causes of stagnation in market development and to identify solutions.

DAP Connect

Previous assisted living pilot projects have indicated how inexpensive assisted living services and devices could support older people and those with long term health conditions. The DAP Connect project, which was funded by the Technology Strategy Board Assisted Living Innovation Programme (TSB ALIP) and the Economic and Social Research Council (ESRC) between April 2011 and September 2013, aimed to test out business models for a consumer market by creating a 'toolbox' of interoperable assisted living services which could potentially be downloaded from the online stores of a range of retailers and third sector organisations.

The project, led by Healthcare over Internet Protocol CIC, used a number of technology examples to understand the barriers to growing the market, including software to support informal carers to communicate 'RallyRound', a GSM phone with emergency button, 'Docobo Home Hub', a home telehealth monitoring service for long term conditions and 'Warm Neighbourhoods', a home environment monitoring system that provides reassurance to older or vulnerable people and their care networks.

Carer workshop © Carers UK

Based on an examination of the current market and the toolkit proposals, the research team published proposals for a breakdown, or 'taxonomy' of market roles and responsibilities in order to create a set of building blocks for reconfiguring the supply side of the market.

The proposals assume the development of supply chains which are provided completely outside of statutory services, such as the NHS or Local Authority social services. Workshops with carers were held to understand their requirements for future services and to understand how people wanted to make consumer transactions for these services.

The conclusion of the work is that there is an urgent need to attract big brand organisations to enter the market, who have the marketing power to raise the profile and appeal of these services and who consumers would trust to deliver quality services. The project team also developed an Impact Performance Measurement Framework, that could structure the advice and guidance that companies may need in order to decide whether they are ready to enter this market and to identify the partners they may need to work with.

CoModal

Currently only 9% of the population in England aged 65+, with critical or substantial needs, is eligible to receive state funded social care services, including telecare and assisted living services. While some people access these services on a self-funding basis via their local authority, there appears to be only a minimal consumer market in evidence. The CoModal project, which ran from April 2011 to May 2014, was funded by TSB ALIP and ESRC to identify the barriers that have prevented development of the assisted living retail market and to develop sustainable business models.

The project partners have undertaken substantial survey work with the public to explore potential barriers to the adoption of assistive technology, interviewing those that use assistive technologies, those who currently do not use these technologies and carers and family members of potential users of these technologies. This in-depth study is set out in a project report, available from the website.

The current market for these assisted living technologies was studied and older people and industry representatives contributed their views on potential routes to market, their perceptions of which organisations should provide these services and how consumers would wish to finance them.

The prototype business models were tested and refined through workshops with project partners and experts from industry. A total of 60,000 leaflets to raise awareness of these products and services are being distributed via Age UK and guidance has been developed to support commercial organisations to understand the requirements of older assistive technology consumers.

To engage the larger brand organisations whom the research team propose are central to development of the future consumer market, the team held a ‘Hackathon’ with the participation of 55 designers and developers and with sponsorship from Barclays Bank.

During the weekend-long Hackathon event eight teams of developers and designers, informed by the CoModal research and interviews with service users, spent 36 hours coming up with solutions to allow older people to remain independent, and in their own homes for as long as possible. The team report that the process was hugely creative and inspiring.

Shortly following the Hackathon, the team held a day long co-creation workshop with the

same delegates. This workshop used the business modelling knowledge developed from the project. The team will then take these findings and develop them to through an Innovation Club for businesses.

> People like myself were brought up in the 60s and we're used to seeing good design, innovative design, so why because we've reached a certain age do we suddenly want to go to functional, ugly things?
>
> CoModal Hackathon Adviser

Active engagement

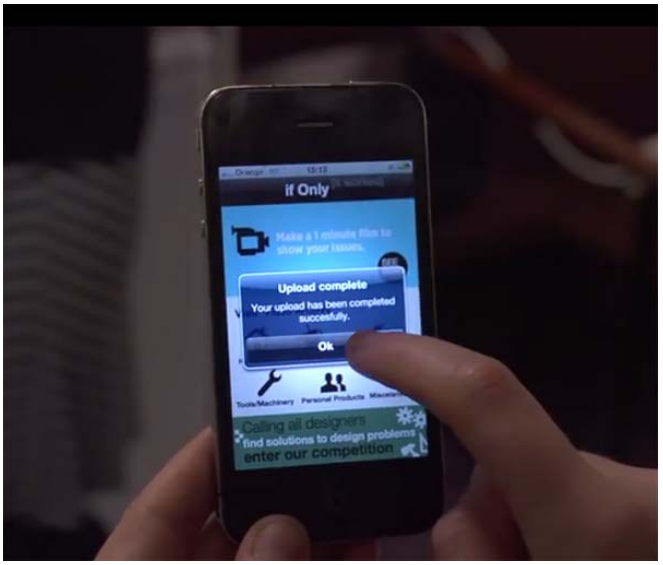
The need to engage current and potential users of assistive technologies has shaped a number of projects reporting this year. Each project has taken a different approach to engagement, using high tech as well as face to face methods.

If Only

The If Only project, led by the Bath Research and Development Design Service at the University of Bath, was funded by the Engineering and Physical Sciences Research Council (EPSRC) via the KT-Equal network,[96] to explore the need for assistive technology for people with painful, long term conditions.

Working between January 2011 and May 2013 the project team developed an iPhone app, 'If Only [it worked]', to enable people with usability issues around the home, to make videos to demonstrate the problems they face, upload the videos to YouTube and to categorise the clips and add notes. The aim of gathering and sharing these videos is to inspire designers to generate solutions to these everyday problems and support designers to bring their solutions to market.

As well as being available on the iPhone Apple store, the If Only app can be downloaded from the project website. The team have also provided a video clip to guide people on how to use the app and make videos. By the end of the project in May 2013 100 clips had been generated by people living with long term conditions to demonstrate the problems they have with undertaking everyday activities. The team then set up an open competition and students from 20 leading universities submitted design solutions to these problems. Solutions ranged from ways to compensate for poor gripping strength, better ways to boil water for hot drinks and ways to support people with tremor to lock and unlock doors.



Demo video showing how to use the If Only app
© University of Bath

Video showing a problem with plugs
© University of Bath

Five finalists presented their ideas at the User Experience (UX) Conference, which took

[96] The KT-Equal Network works with older people to promote knowledge of innovations in healthy aging and assistive technology.

place in Bath in May 2013. The project website hosts a catalogue of the videos and the project continues to feature innovative and accessible designs via Twitter, Facebook and YouTube.

COBALT

The Cobalt project was funded by TSB ALIP between September 2011 and February 2014 to examine the barriers to adoption by older people of assisted living technologies such as telecare and telehealth. The approach taken by the team was to engage older people throughout the project to gain their views and expertise. The project ran two ten-week programmes of workshops with older participants, structured around the stages of taking products from concept to market, in order to develop practical activities that would overcome the barriers to adoption of these technologies.

This experience of working with older people as co-designers has enabled the team to develop new design methods and materials, titled 'Cobalt Tools for Engagement', which the team propose can be widely used in similar projects that wish to co-design services with users. In summer 2013 these tools were demonstrated and tested at four interactive workshops in Sheffield, Edinburgh, Cambridge and Swindon.

The workshops were attended by approximately 200 people in total, and brought together older people, health and social care staff, service commissioners and providers as well as manufacturers and suppliers of technology. The sessions included a hands-on technology session to spark debate, as well as presentations of technology by researchers and industry participants and descriptions of the experience of using technology by older and disabled people.

The team have reported some of the comments and themes that came out of the workshops including the conclusion that personalisation of technology to the individual is crucial for success.

Participants noted that they would like a try-before-you-buy scheme, as the current way to

access equipment through the local authority makes it hard for people to get the right technology at the right time. The Cobalt team are working on a number of reports and papers which will document the methods and findings from the project, as well as an update to the Tools of Engagement, and these will be made available during 2014.

Compositions for Cochlear Implantees - Follow-On

For severely or profoundly deaf people who receive little benefit from conventional hearing aids a cochlear implant can provide useful speech perception. However, current devices are poor at conveying pitch information. Cochlear implant users who wish to listen to music again and participate in music creation are often dissatisfied with the sounds received through their implant, with some avoiding listening to music altogether as instruments may sound “thin”, “shrill”, “noisy”, “tinny”, “empty” and “confusing”.

This project, funded by the Arts and Humanities Research Council (AHRC) between January 2013 and January 2014, builds on a previous project which concluded in 2012 having developed an 'Interactive Music Awareness Programme' (IMAP) to enable users to create, manipulate and play with music.

Feedback from implant users in a series of consultation sessions and workshops undertaken at the start of the project strongly suggested that a music rehabilitation programme should be interactive, creative, open-ended, educational and challenging. It was also evident that users wanted a resource to assist them to develop their music perception abilities and to help them to re-engage with music.

In this follow-on project, researchers from the University of Southampton worked with implant users in a series of workshops and a trial to further develop and test a prototype of the IMAP.

Throughout the workshops and the trial participants gave feedback on the IMAP software. The IMAP programme was then expanded to feature audio and video contributions from a wider range of artists. Following training with IMAP the team report that participants in the trial improved their ability to recognise musical instruments and their feedback suggests further positive impact on their lives.

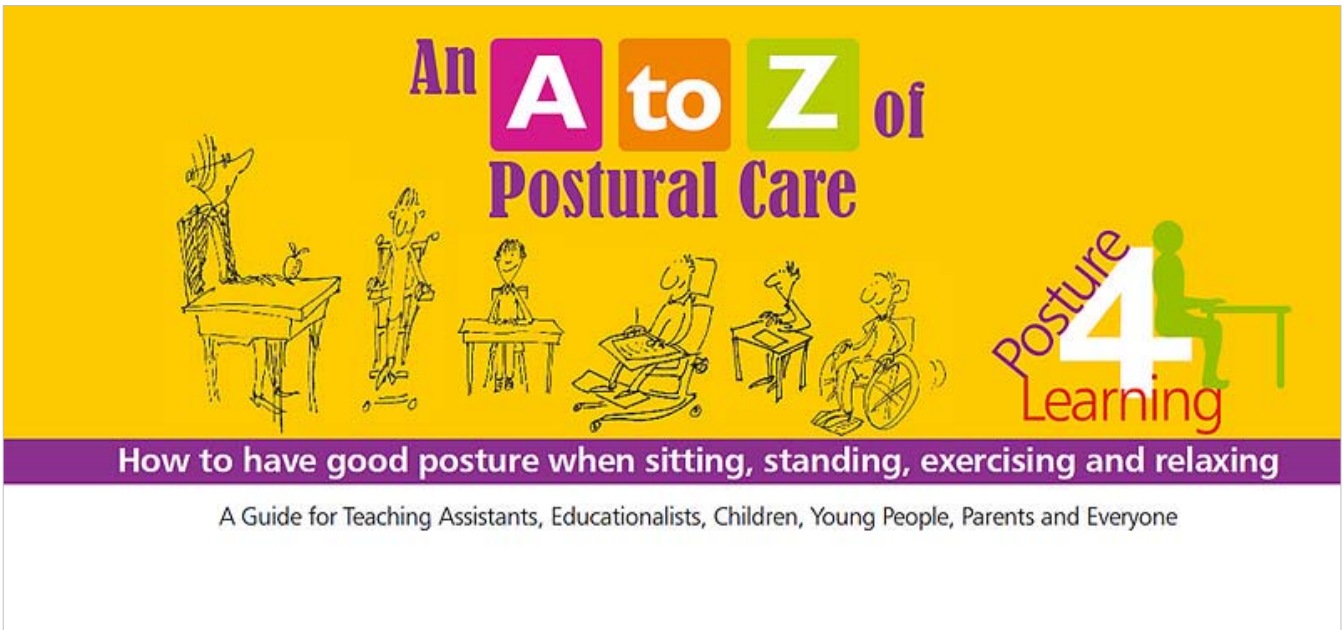
The programme was launched online in January 2014 and has been made available to cochlear implant users worldwide at ‘www.MoreFromMusic.org’ online. The project team have also developed a good practice guide on running music workshops for adult cochlear implant users which is available online. An annual programme of music workshops for implant users has now been established at the University of Southampton Auditory Implant Service.

Study into the effectiveness of a postural care education program

Physically disabled children often need to use seating supports or walking frames in order to maintain good posture, to reduce the risk of deformities and health problems and enable them to participate in activities at school and at home. However, parents and teachers experience difficulty helping them maintain posture because equipment is complex and postural care is difficult to understand.

The project, funded by the National Institute for Health Research, Research for Patient Benefit (NIHR RfPB) programme between July 2011 and August 2013, aimed to support parents and teachers in mainstream schools. It did this by developing a programme of workshops and follow-up training based on a booklet titled ‘An A-Z of postural care’. This booklet had been previously developed by parents, therapists and teachers and it included information about equipment, risk management, manual handling, problem solving, emotional support and inclusive education. Seventy-five parents and teaching staff from Kent, Sussex and Surrey worked with occupational therapists and physiotherapists from the project who ran the two hour training workshops and provided the six week follow-on support.

Results suggest that this postural care training programme is an effective way of improving the confidence and knowledge of carers about postural care. It is hoped this will have a direct impact on the care provided to physically disabled children in the region. The intervention was short term and the research team note that there is a need to measure the longer term impact of training for carers and to establish the outcomes for the child.



Creative caring

Some of the projects reporting this year address the challenge of providing care for the increasing numbers of people who need support with limited budgets. Using technology to support communication can help to support the caring relationship. For a number of years robotic assistance has been proposed as a way to provide in-home companionship and care. This proposal is being tested to understand the potential of robotic technologies for care.

Portrait

Caring for people with dementia currently costs the UK £17 billion per year and providing a high standard of care for people with dementia, particularly if they have associated communication problems, is challenging for care staff. Between April 2012 and April 2013, the Portrait team at the University of Dundee were funded by the Social Inclusion through the Digital Economy (SIDE) Programme, funded by the Research Councils UK Digital Economy fund, to develop a system that would help care home staff see the whole person, not simply as a set of service needs, and to facilitate conversations with residents.

The system consists of portraits of each resident presented on a tablet computer screen. Alongside a photo of what the resident looks like now are pictures from their past. Clicking on these images staff can access information about holidays, weddings and even the individual's childhood. They can then use this information to stimulate discussions with the person about their life and interests. There is also information about the resident's current preferences, such as whether they like to sit in the kitchen or the living room, what food they enjoy or their daily routine. In this way, personal information can support staff to provide an improved service to the resident.

Portrait system © Gemma Webster

Reading and reflecting on this information is designed to take no more than three minutes out of the normal work routines of the staff member. While this is not a substitute for taking the time to talk to residents, this technology is designed to help give staff a starting point for discussion and for developing a caring relationship.

Feedback from care home staff has been positive and at the Digital Economy All Hands conference in 2011 the project was awarded £10,000 to further develop the Portrait system. Portrait has already been installed in Heathfield care home in Scotland and plans are underway to expand its use elsewhere.

Mobiserv

To support the increasing number of people who wish to live independently at home for as long as possible, a number of projects have been investigating the potential of robots to provide assistance. With funding from EU FP7, the Mobiserv team, which involved researchers from Bristol Robotics Laboratory at the University of West of England as well as partners across the EU, worked between December 2009 and August 2013 to develop an intelligent, autonomous robot. The robot uses sensors and software designed to enable the robot to learn and adapt to an older person's home environment. The robot uses speech synthesis and speech recognition or a touchscreen to communicate with the older person. The team designed smart clothes, with integrated sensors for the older person which can gather health data. The team propose that the robot can use this data to provide advice about healthy lifestyles and also that the system can monitor the cognitive health of a user.

Extensive usability and user evaluations studies took place in the UK and the Netherlands with older people, family, formal and informal carers. The evaluation took place in a range of settings including home labs, people's own homes, and care homes. The team report that results indicate that the system can add value to older people's lives by supporting their independence and improving their quality of life encouraging interaction and stimulating activities.

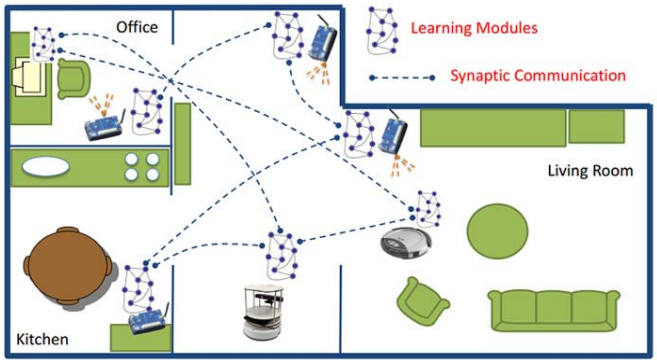
Source: YouTube © Mobiserv 2013

RUBICON

This EU FP7 funded project ran between April 2011 and March 2014 and aimed to develop a low cost, self-learning, robotic network, or ecology, of multiple, simple robotic components, wireless sensors and devices that present or activate services. The project approach is to build networks of cheap, simple, interacting components, embedded in everyday environments, rather than attempting to build multi-purpose, human-like robots. The aim is that these robotic ecologies will be able to adapt to evolving situations and changing users' requirements.

The team, including the University of Ulster in the UK and partners from across Europe, has set up two test environments, one of which is a smart home for supporting a disabled or older person. A home lab in Bilbao, Spain, was set up as a fully functional apartment with a bedroom, living-room, kitchen area, bathroom and a corridor.

The simulated apartment was equipped with more than 50 static and wireless sensors and mobile robots able to provide simple services to the user. These services can be controlled with the use of mobile devices, such as a PDA or a smart phone, which were also used to receive information about the environment. The team have released the first version of the system software that laboratory testing has demonstrated can enable the system to learn how to automatically switch on appliances and robotic services in response to the user's activities.



The team propose that, once the system has decided what service goal should be activated, such as "fetch a drink for the user", "locate and inform the user that the stove has been left on", by monitoring environmental data, the system is able to autonomously decide which devices must be used, what they need to do and what information they should exchange in the process. The system is also able to adapt autonomously to changes in user behaviours, for example ordering in a pizza every Friday as opposed to cooking dinner.

The team report that Rubicon components have been re-factored and were tested in March 2014 with older people living in the Ängen senior residence facility in Örebro, Sweden and the Homelab facility in Bilbao Spain. Findings from these deployments will be reported in summer 2014.

Innovation in assessment, design and manufacture

Innovation in the design of mainstream technology can improve the design of assistive technologies and can also significantly improve assessment approaches and modelling and manufacturing methods, resulting in more affordable products and new market opportunities. Advanced technology assessment approaches may also result in some relatively low tech solutions, or could provide high tech ways for people with significant impairments to control a wheelchair to maintain mobility and an active life. Understanding how assistive technologies have to perform in real-life environments is vital to maintain safety and to drive technology improvements to meet users' more challenging requirements.

A-FOOTPRINT

Disabling foot and ankle conditions affect approximately 200 million European citizens. Over €300 million a year are spent treating such conditions with orthoses and splints. While ankle-foot orthoses (AFOs) or splints and foot orthoses (insoles) have proven to be effective, their production is based on hand-crafted manufacturing techniques which mean they are expensive to produce, have long lead times to deliver and are difficult to accurately reproduce. This approach to manufacture limits innovation and reduces competition.

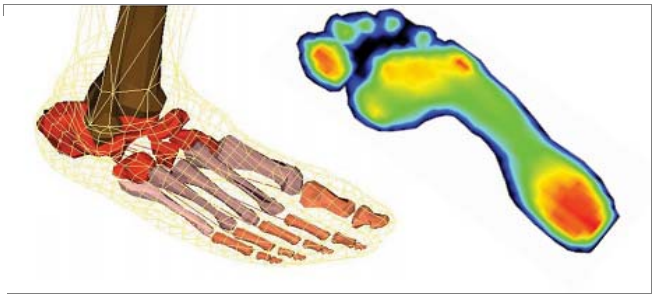
A-Footprint is a joint research and innovation initiative, undertaken by a consortium of 12 industrial, university and business partners, led by Glasgow Caledonian University and funded by EU FP7, that set out to address these challenges and to identify how to improve the situation for industry and the market overall.

The project, which took place between October 2009 and September 2013, has exploited recently developed capability in three dimensional (3D) digital design, computer aided design (CAD) modelling and 3D print manufacture (additive manufacture) to redesign the service provision model and open up new business opportunities for custom-made orthotic products.

The project undertook work to develop methods for diagnosis, prescribing and capturing the geometry of the foot. Motion capture techniques were developed and employed, together with 3D gait analysis of force and pressure measurement and measurement of electrical activity in the muscles to improve biomechanical modelling.

Source; YouTube © A-Footprint 2014

This data was combined with medical imaging using computerised tomography (CT) and magnetic resonance imaging (MRI) and 3D surface scanning to develop a scalable, kinematic (mobility) and kinetic (energy) model of the foot. The resulting Glasgow/ Maastricht Foot Model can model the many bones, joints, ligaments, muscles and tendons which make up the human foot.



Professor Jim Woodburn, project co-ordinator, said: “Previous to this development, most computer models of the human body ended in a black rectangle – the foot was simply too complicated to model. The Glasgow/ Maastricht foot is a game changer. It opens the door to a huge range of applications, including the manufacture of better and more efficient orthotics”.

Work was undertaken to exploit computer aided design and manufacture (CAD/CAM) technologies and rapid manufacturing processes to develop a Personalised Orthotic Design process. The team explored the potential to develop innovative designs including how to create stiffness, passive hinges and embedded sensing.

This work was underpinned by activity to establish the most effective way to store the clinical information using a central information system, the A-FIS system, to capture patient information, diagnostics and assessments, orthotic CAD designs and product information and workflow. The A-FIS system is accessible via cloud computing networks. The output from this information storage approach is reportedly at an advanced stage of commercial exploitation readiness.

In 2012 an Advanced Orthotic Design and Manufacture Centre was established by Peacocks Medical Group to produce prototype orthotic products. Specifications were successfully developed for embedded sensors based on commercially available devices. Successful manufacturing trials of prototype ankle-foot and foot orthotics have taken place at the pilot factory facility which attracts clinicians and researchers from around the world.

Trials have commenced of prototype AFO devices with stroke survivors with foot-drop and insole devices for patients with pain caused by flat feet. The business model continues to be developed and has advanced following a successful exploitation strategy seminar in March 2014 that identified the key results and their commercial readiness for exploitation. The team report that work is continuing, focused on further integration of the various elements of the system.

WheelSense

Stability is of crucial importance in allowing users to get the most from their wheelchair whilst maintaining their safety. Stability problems can arise following modification to the chair, for example following the installation of mounting equipment for a communication aid, which can alter the centre

of gravity of the chair. User behaviour is also important for wheelchair stability, so understanding safe limits is important in educating wheelchair users and their carers. The WheelSense project, which was funded by NIHR i4i between May 2010 and April 2014, aimed to develop a system for measuring and improving wheelchair performance.

The Wheelsense team led by the Health, Design and Technology Institute at the University of Coventry, worked with wheelchair prescribers, suppliers, users and leading wheelchair manufacturers. This collaborative, user-centred project has developed a folding platform with measurement software used via a range of devices including a tablet, laptop or desktop computer. The system is designed to be used by staff in wheelchair services.

The system is portable and senses the wheel positions, reducing the number of measurements required from six measurements to two, these being the wheel diameters. The project team aimed to make the system user-friendly to encourage less experienced professionals to use it. The final system is flexible, allowing evaluation of basic or more complex functions, depending on the needs of the client and their chair, or the experience of the professional.

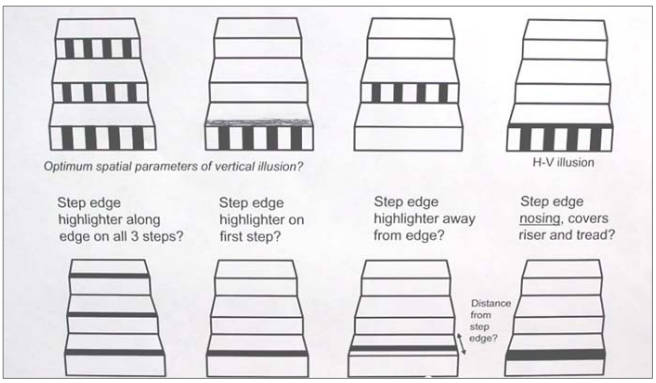
A multi-centre evaluation with NHS partners took place between September 2013 and April 2014 to assess the usability of the system and assess how likely it was that services would adopt the system. This evaluation identified barriers and enablers to the use of Wheelsense in a wheelchair clinic setting. The Wheelsense team are seeking a commercial partner to take the final product to market.

Manipulating the appearance of steps and stairs

At least 500-660 deaths a year in the UK occur as a result of a fall on steps and stairs and a major cause of falls on steps and stairs for older people is poor vision. Reducing the number and severity of falls remains a priority as part of the National Service Framework for Older People. Adjusting the appearance of steps and stairs to make them safer for older people was the aim of this project led by the University of Bradford, and funded by the NIHR i4i programme between May 2012 and April 2014. Previous work by the research team had shown that increasing the distance that that the foot clears the step-edge is a straightforward safety strategy used by older people in both step ascent and descent. The problem is that people's natural tendency is to reduce that additional foot clearance amount on each successive step in order to conserve energy. For older people trips on stairs tend to happen on the first few steps and the last few steps of stairs.

The project team set out to make stairs look taller than they are in order to encourage people to lift their foot higher. Using a well-known visual illusion that means that the brain reads vertical lines as longer in relation to horizontal lines (a horizontal-vertical illusion) the team investigated whether adding these striped visual illusions would increase the foot clearance distance. A number of options using highlighters superimposed on steps were investigated.

The project team worked with fifty older people who were invited to the gait and vision laboratory at the University of Bradford to test out a range of different step highlighters.



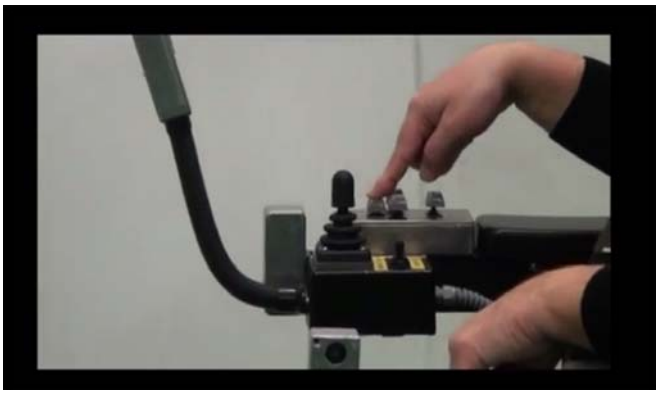
Researchers examined how an older person's walking style changes when going up and down steps and stairs, using modifications to the appearance of both single and multiple steps and then without modifications. They found that the participants did perceive the steps with the added stripe highlighters as taller and increased their foot clearance. The team propose that this finding has great potential as a safety mechanism to prevent older people with poor vision from tripping on stairs and that striped steps should begin to be used in steps and stairs in public settings.

SYSIASS

Many older and disabled people who could benefit from using a powered wheelchair lack

the necessary strength, cognitive ability or dexterity to operate a joystick control effectively and safely. Sysiass researchers propose that technology such as GPS location systems to aid navigation, sensors which detect obstacles and alternative methods for accessing motor controls could make using a powered wheelchair easier for this group of people. The aim of this Anglo-French project, funded by the EU Interreg programme and undertaken between December 2010 and December 2013 (extended to June 2014), was to develop an intelligent module for supported and hands-free guidance of a wheelchair and to exploit the capability of such a system for additional capability, such as monitoring of health status. A number of approaches were used by partners.

One of the UK partners, the University of Essex in the UK, fitted out a commercially available wheelchair with a human-machine interface (HMI) and multiple sensors and embedded computers. Three head movements and two facial expressions were used to give the commands of: ‘going forward’, ‘turning right’, ‘turning left’, ‘stopping’ and ‘going backward’. Facial expressions employed in the HMI for executing commands can be personalised, so that the user can choose the expressions that they prefer. The team have also recently demonstrated the capacity of the system to avoid obstacles in order to enable clearance through doorways and preventing collision with the walls along narrow corridors, while the user maintains pressure on the forward button only.



The team report that experimental results with able bodied volunteers have proved that this approach can enable safe and reliable control of a powered wheelchair. However, the system that employs the human-machine interface is not accurate and robust enough for commercial exploitation due to the limitations of the sensors that were used. Future work will address this issue and the team will undertake testing of various Sysiass wheelchair components with more participants.

Information at hand

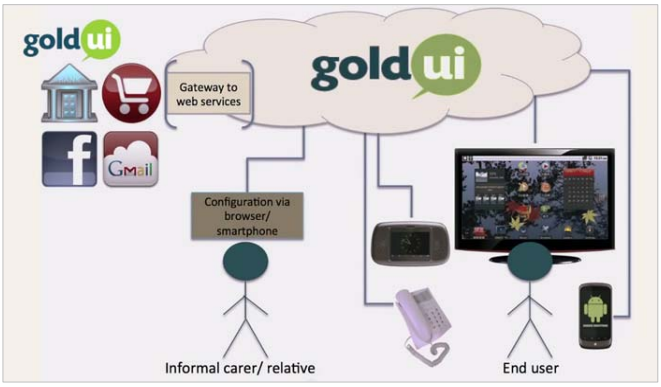
A significant level of research has been undertaken in UK and EU to ensure disabled and older people can be supported to live independently using assistive digital services, even if they is unfamiliar to the user. Employing complex, emerging communication and information management technologies these services seek to present intuitive, simple interfaces which will be easily adopted by older people or those unconfident with computers.

GoldUI

The GoldUI project ran between July 2011 and July 2013 with funding provided by the EU AAL and the TSB. It aimed to empower older people aged 70-85 to use the internet either via familiar mainstream technologies or through providing simplified interfaces for tablet computers and smart phones.

The project team, which included XIM Ltd in the UK and organisations from Spain and Italy, has developed an interface that can be personalised to automatically adjust the appearance of websites, their navigation, sound and function in order to accommodate an individual's eyesight, hearing and mobility as they evolve over time.

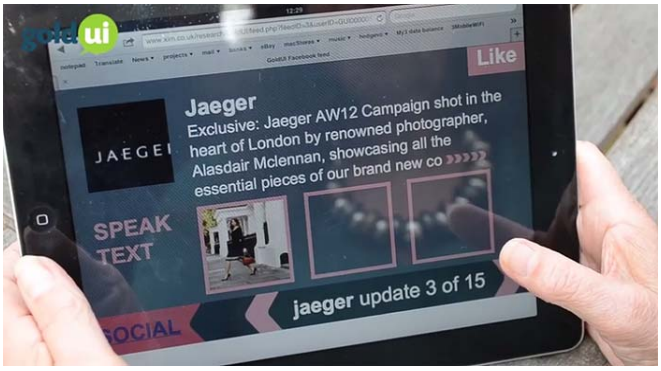
This set of preferred adjustments is termed a user profile and the GoldUI team used cloud-based storage of the profile to enable it to be applied to multiple technology formats and applications wherever and whenever needed. Remote, secure storage enables trusted younger relatives and carers to maintain and adjust the profile on behalf, or with, the user.



GoldUI provides a simple, clear, customised interface using familiar home devices, such as a bedside radio, television or telephone as well as tablet computers and smartphones.

The GoldUI interface links to mainstream services such as Gmail and Facebook and to services developed by the project that support users to check social media, be reminded about appointments, buy their regular groceries or fashion or even review their bank balance.

There is currently no information available about how the partners intend to make GoldUI commercially available to the public.



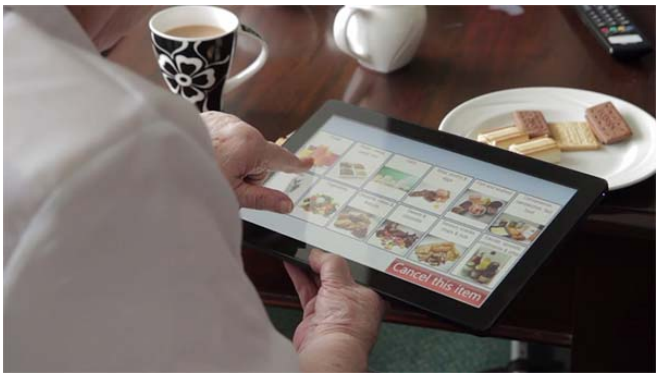
NANA

Current figures suggest that one in four older people are likely to be malnourished. Malnutrition in older people is closely linked to physical frailty and may be due to a range of factors including impaired physical function, such as problems with chewing and swallowing or reduced mobility; mental health factors such as depression or social isolation; and cognitive factors such as dementia or other neurological illnesses. To understand what may be the cause of the problem, older people are often asked to record their food intake in paper diaries.

The Nana project, which ran between March 2009 and June 2013, was funded by the ESRC and New Dynamics of Aging (NDA) to identify an integrated assessment approach that covers food intake, activity and mood. The team, led by researchers from the University of Sheffield, worked with older people, caregivers and health professionals to establish what technology enabled approaches to tackling this issue would be useful and acceptable.

The Nana team have created an online toolkit with a simple interface to enable the daily recording of food, mood and cognitive function. To develop and evaluate the toolkit the research team worked with over 400 older people, plus staff in health and social care services in two UK evaluation sites.

The toolkit was installed on touch screen tablet computers and the older participants were asked to use it on a daily basis. The information submitted by participants was transmitted online for remote monitoring and for evaluation by the research team.



Key findings from the evaluation were that older people are comfortable recording what they eat and drink and their mood, will complete cognitive measures and record their physical activity and to do this using new technology on a daily basis.

MobileSage

Many older people, including those with vision, mobility and memory impairments, wish to remain active and travel, even if they may be unconfident about finding their way around unfamiliar transport systems and with using new ticketing technologies.

The MobileSage project, which ran between July 2011 and March 2014, has provided older people with context-sensitive, personalised and location-sensitive guidance to allow them to carry out and solve every day travel tasks at the point they are needed, 'just-in-time'. The MobileSage project was funded by EU Ambient Assisted Living (AAL) and involved the University of Ulster with partners from Norway, Romania and Spain.

The MobileSage services are installed on a mobile phone and employ geographical positioning system (GPS) data, wireless communication (WLAN), mobile phone communication (GSM/GPRS), Near Field Communication (NFC) and Quick Response barcode (QR) codes to identify context relevant information in the locality.

Cloud storage of the user profile ensures information is presented when required, in the language and format required, as well as supporting the storage and application of content relating to geography and help guidance. These are brought together for personalised presentation to the user on the mobile phone.

Examples of how this service might be used by an individual include searching for information on local landmarks or buildings, such as the Eiffel Tower, and having a spoken description delivered in the user's preferred language. Guidance can be provided on the nearest underground station and on the line required to reach a destination.

Technologies such as NFC can be used to scan the ticketing technologies in use by the transport system to enable the system to select the appropriate 'help' content, such as a video guide on how to use the machine.

Scanning the barcode on a poster about an exhibition can enable the presentation of information on the show. Carers can also contribute help content that is personalised and locally relevant content for an individual.

Following evaluation and design improvements carried out in 2013 a second version of the MobileSage Help-on-Demand service was released and trialled in 2013. Beta versions of the service, for Samsung and Android smart phones, and the content management system (CMS) have been made available for download from the project website. The website also provides video clips demonstrating how the system works, and reports on the range of activities undertaken by the project, such as establishing users' requirements for the system.

The project was nominated as one of the three finalists for EU AAL 2013 Award. The MobileSage partners have undertaken business modelling activity but there is no information currently on how the partners wish to exploit the learning and services developed through the project.

Commissioning transformed services

To conclude this year's look at some of the projects reporting over the year, it is possible to celebrate a success story. Based on work undertaken by professionals and with support from Ministers and government departments, a project concluding this year marks the transformation of specialised services for augmentative and alternative communication aids (AAC) from one of the most overlooked and poorly funded of AT services to a position of parity with other services.

The 2008 Bercow Review of communication services for children and young people with speech and language difficulties concluded that these services 'face a particular struggle to have their needs met under the current commissioning arrangements' and that there was no consistent or equitable system for ensuring that those who need augmentative and alternative communication aids (AAC) receive them. The Review recommended a 'hub and spoke' model for AAC services, whereby local services would be supported by specialist regional centres. This recommendation was supported by subsequent reports by the Communication Champion (OCC) who in 2011 published a specification for a model for specialised AAC service delivery alongside a recommendation that the Government fund the model.

The Department for Education (DfE) has provided funding to schools and local authorities to provide communication aids for children and young people in education. In 2012 the DfE provided funding for AAC organisations to work collaboratively to identify how the OCC specification could be implemented. The proposals that were to be developed had to accommodate and support the transition to commissioning arrangements that would be implemented by NHS England from April 2014.

The Future of AAC Services in England

AAC service organisations from education, health and the 3rd sector in four regions in England and Wales (the North, London, Midlands and East, and South) identified a number of issues on which the sector had to undertake further work in order to develop the model for specialised services.

One objective was to map local and specialised AAC services and to gather information on the components of service that they provide. Detailed information on 242 AAC services was mapped, making this the largest such survey conducted in England and Wales.

Of the service components identified in the OCC report as required to be delivered by a specialised services, most reported that those least often delivered were custom manufacture; equipment customisation; research and development; replacement of equipment during repair; maintenance of equipment and repair of equipment. The conclusion of this activity was that the capacity of the future specialised services to provide technical expertise and advanced

technical services may need to be supplemented through collaboration with device suppliers.

The challenge for the services when considering how to implement a hub and spoke model, with close inter-dependency between local and specialised services, was to ensure the care pathway enabled organisations to refer people to the appropriate service and that neither local nor specialised services failed to fulfil their respective responsibilities. Based on existing literature, the OCC report had identified a requirement for specialised AAC services as relevant to 0.5% of the population. The mapping exercise undertaken by the project confirmed this estimate. The care pathway proposed by the OCC report required that 90% of adults and children requiring AAC would be dealt with solely at a local level, and that 10% of the AAC population will require a referral to specialised AAC services for a high tech or specialist AAC intervention, returning to local services for vital implementation and support.

Almost 2,000 people were identified as having an unmet AAC need, with about 500 of these requiring powered communication aids. 49% of services said that currently they did not refer people onwards who do not use, but could use AAC.

The OCC Report had also recommended that a national database was established to: collate information on the population that use AAC; for monitoring of care pathway compliance by services; to aid communication between local and specialised services; and as the basis for future research and service improvement. Activity was undertaken in the project to identify the 26 data groups that would be required.

One issue that was challenging for organisations to address was the potential procurement approaches that could be used to ensure the provision of specialised AAC services on temporary or permanent loan to clients. Survey work identified that most services (66%) did not provide powered communication aids on a long term basis from their service budget. 16% of services responded that they had no access to a loan bank of equipment. Around £800,000 was

identified as being spent on equipment in the previous 12 months.

The project partners identified that the procurement and supply of AAC has developed in an uncoordinated and ad hoc approach with most procurement activity focused on how funding can be achieved, with little consideration of cost effective procurement approaches. Researchers proposed a number of models including: a single national procurement centre; a sub-set of centres to procure on behalf of all specialist centres; or that all specialist centres procure for their own needs.

One of the recommendations in the OCC report was that future services should undertake a level of remote delivery of AAC services in order to support local services, and to undertake in-school and at home assessments. Detailed findings from the group investigating this issue are reported, including high levels of awareness of the use of remote access and videoconferencing tools amongst service providers, with 70% having used remote access technology personally or at an organisation level. Importantly the majority of AAC service users report being happy or comfortable with the remote delivery of AAC services.

In order to support the capacity of local teams and to manage referrals appropriately, the OCC Report recommended that specialist centres are funded to provide training to local services. In response to a survey of 187 services 80% indicated they provide some form of AAC-related training to speech and language therapists, teachers, and care assistants, most commonly at an introductory level.

As a result of the activities described in this report the AAC community note that they are better informed and engaged in the development of new service models and that the issues have a higher profile in the public domain than ever before. The report can be downloaded from the Communications Matters website.

These findings were used to make the case for the £15m that was subsequently provided by NHS England for specialised AAC services in March 2014 and to inform the development of draft service specifications for Specialised AAC Services in England which will be commissioned by NHS England. It is these specifications against which the services will be measured once they are ratified in October 2014. The services will be working towards these service specifications from April 2014.

Annex A: Complete listing of AT research and development activity 2013-14

Glossary of acronyms for funders:

AHRC	Arts & Humanities Research Council
CSO	Chief Scientist Office
DH and Wellcome HIC	Department of Health and Wellcome Health Innovation Challenge Fund
DH Innovation & Excellence	Department of Health Innovation, Excellence and Strategic Development Fund
EPSRC	Engineering and Physical Sciences Research Council
EPSRC IRC	EPSRC Interdisciplinary Research Collaboration
EPSRC KESS	EPSRC Knowledge Economy Skills Scholarship
EPSRC NST	Natural Speech Technology Platform Programme Grant
ESRC	Economic and Social Research Council
EU AAL	European Union Ambient Assisted Living Joint Programme
EU CIP	European Union Competitiveness and Innovation Framework Programme
EU COST	European Cooperation in Science and Technology
EU FP7	European Union Framework Programme 7
EU Health Programme	European Union Health Programme
EU LLP	European Union Lifelong Learning Programme
EU ICT PSP	European Union ICT Policy Support Programme
EU Interreg	European Union Inter-Regional Programme (various regional collaborations). Financed by the European Regional Development Fund
EU Marie Curie	European Union Marie Curie Programme
EU Northern Periphery	European Union Northern Periphery Programme
LLHW	Lifelong Health and Wellbeing. A collaboration between Arts and Humanities Research Council (AHRC), Biotechnology and Biological Sciences Research Council (BBSRC), Engineering and Physical Sciences Research Council (EPSRC), Economic and Social Research Council (ESRC), Medical Research Council (MRC). UK Health Department partners are: Chief Scientist Office of the Scottish Government Health Directorates, Department of Health/ National Institute for Health Research England, Health and Social Care Research & Development Office, Northern Ireland, Wales Office of Research and Development for Health and Social Care, Welsh Assembly Government.
MRC	Medical Research Council
NIHR	National Institute for Health Research
NIHR Applied Research	NIHR Applied Research
NIHR EME	NIHR Efficacy and Mechanism Evaluation programme
NIHR HTA	NIHR Health Technology Assessment programme
NIHR HTD	NIHR Health Technology Devices programme
NIHR i4i	NIHR Invention for Innovation programme

NIHR PGAR	NIHR Programme Grant for Applied Research
NIHR RfPB	NIHR Research for Patient Benefit
RCUK Digital Economy	Research Councils UK Digital Economy Programme
TSB	Technology Strategy Board
TSB ALIP	TSB Assisted Living Innovation Platform
TSB ALIP dallas	TSB Delivering Assisted Living Lifestyles at Scale Programme
TSB CR&D	TSB Collaborative research and development
TSB SBRI	TSB Small Business Research Initiative
TSB SMART	TSB SMART

Note on funding amounts:

Project funding amounts provided in the following table are those sums contributed by the respective funding organisation. The total amount of funding may be greater than this sum, as participating organisations may be required to contribute a percentage of the total costs themselves.

Full information is available from FAST's publicly available database of assistive technology research and development at www.fastuk.org.

Project title Organisation(s) Contacts Funding	Project summary	Start and finish dates
A Large-Scale Predictive Musculoskeletal Model to Simulate Human Walking **Research lead:** School of Mechanical, Aerospace and Civil Engineering, University of Manchester **Partners:** Chas A Blatchford and Sons Ltd; Robert Jones and Agnes Hunt Orthopaedic Hospital NHS Foundation Trust **Contact:** 0161 306 9200 **Funder:** EPSRC **Amount:** £99,995	The project is developing a novel computer software model to predict human walking which can be used to improve the design of artificial legs (prosthetics) and other mobility equipment. To investigate how the stability of walking changes with increasing surface roughness, a simple 2D model was used to simulate a person walking downwards on a rough slope surface. Results show that the number of steps the model took before falling decreases exponentially with the increase in surface roughness. The simulated walker fell when it the stride length reached 0.73% of the walker's leg length. The model's use for gait (walking) analysis is being investigated for exploitation. Link to more information on FAST website	26/3/2012 05/1/2014
AALIANCE2 **Research lead:** Tunstall Group Ltd **Partners:** from Germany, Italy, Spain, Belgium, The Netherlands **Contact:** 01977 660 562 **Funder:** European Commission FP7 **Amount:** €1,457,032	This support action network initiative has co-ordinated activity related to telecare and telehealth acros Europe. The project has built consensus on current research priorities and documented these in a Roadmap and Strategic Research Agenda. A market and business analysis has been undertaken and the partners aim to draw together recommendations for overcoming market barriers. Preliminary versions of documents have been made available for expert and public comment and final versions will be made available following the concluding conference in summer 2014. Link to more information on FAST website	01/10/2011 31/3/2014
AAL-WELL **Research lead:** CATCH, University of Sheffield **Partners:** from Canada, Sweden **Contact:** 0114 222 5454 **Funder:** ESRC **Amount:** £144,951	The project will harness the potential of ambient assistive living (AAL) technology to promote active and healthy aging for older people with mild cognitive impairment. To date the first round of stakeholder interviews have been completed by partners from Sweden, the UK and Canada. Work is progressing on developing methods for enabling devices from a range of manufacturers to work together to create an integrated system in the home. Link to more information on FAST website	22/4/2013 21/4/2016

Project title Organisation(s) Contacts Funding	Project summary	Start and finish dates
AAPELE **Research lead:** Robotics Research Group, University of Oxford **Partners:** Lancaster University; partners from 26 EU countries / regions **Contact:** 01865 273 000 **Funder:** EU COST **Amount:** Not disclosed	A challenge that is facing the telecare and telehealth sector is that there are a diverse range of products and systems that do not work together. This lack of interoperability causes problems for gathering data from the home. The project intends to design and deploy an assisted living system that will create more efficient ways to process large amounts of data. The project will also develop research protocols for this technology area. Link to more information on FAST website	23/7/2013 15/5/2017
ABLES **Research lead:** Dolphin Computer Access **Contact:** 01905 754 577 **Funder:** TSB SBRI **Amount:** £165,029	Mobile computing devices, such as smart phones and tablets, can be difficult to use by people who have accessibility needs. A new generation of accessibility software is required for mobile and consumer devices. The project team has built a tablet-based proof of concept demonstrator, based on Guide software, which enables the system to be controlled through gesture. Service and business models have also been proposed to identify how to develop a sustainable market for these accessible products. Link to more information on FAST website	01/8/2013 31/1/2014
ACCOMPANY **Research lead:** Adaptive Systems Research Group, University of Hertfordshire **Partners:** University of Birmingham; partners from Italy, France, The Netherlands, Germany **Contact:** 01707 284 000 **Funder:** EU FP7 **Amount:** €4,830,000	The aim of this project is to develop a robotic companion capable of providing a range of services to older people. A state of the art service robot platform, Care-O-bot 3, is being used as the robot demonstrator for the project. During this second year of the project activity has focused on understanding the social and empathic interaction between people and robots, how to enable learning and recall in the robot system and how to use the robot to perform environment and activity monitoring. Link to more information on FAST website	01/10/2011 30/9/2014
ACT **Research lead:** NHS 24 Scotland **Partners:** from The Netherlands, Germany, Greece and Spain **Contact:** 0141 337 4501 **Funder:** EU Health Programme **Amount:** €1,596,383	Though the potential of telehealth services has been widely recognised these technology services have not yet progressed substantially beyond pilots and test installations. The ACT programme will learn from five European regions and create a best practice 'cookbook' to ensure that the findings can be replicated in other EU regions. Examination of service provision in Scotland, Groningen, Lombardia, Catalonia and Basque country has taken place over 2014. Link to more information on FAST website	01/2/2013 31/7/2015

Project title Organisation(s) Contacts Funding	Project summary	Start and finish dates
ADDFACTOR **Research lead:** Peacocks Medical Group Ltd **Partners:** from Netherlands, Spain, Switzerland, Italy, Belgium, Slovenia, Denmark, Germany **Contact:** 0191 276 9600 **Funder:** EU FP7 **Amount:** €8,933,063	The technical processes that support the global production of goods can present challenges and opportunities for manufacturers who wish to provide bespoke or customised products. This affects orthotic components as much as high-end fashion shoes. The project proposes that the mini-factories concept, which is founded on central knowledge-based design and locally distributed mini-manufacturing, may offer the opportunity to produce low cost, highly bespoke orthotic products. The project will develop diagnostic devices and design tools in order to create an individual product specification, which can then be manufactured locally and rapidly. Link to more information on FAST website	01/9/2013 31/8/2016
Advanced FES rehabilitation tool for upper limb therapy after stroke **Research lead:** School of Computing, Science and Engineering, University of Salford **Partners:** National Clinical FES Centre, University of Leeds; Woodend Hospital; University of Salford **Contact:** 0161 295 5986 **Funder:** NIHR i4i **Amount:** £470,553	After having a stroke, many people cannot use their affected hand and arm, significantly impacting on their quality of life. The aim of this project was to create a Functional Electrical Stimulation (FES) rehabilitation tool for hand and arm therapy. The project has developed software to make it easy for therapists to set up the FES-supported reach and grasp exercises and the bespoke FES controllers. This not only avoids the need for Clinical Engineers to be involved in set-up and modification, but installation of the software on a lap-top enables therapists to be mobile in the community. To extend the system to support hand opening and grasping, the team have also tested a hybrid system that uses the iPAM rehabilitation robot to support and guide the arm of the FES user. Link to more information on FAST website	01/9/2009 31/5/2013
AFOOT **Research lead:** Stroke and Vascular Research Centre, University of Manchester **Contact:** 0161 306 7614 **Funder:** NIHR RfPB **Amount:** £249,313	For most people a stroke causes a weakness down one side of the body which often makes it difficult to walk. One way to manage this is to use a splint which supports the foot and ankle; an Ankle-Foot Orthosis (AFO). The project is comparing two commonly used types of AFO: a bespoke and an off-the-shelf AFO. A total of 15 research sites across eight NHS Trusts are involved in the trial. Seventy participants have been recruited so far and recruitment will continue to spring 2014, with analysis of data to follow in the autumn. Link to more information on FAST website	01/1/2012 31/12/2014

Project title Organisation(s) Contacts Funding	Project summary	Start and finish dates
A-FOOTPRINT **Research lead:** Institute for Applied Health Research, Glasgow Caledonian University **Partners:** University of Newcastle; partners in the Netherlands, Ireland, Belgium, Latvia, Denmark, Spain **Contact:** 0141 331 3457 **Funder:** EU FP7 **Amount:** €5,310,000	Disabling foot and ankle conditions affect approximately 200 million European citizens. The aim of this project was to develop foot and ankle orthoses which are tailored to an individual's shape and functional needs and which can be ready for use within 48 hours. The project has successfully developed a new orthotic manufacturing system which exploits capability in 3D design, modelling and manufacture. The team report that the system is now fully integrated, incorporating user assessment, design, functional customisation and manufacture of personalised orthoses. Work continues, focusing on further integration of project outcomes. Link to more information on FAST website	01/10/2009 30/9/2013
Airospring AS300 **Research lead:** W. Ball and Sons Ltd (Baltex) **Contact:** 0115 932 2403 **Funder:** TSB SMART **Amount:** £511,006	Pressure ulcers can affect wheelchair users and those immobile in bed for significant periods of time. The project team have developed a material that they propose has potential as a cushion material because it helps to uniformly distribute pressure. The project will develop prototype products for evaluation and testing. Link to more information on FAST website	01/9/2013 31/8/2015
AKTIVE **Research lead:** Centre for International Research on Care, Labour and Equalities, University of Leeds **Partners:** Inventya Ltd; Oxford Institute of Population Ageing; Tunstall Group Ltd **Contact:** 0113 343 5003 **Funder:** TSB ALIP, ESRC **Amount:** £1,039,611	The project sought to find ways to support older people to live independently using telecare services. Based on a literature review, interviews and focus groups with stakeholders, the team have set out their findings and used these to develop a new fall detector called 'iVi'. This is an intelligent pendant alarm which can alert carers or a monitoring station if it is not being worn and can be adjusted in sensitivity depending on the wearer's lifestyle and activities. It can be worn around the neck, as a brooch or clipped to a belt. The AKTIVE final conference took place at the University of Leeds in April 2014 to disseminate the outcomes of the project. Link to more information on FAST website	01/6/2011 31/5/2014

Project title Organisation(s) Contacts Funding	Project summary	Start and finish dates
ALICE **Research lead:** Screenreader.net CIC **Partners:** partners from Slovenia, Spain, France **Contact:** 01733 234 441 **Funder:** EU AAL **Amount:** €1,797,253	People with impaired visual understanding (visual cognition) encounter problems moving within their environment and have difficulties with planning, orientation, communication and navigational skills. The Alice team are developing a computer-based navigational assistant that will be able to offer users a real-time interpretation of the environment. The team have developed a system capable of visual capture, landmark recognition and annotation of accessible maps. Work to develop an appropriate interface has been undertaken and evaluation is underway. Link to more information on FAST website	01/6/2012 30/11/2014
ALMA **Research lead:** VCA Technology Ltd **Partners:** from Switzerland, Italy, Germany **Contact:** 020 8335 9151 **Funder:** EU AAL **Amount:** €2,997,526	The objective of Alma is to support independent travel for people with cognitive or mobility impairments. The project is developing a system composed of a number of different modules including: an indoor localisation system based on a network of low-cost/ low-power radio frequency emitters; networked smart cameras; a system for online planning and scheduling of users' paths and activities; a personal mobility kit for powered wheelchairs; and a personal navigation assistant, providing a user-friendly interface to the Alma system. Link to more information on FAST website	02/4/2013 01/4/2016
AlterEgo **Research lead:** Dept of Engineering Mathematics, University of Bristol **Partners:** from France, Germany, Switzerland **Contact:** 0117 331 5632 **Funder:** EU ICT PSP **Amount:** €3,834,911	Mental health conditions, including schizophrenia, autism and social phobia, are characterised by difficulties in social interaction. The AlterEgo project aims to develop and test a rehabilitation method to improve social relationships, using humanoid robots and virtual reality. The team propose that it is easier to socially interact with someone who looks, behaves or moves like us. The project is developing an avatar (a virtual agent) and a humanoid robot (European iCub robot) to manipulate the similarity in social interaction between users and the artificial agent. Link to more information on FAST website	01/2/2013 31/1/2016

Project title Organisation(s) Contacts Funding	Project summary	Start and finish dates
AMPERE **Research lead:** Accessibility Research Group, University College London **Contact:** 020 7679 7009 **Funder:** EU FP7 **Amount:** £2,140,430	The Pamela laboratory facility was developed to provide controlled conditions in which interactions between pedestrians and the pedestrian environment can be studied. Ampere has added 15 modules to the Pamela facility which has reduced the time taken to create major adjustments and reconfigurations of the laboratory from hours to minutes. The project has increased the capacity of the Pamela facilities by more than 50%. Ampere also includes an AccessGrid node which provides researchers from all over the world with improved communication with the facility when engaged in designing and running experiments remotely. Link to more information on FAST website	01/10/2008 30/9/2013
APSIS4all **Research lead:** John Gill Technology Ltd **Partners:** AbilityNet, partners in Spain, Austria, France, Germany, Greece **Contact:** 07590 982 732 **Funder:** EU CIP **Amount:** €6,800,000	Disabled and older people can face substantial problems when trying to use public digital terminals, such as kiosks selling tickets, bank ATMs or information resources. The aim of this project is to personalise publicly sited digital terminals to meet people's varying needs. The team report that they have tested two ATMs, deployed in Madrid and Barcelona, and 24 Ticket Vending Machines in the city of Paderborn in Germany. The systems were presented at a final project conference in Madrid in March 2014 and a YouTube video is available from the website. Link to more information on FAST website	01/4/2011 31/3/2014
APTMAP **Research lead:** Dept of Electronic and Electrical Engineering, University of Strathclyde **Partners:** Touch Bionics Ltd **Contact:** 0141 548 2097 **Funder:** TSB SBRI **Amount:** £770,972	Robotic prosthetics, that use signals from muscles and the brain, offer people who have had an arm amputated the ability to regain a level of hand function. The project will produce a brain-machine interface (BMI) software and hardware solution that will combine a fully independent, five finger prosthesis with advanced muscle signal controls. The aim is that this will provide the user with intuitive hand function. Work is reported as on schedule. Link to more information on FAST website	01/1/2013 30/6/2015

Project title Organisation(s) Contacts Funding	Project summary	Start and finish dates
ARGUS **Research lead:** The 425 Company **Partners:** from Spain, Germany, Austria **Contact:** 023 9263 2425 **Funder:** EU FP7 **Amount:** €2,638,898	Visually disabled people need a reliable way to travel independently. The Argus terminal guides visually impaired users along pre-defined tracks using acoustic and haptic (touch) feedback. A proof of concept prototype was reported as successfully implemented during the summer of 2012 and tested in Paderborn (Germany). User participant tests took place in 2013 at five different EU locations, including with two blind participants in Southsea in the UK. This small scale test aimed to test the acoustic module. The results showed some system weakness in terms of spatial perception. Ways to reinforce those aspects in the final system are being considered for implementation of the final prototype. The team report that individual hardware and software module of the system have been developed and integrated, with tests continuing in Germany. Link to more information on FAST website	01/10/2011 30/6/2014
Assessing and Suppressing Upper Limb Tremor to enable independence **Research lead:** Bristol and Avon Multiple Sclerosis Centre **Contact:** 0117 928 7741 **Funder:** NIHR i4i **Amount:** £426,238	People with Parkinson's Disease experience tremor in their arms and hands which can be debilitating. The project aims to develop an orthotic device which will reduce or 'damp down' tremor movements while leaving functional movements (such as reaching and grasping) intact. A prototype orthosis incorporating an adjustable tremor suppression device has been developed and will be tested with people with Parkinson's Disease in 2014. Link to more information on FAST website	01/8/2011 31/7/2014
ASSISTANT **Research lead:** Transport and Travel Research Ltd **Partners:** from Spain, Finland, France, Norway, Austria **Contact:** 01543 416 416 **Funder:** EU AAL **Amount:** €1,410,848	The Assistant project intends to maintain the mobility of older people in Europe, by helping them to travel safely and independently by public transport. Assistant will be accessed using a home computer and a mobile phone and will provide relevant information, using visual, audible and haptic (touch) cues. The project has interviewed older people to identify their mobility concerns and to create several "mock-up" services that would meet these needs. The team are currently designing interfaces for smart phones that will undergo field trials in 2014. Link to more information on FAST website	01/6/2012 31/5/2015

Project title Organisation(s) Contacts Funding	Project summary	Start and finish dates
ATHENE **Research lead:** Institute of Health Sciences Education at Barts and The London School of Medicine and Dentistry **Partners:** Newham University NHS Trust; Tynetec Ltd; SEHTA; University of Warwick, **Contact:** 020 7882 7326 **Funder:** TSB ALIP, ESRC **Amount:** £574,571	The Atene project aimed to support the development of large-scale markets for telecare and telehealth by studying the requirements of older people and using this information to provide guidance in user-centred design of products and services. The research team visited 40 study participants aged 60-98 at home on several occasions and, using ethnographic methods, they built a detailed picture of their lives and use (or non-use) of technologies. Researchers found that current technologies met few of the participants' needs; some devices had been abandoned and a few deliberately disabled. Successful technology arrangements were often characterised by 'bricolage' (pragmatic customisation, sometimes combining new and legacy devices) by the participant or carer. Link to more information on FAST website	01/9/2011 31/8/2013
ATIS4all **Research lead:** OpenDirective LLP **Partners:** from Spain, Czech Republic, Denmark, Austria and Greece. **Contact:** 01392 214 300 **Funder:** EU CIP **Amount:** £590,000	Disabled and older people across Europe continue to experience barriers to using ICT products and services. The project builds on the current ETNA project findings and on a previous web portal for a wide range of assistive technology, Eastin. The portal allows access to information about this range of products and services as well as information on research activity. The 'marketplace' section features relevant standards and good practice documents from across Europe. Link to more information on FAST website	01/1/2011 31/12/2013
ATTILA Trial **Research lead:** Institute of Psychiatry, King's College London **Contact:** 020 7848 1000 **Funder:** NIHR HTA **Amount:** £1,801,834	There are approximately 700,000 people with dementia in the UK, many of whom will require nursing or a residential care. Telecare appears to offer a way to reduce the risks associated with reducing memory and capacity for orientation. The project aims to gather evidence of the impact of telecare for people with dementia, assessed by the length of time that individuals are supported to live independently at home. Participant recruitment started in August 2013 and will continue until June 2015, with a follow-up period of two years. The team report that analysis and dissemination should be complete by the end of 2017. Link to more information on FAST website	01/1/2013 30/6/2018

Project title Organisation(s) Contacts Funding	Project summary	Start and finish dates
Backhome **Research lead:** Telehealth Solutions Ltd **Partners:** The Cedar Foundation; partners from Spain, Austria, Germany **Contact:** 01923 209 860 **Funder:** EU FP7 **Amount:** €4,186,248	Brain-Neural Computer Interfaces (BNCI) have the potential to support disabled people to communicate, use the internet and use environmental controls. The team report that a Backhome BNCI prototype has been developed and is being tested by participants who have brain injuries. The prototype enables participants to control their environment (lights, television, heating, etc.) and also to interact online using a mainstream computer accessed via the Backhome interface. Feedback from these trials will shape developments of the Backhome system. Link to more information on FAST website	01/1/2012 30/6/2015
BALANCE **Research lead:** Dept of Bioengineering, Imperial College London **Partners:** from Spain, the Netherlands, Switzerland, France, Germany **Contact:** 020 7594 5179 **Funder:** EU ICT PSP **Amount:** €4,734,795	Available exoskeletons (external splints and supports) lack the ability to correct or assist postural balance and, due to size, weight and poor design of controls, they often impede balance. The project seeks to understand how postural control functions and to use this knowledge to design an exoskeleton that is able to mimic and enhance postural control in a minimally obtrusive manner. The project members report that they have demonstrated a full-body prototype exoskeleton named EMY, which is intended to make it possible for people with quadriplegia to walk independently. Feedback from these trials is shaping design refinements. The aim is that the system will ultimately be controlled by a brain computer interface. Project members will run two workshops on exoskeletons and wearable robotics in 2014. Link to more information on FAST website	01/1/2013 31/12/2016
Basic Prototype Robotic Manipulator for Rehabilitation **Research lead:** Oxford Technologies Ltd **Contact:** 01235 522 119 **Funder:** TSB SBRI **Amount:** £62,797	The Stroke Association note that 45,000 stroke survivors each year require rehabilitation to regain movement. Research studies have identified potential benefits from using robotic devices to deliver this motor skill rehabilitation but previous attempts to move from a prototype stage to commercial exploitation have failed. The project are modifying a robotic technology often used for direct human-interaction, the Dexter core 'dexterous manipulator', to create a prototype with a greater chance of commercialisation. Link to more information on FAST website	01/11/2012 30/9/2013

Project title Organisation(s) Contacts Funding	Project summary	Start and finish dates
BESiDE **Research lead:** School of Computing, University of Dundee **Partners:** Departments at the University of Dundee **Contact:** 01382 385 597 **Funder:** EPSRC **Amount:** £1,301,189	With an aging population there is an increasing demand for cost-effective and high quality care homes. There is currently little known about the factors in the built environment of care homes that contribute to supporting older people to live healthy and fulfilling lives. The project will seek to identify measures in the built environment that can mitigate problems and enhance the experience of older people through facilitating physical activity. Link to more information on FAST website	01/10/2013 30/9/2016
Big CACTUS **Research lead:** School of Health and Related Research, University of Sheffield **Contact:** 0114 222 5454 **Funder:** NIHR HTA **Amount:** £1,466,779	Aphasia is a communication disorder often caused by stroke. It affects the ability to understand, talk, read and write. Speech and language therapy is usually only offered for the first few months after stroke during which many people are unwell and tired. The project aims to provide definitive evidence of the clinical and cost effectiveness of targeted, intensive speech and language therapy intervention delivered through self-managed computer exercise. Link to more information on FAST website	01/1/2014 30/6/2018
Biomimetic, Self Tuning, Fully Adaptable Smart Lower Limb Prosthetics with Energy Recovery **Research lead:** School of Mechanical Engineering, University of Leeds **Partners:** University of Leeds **Contact:** 0113 343 2186 **Funder:** EPSRC **Amount:** £618,676	Every year thousands of people lose a lower limb through accident or illness. Currently lower limb prostheses fall into three groups; passive, actively controlled or actively powered. Controlled and powered prostheses do not take into consideration the dynamic interaction of the prosthesis with the body. The project will develop a new lower limb prosthesis using sensors to measure the dynamics of walking. The prostheses should self tune to the walking situation (level, slopes and stairs) to optimise performance for each user. During walking the prosthetic limb will switch between generating and using energy, prolonging battery life. There is currently no information available on the progress of this project. Link to more information on FAST website	01/4/2013 31/3/2016

Project title Organisation(s) Contacts Funding	Project summary	Start and finish dates
Brain-Computer Interface for Monitoring and Inducing Affective States **Research lead:** School of Systems Engineering, Reading University **Partners:** University of Plymouth **Contact:** 0118 378 8617 **Funder:** EPSRC **Amount:** £876,103	The project team will build a Brain Computer Interface (BCI) system that can monitor an individual's emotions and then modify them automatically via music. Researchers propose that such an interface could be used for treatment of mood disorders such as depression. The team report that they are piloting a system that can monitor emotional states and, in combination with a database of music, generate sounds that can alter emotions. Link to more information on FAST website	01/5/2012 01/5/2016
Bravehealth **Research lead:** School of Electronics and Computer Science, University of Southampton **Partners:** University of Hull **Contact:** 023 8059 5000 **Funder:** EU FP7 **Amount:** €10,382,905	People who have cardiovascular disease often require close monitoring to ensure their condition does not worsen. The project aims to develop a wearable sensor which can gather an individual's health data and transmit this information to a central supervision unit where it can be assessed. Researchers at the University of Hull have worked on an experimental study to analyse the performance of a cardiovascular monitoring system specifically designed for the project. By making modifications to existing products and technical solutions the team report that they have achieved a flexible, scalable and efficient system which is able to cope with different medical scenarios. Link to more information on FAST website	01/3/2010 28/2/2014
BREATHE **Research lead:** Designability **Partners:** from Spain, Ireland **Contact:** 01225 824 103 **Funder:** EU AAL **Amount:** €2,051,361	Family carers provide 80% of care for people with long-term conditions across Europe. There are a number of problems that informal carers face, including a lack of experience and formal education in care and the need to manage a potential cycle of stress and depression. In order to minimise these problems the project will develop an ICT-based support service for older people and their carers. The team have completed a survey of carers to understand their requirements for such a service. Findings from this study will support the next stage of the project when the team aim to develop the ICT applications and services. Link to more information on FAST website	01/5/2013 30/4/2016

Project title Organisation(s) Contacts Funding	Project summary	Start and finish dates
CARE@HOME **Research lead:** Healthcare over Internet Protocol CIC **Partners:** from The Netherlands, Romania, Luxembourg **Contact:** am@hoip.eu **Funder:** EU AAL **Amount:** €3,907,881	Care@Home aims to provide wellness and social care services to older people using IP-enabled TV. The project is developing a software platform on which to run a number of telecare services. The project members have agreed the platform's architecture, its functions and the sensors to be used. The project is no longer aiming to provide health data through the platform, focusing on gathering subjective information, such as the individual's mood, to be made available to care services. The Care@Home platform and portals are under development and user testing has begun. Link to more information on FAST website	21/11/2011 20/11/2014
Carer+ **Research lead:** King's Learning Institute, King's College London **Partners:** Arcola Research Ltd; partners from France, Austria, Belgium, Italy, Latvia, Romania, Sweden, Hungary **Contact:** 0207 848 3905 **Funder:** EU ICT PSP **Amount:** €3,970,000	The aim of this project is to develop the digital competence of care workers and older people in order to exploit the use of assisted living technologies such as telecare and telehealth.. The aim is to develop a European-wide competency framework and training and certification in digital skills. Older people have been engaged in the training process and the team report that a stakeholder review panel has met to review the competence framework. Pilots have been organised in Latvia and France to train carers about digital technologies, with an open call for other organisations to be involved from April 2014. Link to more information on FAST website	01/4/2012 31/3/2015
CARING4U **Research lead:** Faculty of Science, Engineering and Computing , Kingston University **Contact:** 0208 417 9000 **Funder:** EU FP7 **Amount:** €280,180	To address the challenge of an aging population this project proposes that greater knowledge is needed of the daily activities of older people and that this can be gained by gathering visual data from the home. Such an investigation risks breaching individual's right to privacy so the project developed systems to enable behaviour analysis of people in their homes while ensuring their privacy. Different privacy visualisations were implemented including; image blur, pixilation, emboss, solid silhouette and 3D virtual avatar. A survey undertaken at the end of the project indicated that people are more willing to accept cameras at home if these kinds of privacy protection measures are implemented. Link to more information on FAST website	12/12/2011 11/12/2013

Project title Organisation(s) Contacts Funding	Project summary	Start and finish dates
CARRE **Research lead:** Knowledge Media Institute (KMi), Open University **Partners:** University of Bedford, partners from Greece, Lithuania, Poland **Contact:** 01908 653 800 **Funder:** EU ICT PSP **Amount:** €3,210,470	CARRE will focus on how to support people with two or more long-term conditions (co-morbidity) to take an active role in their own care, sharing decision making with their health professionals. The project will focus initially on those people with both heart and kidney conditions (cardio-renal). The project will develop technology-enabled visualisation methods to support people to understand their disease and its progression. These methods will be personalised for each individual. An online survey of cardio-renal patients' understanding of their medical condition and how to get support to self-manage was launched in April 2014. Link to more information on FAST website	01/11/2013 31/10/2016
CASA **Research lead:** SEHTA **Partners:** Kent County Council; NHS 24 Scotland **Partners:** partners from Belgium, the Netherlands, Italy, Denmark, Poland, Spain, Sweden **Contact:** 07905 201 857 **Funder:** EU Interreg IVC **Amount:** €2,489,050	The Casa network brings together 13 regions across Europe to develop joined-up services, policy and practice for the deployment of assistive living (telecare and telehealth) services. Knowledge of best practice is being gained through study visits with policy experts and clinicians from the participating regions. Two study visits have been organised, the first in Veneto (Italy) in December 2013 and in Halland (Sweden) in May 2014. The team report that the next step is to arrange secondments between regions to embed the good practice in service delivery that has been identified from the study visits. Link to more information on FAST website	01/1/2012 31/12/2014
CASSAMOBILE **Research lead:** Loughborough Design School, Loughborough University **Partners:** Peacocks Medical Group Ltd; partners from Germany, Portugal, Switzerland and The Netherlands **Contact:** 01509 226 900 **Funder:** EU FP7 **Amount:** €8,747,873	A number of projects are currently underway looking at the quality and cost benefits of the adoption of novel manufacturing approaches for the provision of bespoke orthotics. The project will test three use cases to explore the costs and benefits of the process including the manufacture of orthotic products. Several partner meetings have taken place to discuss approaches to modernising orthotic and medical equipment. Link to more information on FAST website	01/9/2013 31/8/2016

Project title Organisation(s) Contacts Funding	Project summary	Start and finish dates
CILMI **Research lead:** School of Computing Science, Newcastle University **Partners:** from Italy, Brazil **Contact:** 0191 222 7972 **Funder:** EU FP7 **Amount:** €205,200	The development of smart home systems that employ wearable, portable sensors to gather health data offer people ways to manage their own health. An aim of the project is to enable knowledge exchange between research and teaching disciplines and between the partners. CILMI researchers have created a Personal Health and Lifestyle Engine which will allow people to maintain their own personally held health record and to obtain personalised, lifestyle-related advice. Development of the system is underway and the project partners have continued to organise exchange programs to refine their proposals. Link to more information on FAST website	01/10/2010 31/1/2014
CLOUD4ALL **Research lead:** OpenDirective LLP **Partners:** textHELP Systems Ltd; partners from Spain, Germany, Greece, Italy, Canada, Sweden, Switzerland, The Netherlands, Belgium **Contact:** 01392 214 300 **Funder:** EU FP7 **Amount:** €13,107,981	While technologies exist which will make computer systems more accessible to disabled people, these cannot easily be tailored to users' needs and can be expensive to develop. The project will build on commercially available cloud-based services to develop a system which can deliver accessibility solutions wherever needed to match individuals' requirements. The project now has a comprehensive database of available ICT access solutions to inform people of the kinds of technologies that may help them. Link to more information on FAST website	01/11/2011 31/10/2015
COALAS **Research lead:** School of Computer Science and Electronic Engineering, University of Essex **Partners:** East Kent Hospitals University NHS Foundation Trust; University of Kent; partners from France **Contact:** 01206 872 770 **Funder:** EU Interreg IVA **Amount:** €1,638,632	To project aims to address the challenge of an aging population and to support independent aging at home through the development of technology-enabled services. These services will build on the recent advances in the development of human-like, mobile robots. The services that are being developed include support for mobility and to maintain social inclusion. The project will provide engineering students with the opportunity to learn about the social and technical aspects of robotic support to support independent aging at home. The project partners organised an Assistive Robotics Day which took place in Normandy in May 2014. Link to more information on FAST website	09/11/2012 30/6/2015

Project title Organisation(s) Contacts Funding	Project summary	Start and finish dates
COBALT **Research lead:** Centre for Assistive Technology and Connected Healthcare, University of Sheffield **Partners:** University of Reading; University of Sheffield; Age UK **Contact:** 0114 222 5454 **Funder:** TSB ALIP, ESRC **Amount:** £521,000	The Cobalt project worked with older adults and health and social care staff to examine the barriers to adoption of assisted living technologies. The project ran two ten-week programmes of workshops with older participants, structured around the stages of taking products from concept to market. The result of the workshops is the Cobalt Tools for Engagement, a suite of activities and techniques that facilitate interaction between stakeholder groups and encourage communication between potential users and designers. A paper providing 'Insights into the Adoption of Assisted Living Technology' has been issued. Link to more information on FAST website	01/9/2011 31/8/2013
Co-design of the built environment for mobility in later life **Research lead:** Centre for Housing Policy, University of York **Partners:** University of Newcastle; University of York; University of Leeds; Dept of Computer Science, University of York **Contact:** 01904 321 480 **Funder:** EPSRC **Amount:** £1,249,600	The design of the built environment has a key role to play in enabling or frustrating mobility. However many well-understood mobility barriers remain in place because of budget constraints. Individuals have different mobility needs that cannot always be met by modification of the environment and individual's needs may change over time. The project intends to create a suite of options and tools which may be able to support mobility and wellbeing, and to do so more quickly and affordably than adapting the built environment. Link to more information on FAST website	01/4/2013 31/3/2016
COGWATCH **Research lead:** School of Psychology, University of Birmingham **Partners:** BMT Group Ltd, Headwise; The Stroke Association **Contact:** 0121 414 4932 **Funder:** EU FP7 **Amount:** €4,620,000	People who have had a stroke may experience cognitive problems including apraxia, which causes uncoordinated movement and action disorganisation syndrome. This syndrome affects an individual's ability to undertake step-by-step tasks that require memory and sequencing. The project developed a Personal Healthcare System which uses intelligent tools and objects, portable and wearable devices as well as environmental sensor systems. The team report that there is a need for personalisation of feedback to participants to support them to undertake these tasks. Feedback from healthcare professionals, carers and stroke survivors indicates they are supportive of the efforts to provide ICT-based approaches to rehabilitation. Link to more information on FAST website	01/11/2011 31/10/2014

Project title Organisation(s) Contacts Funding	Project summary	Start and finish dates
CoModal **Research lead:** Health Design and Technology Institute, Coventry University **Partners:** Age UK, Grandparents Plus, Years Ahead, SEHTA **Contact:** 024 7615 8000 **Funder:** TSB ALIP, ESRC **Amount:** £749,469	The project aimed to identify the barriers that have prevented development of the retail market for electronic assisted living products such as telecare and to develop sustainable business models. Researchers performed survey work, interviewing current AT users, those who do not choose to use AT and family members. Prototype business models were tested and refined through workshops with users and industry representatives. Leaflets to raise awareness of technology services will be distributed to 60,000 Age UK members, alongside guidance for commercial organisations to help them understand the needs of older assistive technology consumers. Link to more information on FAST website	01/4/2011 31/3/2014
Compositions for Cochlear Implantees - Follow-On Project **Research lead:** Music Focus Group, University of Southampton **Contact:** 023 8059 3522 **Funder:** AHRC **Amount:** £79,468	Cochlear implant users who wish to listen to music are often dissatisfied with the sounds received through their implant. Researchers have previously developed an 'Interactive Music Awareness Programme' (IMAP) to enable implant users to create, manipulate and play with music. In this follow-on project, the IMAP was developed further into an online resource which is freely available at www.morefrommusic.org. The project has also developed a 'Music workshops for adult cochlear implant users' resource and an annual programme of music workshops at the University of Southampton. Link to more information on FAST website	01/1/2013 01/1/2014
CORBYS **Research lead:** School of Computer Science, University of Hertfordshire **Partners:** departments at University of Hertfordshire; Reading University; partners from Germany, Slovenia, Belgium, Norway, Spain **Contact:** 01707 284 000 **Funder:** EU FP7 **Amount:** €8,755,265	The project is focussing on robotic systems could be used to support a robotic gait (walking) rehabilitation system. The Corbys robotic system combines a mobile platform and a powered orthosis to encourage people to practice walking by anticipating their intentions and adapting to their capabilities. It does this by assessing the physical and mental state of an individual using sensory feedback and detection of cognitive processes via brain-computer interfaces. The prototype rehabilitation robot has now been built and the team are in the process of integrating the various sub-systems. Link to more information on FAST website	01/2/2011 31/1/2015

Project title Organisation(s) Contacts Funding	Project summary	Start and finish dates
CUPID **Research lead:** Oxford Computer Consultants Ltd **Partners:** from Italy, Switzerland, Israel, Belgium, Spain **Contact:** 01865 305 200 **Funder:** EU FP7 **Amount:** €3,500,000	CuPiD aims to promote independence for people with Parkinson's by providing home-based rehabilitation exercises. The CuPiD system will monitor and record each person's exercises and clinicians will be able to supervise their progress remotely, changing the exercise programme to fit an individual's needs. In summer 2013 the team undertook pilot trials for one of the virtual reality games and the related exercise programme (termed exergames) designed to encourage participants to extend their reach and to use their trunks to stabilize themselves. An extended trial of the exergames will be undertaken in 2014 with 40 participants. The trials will include 6 weeks of continuous user training with a follow-up evaluation phase. Link to more information on FAST website	01/10/2011 30/9/2014
CURA-B **Research lead:** Lord Ashcroft International Business School, Anglia Ruskin University**;** **partners from** the Netherlands, Belgium, France **Contact:** 0845 271 3333 **Funder:** EU Interreg IVA **Amount:** €2,700,000	This project aims to improve the delivery of high quality, cost-effective telecare and telehealth through development of a new market approach. The challenge is to ensure businesses, service providers and users all benefit from new market developments. Developments in the UK include a trial of telecare services for people with dementia by Suffolk County Council and the setting up of a pilot 'East of England Assistive Technology Network' to disseminate knowledge around the region. Link to more information on FAST website	01/1/2011 31/3/2014
DALi **Research lead:** Faculty of Life Sciences, University of Northumbria **Partners:** from Italy, Spain, Greece, France, Austria **Contact:** 0191 227 3571 **Funder:** EU FP7 **Amount:** €3,022,000	The aim of this project is to prolong older people's independent mobility. Researchers are developing a 'walker' system that can support navigation in crowded and unstructured spaces. The team report that technology partners have developed visual capabilities for the system that can detect obstacles and decipher the meaning of signs, and a planning facility to identify the most accessible route. They are testing the mechanics associated with moving and stopping the walker and have designed interfaces to enable users to control the system easily. The system components will be integrated and tested by older participants during 2014. Link to more information on FAST website	01/11/2011 31/10/2014

Project title Organisation(s) Contacts Funding	Project summary	Start and finish dates
DAP Connect **Research lead:** Healthcare over Internet Protocol CIC **Partners:** University of Westminster; LSE Enterprise Ltd; Advanced Digital Institute Ltd; Building Research Establishment Group; Telecare Services Association; Docobo UK Ltd; Foundation for Assistive Technology **Contact:** am@hoip.eu **Funder:** TSB ALIP **Amount:** £1,752,098	DAP Connect partners sought to identify the business models that would support a large-scale market for these services, something that has yet to develop. The team identified the current influences on market development, including consumer perceptions. They propose that there is a need for a supply-chain reconfiguration. The team also developed an Impact and Performance Measurement Framework (IPMF) that would support organisations considering developing services to identify collaborators and build a viable business case. Carers UK, a project partner, used learning from the project to develop an app to help co-ordinate care 'Jointly'. Link to more information on FAST website	01/4/2011 30/9/2013
DAPHNE **Research lead:** International Association for the Study of Obesity (50 countries) **Partners:** University of Leeds; partners from Israel, Spain, Ireland, Italy, The Netherlands **Contact:** 020 7685 2580 **Funder:** EU ICT PSP **Amount:** €4,946,203	The UK population, particularly younger people, lead an increasingly sedentary lifestyle and this is resulting in greater level of obesity and a significant reduction in health. The project aims to deliver personalised guidance on lifestyle management. The team will track individual's lifestyle, behaviour, fitness and environment by gathering data from wearable sensors and storing and transmitting this data using mobile phones. This data will then be analysed to identify behavioural trends and enable the provision of personalised guidance on healthy lifestyle and disease prevention. Link to more information on FAST website	01/11/2013 31/10/2016
Deep architectures for statistical speech synthesis **Research lead:** Centre for Speech Technology Research, University of Edinburgh **Contact:** 0131 650 4434 **Funder:** EPSRC **Amount:** £741,163	Complexity and cost are significant barriers to commercialisation of communication aids for people with speech problems due to degenerative conditions, such as Motor Neurone Disease. The project will create technology to allow people to communicate in their own voice when their natural speech has become hard to understand or when they can no longer speak. Using knowledge of how humans alter their speech production in the presence of noise, the project team have demonstrated that it is possible to improve the intelligibility of synthetic speech. The team propose to extend and generalise this preliminary work in order to develop a new model of speech production. Link to more information on FAST website	01/11/2011 31/10/2016

Project title Organisation(s) Contacts Funding	Project summary	Start and finish dates
Designing better hearing aids using physiologically inspired speech enhancement **Research lead:** Faculty of Engineering and the Environment, University of Southampton **Partners:** University of Cambridge **Contact:** 023 8059 5000 **Funder:** EPSRC **Amount:** €613,105	Hearing aids can transform the lives of people with hearing impairments but in the UK about 6 million such people do not use them. A conventional hearing aid amplifies both speech and background noise indiscriminately, so even though the neural pathways of the brain may be unimpaired, the task of distinguishing speech from noise becomes much harder. The project is developing engineering solutions to this speech-in-noise problem that are based on physiological principles in the brain. The team hope that experiments will result in useful data on which to base the development of new signal processing algorithms that can be used in hearing aid development across the world. Link to more information on FAST website	06/2/2013 05/2/2016
Development, evaluation and implementation of a computer-based self-management programme for people with type 2 diabetes **Research lead:** School of Life and Medical Sciences, University College London **Contact:** 0207 679 2000 **Funder:** NIHR Applied Research **Amount:** £1,992,472	People with diabetes are more likely to develop heart disease, kidney failure and blindness and to die prematurely. Many of these problems can be prevented if they are given the knowledge and skills to self-manage their condition. The aim of this project is to develop a computer-based self-management programme, HeLP-Diabetes, which can be linked with the person's GP electronic healthcare record. This will enable individuals to share the results of any self-monitoring with their health professionals. The team are undertaking a randomised, controlled trial of the programme with results due later in the year. Link to more information on FAST website	01/3/2011 29/2/2016
D-FOOTPRINT **Research lead:** School of Health and Life Sciences, Glasgow Caledonian University **Contact:** 0141 331 3457 **Funder:** EU FP7 **Amount:** €196,682	This follow on project to A-Footprint focuses on the improvements that can be made to therapeutic footwear including a custom insole. The project will use the same methodology of 3D design, modelling and additive manufacture as a replacement for traditional milling processes to improve the design and rapid manufacturing of orthotic insoles. Link to more information on FAST website	14/10/2013 13/10/2015

Project title Organisation(s) Contacts Funding	Project summary	Start and finish dates
DIABSMART **Research lead:** Clinical Biomechanics Team, Faculty of Health Sciences, Staffordshire University **Partners:** from Germany, Spain, India **Contact:** 01782 295 853 **Funder:** EU Marie Curie **Amount:** €809,238	People with diabetes may have considerable problems with footwear, which can cause ulcers and eventually lead to amputation. The project aims to create a new generation of diabetic footwear through a newly developed assessment system. Clinical trials have been taking place over the last 12 months to evaluate the effectiveness of newly developed footbed material versus the conventionally used insole material. The results are currently being analysed. Link to more information on FAST website	01/11/2011 31/10/2015
DiSArM **Research lead:** School of Engineering, University of Hull **Partners:** Dept of Computer Science, University of Sheffield **Contact:** 01482 465 141 **Funder:** NIHR i4i **Amount:** £612,094	People whose voice box must be removed, as a result of injury or due to illnesses such as throat cancer, lose their voice. Existing methods to restore speech are unsatisfactory. Through previous projects the research team have designed a technique which uses magnetic implants and sensors to detect movement of the mouth and tongue and which uses this data to synthesise speech. As well as designing a demonstrator system to reconstruct speech from recognition of individual words, researchers are investigating the possibility of 'direct synthesis', a direct, transformation from sensor data to acoustics. Consultation with patients and clinicians will be undertaken over 2014. Link to more information on FAST website	01/10/2011 30/9/2014
DISCOVER **Research lead:** Digital Birmingham **Partners:** Health Design and Technology Institute, Coventry University; partners from Greece, The Netherlands, Spain, Ireland **Contact:** 0121 303 8779 **Funder:** EU ICT PSP **Amount:** €3,600,000	A major challenge to greater adoption of digital health and care technologies is the lack of technology confidence by carers. The Discover team aim to develop digital skills training for carers based on existing eLearning systems developed in Birmingham and Thessalonica. The Discover platform will integrate these systems and will deliver training using computer, mobile phones and digital television. The project team have developed an online resource to connect carers to the most appropriate service for their needs and to provide access to a carers' discussion forum. These services are being tested in a number of EU countries. A project-led 'Technologies for Care' event took place in Birmingham in March 2014. Link to more information on FAST website	01/4/2012 31/3/2015

Project title Organisation(s) Contacts Funding	Project summary	Start and finish dates
DOSSy **Research lead:** Augmentra Ltd; partners from Switzerland, Austria, Germany **Contact:** 01223 421 356 **Funder:** EU AAL **Amount:** €1,568,577	Outdoor activities contribute significantly to the health and wellbeing of older people. The project is developing an app for use on mobile devices to provide a hiking guide, with route information and weather and temperature monitoring. The first field trial in the form of a hiking trip took place with a group of 20 older people in Switzerland in July 2013. The group tested eight mobile devices and research team members accompanied the group to explain the service and provide individual coaching. The insights gained from the field trial regarding usability of the service are being used to inform the next design stages. Link to more information on FAST website	01/8/2012 31/7/2014
eACCESS+ **Research lead:** Human-Computer Interaction Research Group, University of York **Partners:** University of Dundee; IN2 Ltd; partners from Austria, France, Germany, the Netherlands, Greece, Spain, Denmark, Sweden, Italy, Ireland, Belgium, the Slovak Republic **Contact:** 01904 432 722 **Funder:** EU ICT PSP **Amount:** €740,000	This thematic network project is focusing on achieving consensus on strategies to promote accessibility solutions for: the web; interactive digital TV and Total Conversation (a sign language communication system for use by the emergency services) and self-service terminals. To support dissemination and education, the network established a wiki on the website to hold links and resources on eAccessibility. Additional resources include a 'Guided Tour' that provides a structured overview of eAccessibility as well as information on how to support the involvement of users in design and implementation of eAccessibility activity. Link to more information on FAST website	01/9/2010 31/8/2013
EDLAH **Research lead:** Karis Group Ltd **Partners:** from Belgium, Switzerland, Austria **Contact:** 02380 767 655 **Funder:** AAL, TSB **Amount:** €3,200,000	There is consensus that digital inclusion will support the quality of life of older people, even those who are unconfident or unfamiliar with computers. A number of projects are looking at the potential offered by low-cost tablet devices and are creating modifications to support ease of use by older people. The Edlah project aims to offer a One Stop Shop of information and services on a tablet device, phone or web applications. The Edlah team report they have received a positive response to this proposal when undertaking consultation with carers. Extensive trials of the prototype services are planned for 2014 and 2015 with the first trials taking place in Switzerland in May 2014. Link to more information on FAST website	01/5/2013 30/4/2016

Project title Organisation(s) Contacts Funding	Project summary	Start and finish dates
Effects of night positioning on sleep, postural deformity and pain in children and young people with cerebral palsy, an exploratory study **Research lead:** Rehabilitation Unit, Chailey Heritage Clinical Services **Contact:** 01825 722 112 **Funder:** NIHR RfPB **Amount:** £246,031	Children and young people with cerebral palsy may experience discomfort because of poor posture and go on to develop deformities in their limbs. Night positioning systems are widely used to ensure an individual is positioned as comfortably as possible while sleeping and to reduce the risk of developing deformity. The project will investigate the impact of night positioning equipment on the quality of sleep, pain and postural deformity. The project team report that recruitment was slower than anticipated, which has extended the period of recruitment and reduced the intervention period. However key sites are established around England and data collection is underway. Link to more information on FAST website	01/11/2011 30/11/2014
ELSTRAD **Research lead:** Institute of Education, University of London **Contact:** 020 7612 6000 **Funder:** ESRC **Amount:** £423,770	Individuals with learning disabilities such as Down's syndrome and William's syndrome find it difficult to orient themselves when navigating unfamiliar environments or to learn a route. The team worked with participants with learning disabilities using a virtual reality town environment to understand these issues. Researchers have discovered that with, sufficient practice, individuals with learning disabilities can learn a route. Once the route was learnt participants could not find an alternative route if confronted with an obstacle and found it difficult to reorient themselves when lost. The team recommend that this should be taken into account when encouraging people with learning disabilities to develop independent travel skills. Link to more information on FAST website	01/4/2010 30/6/2014
Empirical investigation and user-centred development of touch-screen text entry methods for older adults **Research lead:** Computer and Information Sciences, University of Strathclyde **Contact:** 0141 548 3522 **Funder:** EPSRC **Amount:** £286,294	As the population ages an increasing number of digital economy workers will be required to use mobile technologies for work. Text entry is core to mobile interaction such as email, social networking, instant messaging and interacting with services such as web or map searching. The project aims to conduct an investigation into text entry by older adults. The project has run its first workshops with older adults. Participants' comments include feedback highlighting problems with screen sensitivity, prediction systems and button sizes. Link to more information on FAST website	01/9/2013 31/8/2015

Project title Organisation(s) Contacts Funding	Project summary	Start and finish dates
ENABLE **Research lead:** JISC, TechDis **Partners:** University of Glasgow; partners from Estonia, Slovenia, Poland, Finland, Germany, Greece, Ireland, Italy, Lithuania, Slovak Republic, Slovenia, Australia, South Korea, Serbia **Contact:** 01904 717 580 **Funder:** EU LLP **Amount:** €482,996	The project will develop an EU-wide platform to investigate how ICT is currently used to support lifelong learning by disabled adults and how it could best be used to overcome educational barriers. The team report that extensive data collection on assistive technologies has been carried out to inform a methodology to categorise and evaluate assistive technologies. The project members are currently working on six online modules to support staff working with disabled learners in adult education. Link to more information on FAST website	01/11/2011 31/10/2014
Energy efficient lower limb prostheses **Research lead:** School of Computing, Science and Engineering, University of Salford **Partners:** departments from University of Salford; University of Manchester **Contact:** 0161 295 5986 **Funder:** EPSRC **Amount:** £671,817	People using a prosthetic leg to walk consume up to 60% more energy than someone not using a prosthesis. For above-knee amputees, research suggests that energy efficiency drops by well over 80% and this drops further when using two prosthetic limbs. It has been shown that energy consumption by people using high level prostheses increases significantly when walking on slopes, suggesting studies in level walking may underestimate the extent of the problem. The team are studying the potential for hydraulic technology to enable the controlled storage of energy, transfer of energy between joints, and return of energy in prosthetic legs. Link to more information on FAST website	01/9/2013 31/8/2016
envisage **Research lead:** Dept of Biomedical Engineering , University of Strathclyde **Partners:** Glasgow Caledonian University; Glasgow School of Art; University of Southampton; University of Glasgow **Contact:** 0141 548 3032 **Funder:** LLHW **Amount:** £1,300,000	The aim of this project is to help to support rehabilitation through presenting biomechanical data in visual format so that people can learn to perform their rehabilitation exercises as independently as possible. Development of the visualisation software and motion capture systems were completed and then tested in five pilot trials. A number of orthotics and application areas were selected for trial and all trials except the upper limb trial showing positive outcomes. The visualisation approach shows promise as an addition to standard therapy practice. Link to more information on FAST website	05/1/2010 30/9/2013

Project title Organisation(s) Contacts Funding	Project summary	Start and finish dates
eStockings **Research lead:** Non-wovens Innovation and Research Institute, University of Leeds **Partners:** from Denmark, Finland, Switzerland **Contact:** 0113 343 3790 **Funder:** EU AAL **Amount:** €1,934,259	The most practical, non-invasive treatment to improve blood circulation is compression therapy, but the use of current compression therapy methods (such as obtrusive and unstylish bandages and stockings) greatly limit the mobility of older people and hinders their independence and self-confidence. The project will develop compression stockings with integrated ICT that can deliver high-standard treatment and can be independently and easily taken on and off by older people. The team report that several prototype stockings have been developed and will these will be tested by participants over 2014. Link to more information on FAST website	01/2/2012 31/1/2015
ETNA **Research lead:** John Gill Technology Ltd **Partners:** DLF; Nottingham Trent University **Contact:** 07590 982 732 **Funder:** EU ICT PSP **Amount:** €690,000	The Etna network, which involves 23 institutions in 13 countries, is working to establish a web portal of assistive technology products that enable access to ICT services. A final release of the Etna online portal is now available, which allows an individual to obtain information about assistive technology devices and services throughout Europe via product names, keywords and by manufacturer. Etna also allows the user to search for information about projects that have developed new assistive technology devices and services. Link to more information on FAST website	01/1/2011 31/12/2013
EXO-LEGS **Research lead:** Chas. A. Blatchford and Sons Ltd **Partners: f**rom Sweden, Germany, Spain, Switzerland **Contact:** 01256 316 600 **Funder:** EU AAL **Amount:** €4,559,117	The project aims to develop lower body exoskeletons to support people to move around and perform normal daily living tasks involving standing sitting, walking and climbing stairs. Basic, standard and deluxe exoskeleton prototypes (half- and full- models) will be designed, developed and tested in the five target EU countries. The project has set up their user consultation group involving older people, carers and support professionals. The user group will be involved in trials and evaluation of prototypes during 2014. Link to more information on FAST website	01/10/2012 30/9/2015

Project title Organisation(s) Contacts Funding	Project summary	Start and finish dates
Exploring Human Hand Capabilities into Multi-fingered Robot Manipulation **Research lead:** School of Creative Technologies, University of Portsmouth **Contact:** 023 9284 5461 **Funder:** EPSRC **Amount:** £284,222	The project aimed to study human hands to understand how robotic hands can manipulate objects with a similar degree of skill and delicacy. Artificial intelligence mechanisms were developed to ensure control of multi-fingered robots and to provide the capability to introduce neural signals from the brain and muscles into robotic hand systems. The team were able to demonstrate that robot hands could perform stable human-like grasping movements The project team are now seeking industrial partners to develop these capabilities into a commercial product. Link to more information on FAST website	15/3/2010 14/9/2013
Facial Gestures for Accessing Assistive Technologies **Research lead:** School of Engineering and Digital Arts, University of Kent **Partners:** East Kent Hospitals University NHS Foundation Trust **Contact:** 01227 823 246 **Funder:** University of Kent; Kent Hospitals University NHS Foundation Trust **Amount:** £96,000	This PhD project aims to support those who experience difficulty with speaking or communicating with alternative communication methods. The project is developing pattern recognition and computer vision technologies building on those currently used for head and eye tracking in webcam products. If people are able to move their eyes or make small facial gestures, the aim is that the system will be able to detect these limited movements and adapt to any change in the individual's condition. Link to more information on FAST website	01/6/2011 01/6/2014
FARSEEING **Research lead:** School of Nursing, Midwifery and Social Work, University of Manchester **Partners:** from Italy, the Netherlands, Germany, Switzerland, Norway, France **Contact:** 0161 306 7614 **Funder:** EU FP7 **Amount:** €4,578,505	Experiencing a fall has a major impact on the health and independence of older people. The project team has built up a large, real-world, falls meta-database to facilitate the structured collection, analysis and processing of data related to falls. Farseeing has developed a 'taxonomy of technologies' to enable them to analyse currently available ICT applications and systems. This will be available as an online tool in 2014. An intervention aimed at monitoring and preventing falls through the use of smart home systems, smart phones and exergame technologies has been developed and will be evaluated during 2014. In April 2014 researchers published a review of older adults' perceptions of falls prevention technologies in the International Journal of Medical Informatics. Link to more information on FAST website	01/1/2012 31/12/2014

Project title Organisation(s) Contacts Funding	Project summary	Start and finish dates
Feasibility study and pilot trial of computerised cognitive behaviour therapy for depression in adolescents **Research lead:** Limetrees, Child, Adolescent and Family Unit **Contact:** 01904 726 610 **Funder:** NIHR RfPB **Amount:** £247,936	Studies indicate that online therapy can be effectively used to treat depression using Cognitive Behavioural Therapy (CBT) without a therapist present, but most of the current evidence is focused on the study of depression in adults. The project will examine the effectiveness of a computerised CBT program for adolescents with low mood or depression. Researchers report that they are concluding trials and that analysis is under way. Link to more information on FAST website	01/6/2011 31/5/2014
FIRST **Research lead:** Research Group in Computational Linguistics, University of Wolverhampton **Partners:** iWeb Technologies Ltd; partners from Belgium, Bulgaria, Spain **Contact:** 01902 321 630 **Funder:** EU FP7 **Amount:** €2,008,754	People with autism spectrum disorders (ASD) can have problems when reading. This can include difficulty understanding complex instructions, problems interpreting metaphorical meanings or being confused by uncommon words and figures of speech. The aim of the project is to use language technology to enable people with ASD to convert documents into personalised versions that are easier for them to understand. This should reduce the need for people with ASD to rely on support workers. The team have developed a tool called 'Open Book' which was trialled in 2013 with 100 adults in the UK and 200 young people aged 12 and above in Spain and Bulgaria. The partners showcased Open Book at several events in Europe over the past year. Link to more information on FAST website	01/10/2011 30/9/2014
GAME-ABLING **Research lead:** UbiTech Ltd **Partners:** from Greece, Spain, Ireland, Belgium, Ukraine, Finland **Contact:** 01483 685 308 **Funder:** EU FP7 **Amount:** €1,507,767	Cerebral Palsy affects body movement, balance and posture and is usually accompanied by other cognitive or sensory impairments. The condition can lead to an inactive lifestyle and the research team propose that playing video games may promote and maintain a more active and healthful lifestyle. The project created a software tool that enables people with no ICT skills or experience (e.g. parents and carers) to create personalised interactive video games that can be controlled by body movements and voice. The project will develop a web portal to create a disabled gaming e-community in where users will have access to the software tool, can play games and upload their own games. Link to more information on FAST website	01/12/2012 30/11/2014

Project title Organisation(s) Contacts Funding	Project summary	Start and finish dates
GiraffPlus **Research lead:** Tunstall Group Ltd **Partners:** from Sweden, Portugal, Italy, Spain, Slovenia **Contact:** 01977 661 234 **Funder:** EU ICT PSP **Amount:** €4,038,575	The GiraffPlus team aim to use telehealth and robotics technologies to support older people to live independently. The system will gather physiological and physical data from a network of home sensors and a telepresence robot, Giraff, to help the user retain their social connections. The project team report that there are now 100 Giraff systems deployed in eight EU countries, with most used in care home and nursing home settings. Findings from this deployment are being collated and will inform further modifications to the system. Results will be published at the end of 2014. Link to more information on FAST website	01/1/2012 31/12/2014
GOAL **Research lead:** Transport Research Group, University of Southampton **Partners:** from Italy, Spain, Germany, Austria **Contact:** 023 8059 2192 **Funder:** EU FP7 **Amount:** €1,221,424	The project has profiled the physical and mental characteristics of older people to predict the requirements of future populations of older people while driving, using public transport, walking, cycling and travelling. A final action plan describing the need for further research was published in September 2013 and includes: finding ways to assess the benefits of public transport accessibility measures; identifying requirements for travel information; assessing the impact of future technologies for drivers; and developing driving screening tools. Link to more information on FAST website	01/9/2011 30/9/2013
GoFar **Research lead:** SURFACE, Salford University **Partners:** Herriot-Watt University; University of Southampton; University of Toronto; Age UK; Heriot-Watt University; Swansea University; Glasgow Caledonian University; Edinburgh College of Art **Contact:** 0161 295 4600 **Funder:** LLHW **Amount:** £310,403	The project brought together a multidisciplinary team of researchers from the UK and Canada to explore the relationship between older people, outdoor falls and the design of the external environment. The project has developed a draft audit tool that identifies issues that influence the risk of falls outside of the home, including: path material condition and smoothness, weather, width of pavement, kerb height, crowdedness, maintenance obstructions, waiting time at pedestrian crossings, resting places, drainage, street lighting and slope. Data collection and analysis were completed in summer 2013. Project outcomes and recommendations are currently being written up for publication and a joint project to launch a website to report falls outside the home is in development with Age UK. Link to more information on FAST website	01/1/2012 31/5/2013

Project title Organisation(s) Contacts Funding	Project summary	Start and finish dates
GoldUI **Research lead:** XIM Ltd **Partners:** partners in Spain, Italy **Contact:** 01727 884 830 **Funder:** EU AAL, TSB **Amount:** €1,537,726	The project aimed to empower older people to access online services and benefit from the digital world. GoldUI developed a cloud-based secure user profile that records adjustments to the website appearance, navigation, sound and functions that are required to enable web access. GoldUI provides a simple, clear, customised interface using familiar home devices, such as a bedside radio, television or telephone as well as tablet computers and smartphones. The project has developed services for: emergency contact, reminders, entertainment, social contact, news and shopping. Link to more information on FAST website	18/7/2011 17/7/2013
GUIDE **Research lead:** Dept of Psychology, University of Stirling **Partners:** Brain Injury Rehabilitation Trust, London School of Economics **Contact:** 01786 467 640 **Funder:** CSO **Amount:** £198,623	The project has produced a software tool, Guide, to help people with cognitive impairments to plan and carry out everyday tasks by providing verbal prompts and reminders. The team report that a counter-top version of Guide is operational that uses an array microphone which is optimal for speech recognition. Guide protocols for morning routine and laundry tasks have been developed. The team report that Guide prototype software is able to make the most of the self-monitoring abilities that users have, while leading them toward their intended goals. Findings are that the Guide system reduced participants' errors to near zero and led to ratings of 'independent' on half of participants in the Guide trial. Link to more information on FAST website	01/10/2010 30/12/2014
HATICE **Research lead:** Dept of Public Health and Primary Care, University of Cambridge **Partners:** from Sweden, France, The Netherlands, Finland **Contact:** cad50@medschl.cam.ac.uk **Funder:** EU FP7 **Amount:** €7,423,520	The project will examine a range of interventions, including developing an interactive online platform, to support older people to self-manage vascular diseases. Data will be gathered from the individual at home and practice nurses and GPs will provide monitoring of this data to prevent adverse events. A randomised controlled clinical trial among 4,600 older people is planned to find out whether the use of an online self-management intervention can reduce the risk of cardiovascular disease and dementia and which aspects of the intervention are most successful. Link to more information on FAST website	01/1/2013 31/12/2017

Project title Organisation(s) Contacts Funding	Project summary	Start and finish dates
Head-Up **Research lead:** Sheffield Institute for Translational Neuroscience, Sheffield University **Partners:** Devices for Dignity Healthcare Technology Co-operative, University of Sheffield; Sheffield Hallam University **Contact:** 0114 222 2230 **Funder:** NIHR i4i **Amount:** £402,000	Many people with Motor Neurone Disease (MND) develop weak neck muscles leading to pain, restricted movement and problems with swallowing, breathing and communication. Using a neck collar for support would alleviate these problems, but the designs currently available restrict movement. A new collar, the Sheffield Support Snood, has been developed and undergone safety checks (a CE mark). The team report that collar is currently undergoing an evaluation through a small-scale clinical trial, with results to be reported in summer 2014. Link to more information on FAST website	01/4/2012 31/7/2014
HELP4MOOD **Research lead:** School of Informatics, University of Edinburgh **Partners:** Centre for Speech Technology Research, University of Edinburgh; partners from Spain, Romania, Italy **Contact:** 0131 651 5661 **Funder:** EU FP7 **Amount:** €3,599,073	The project has developed online services designed to support the care for people with mild to moderate depression. Help4Mood consists of three components: a personal monitoring system, an interactive virtual agent (an avatar) and a decision support module. The team report that the prototype system was evaluated in a small trial to provide data for safety (CE-marking) and for approval as a medical device. The system is currently being evaluated in a pilot randomised controlled trial across three countries (Scotland, Spain, and Romania) to establish effectiveness. Link to more information on FAST website	01/1/2011 31/12/2013
Helping Older Drivers continue driving safer for longer **Research lead:** Transport Operations Research Group, University of Newcastle **Contact:** 0191 222 7935 **Funder:** EPSRC **Amount:** £10,081	The project aims to explore what problems people experience with driving as they get older and to identify the technologies that could assist them. The project have run proof of concept trials and researched the social and economic consequences of ceasing to drive. Interim results have now been published and disseminated, including at the National Science Festival in September 2013. Work has now started to quantify the distraction effects of in-vehicle technology as well as mobile phones. Link to more information on FAST website	01/1/2013 30/11/2014

Project title Organisation(s) Contacts Funding	Project summary	Start and finish dates
HOMEHOIST **Research lead:** Hi Tech Automation **Partners:** from Spain, Portugal, Jordan, Turkey **Contact:** 01536 312 131 **Funder:** EU FP7 **Amount:** €1,163,575	For people who are dependent on a hoist when transferring from a wheelchair there is considerable effort required from carers in manual handling or a high number of hoists required within the home. The project team believes they have identified a solution to this challenge. The Homehoist system will function as an everyday wheelchair but with an integrated hoist system. The hoist will be designed to be used at various fixed points throughout the house to rotate the user through 180 degrees on to the toilet, a sofa, or a bed and into a shower. Information on user requirements has shaped the design of the system which is currently being evaluated. Link to more information on FAST website	01/1/2013 31/12/2014
HOMESERVICE **Research lead:** Speech and Hearing Research Group, University of Sheffield **Partners:** from Spain, Portugal, Jordan, Turkey **Contact:** 0114 222 1800 **Funder:** EPSRC NST **Amount:** £600,000	The project aims to take the state-of-the-art speech recognition technologies and use them to provide alternative interaction approaches for older people who do not use computers. The team will undertake a longitudinal study working with 10 users, with each user engaged in the project for up to two years. Within this period their speech recognition system will become adapted to their speech and their needs, becoming a 'Personal Adaptive Listener' (PAL). The team report that the user trial is scheduled to begin in April 2014, with the aim that the 10 older people will recruited by the end of the year. Link to more information on FAST website	01/9/2011 31/5/2016
HOST **Research lead:** Nottingham Community Housing Association **Partners:** from France, Italy, Spain **Contact:** 0800 013 8555 **Funder:** EU AAL **Amount:** €4,774,086	The project aimed to promote knowledge and awareness of digital skills among older people living in social housing. The project developed proposals for an ICT home infrastructure and created the Host website to enable people to access digital services. The final project conference took place in March 2014 at which the results of trials in UK, Italy and France were presented. Findings have been discussed with a wide range of stakeholders throughout the European Union and the team are currently looking for ways to exploit the results. Link to more information on FAST website	01/5/2011 30/10/2013

Project title Organisation(s) Contacts Funding	Project summary	Start and finish dates
How better design can facilitate mobility, connectivity and wellbeing for older people **Research lead:** School of Architecture, University of Sheffield **Partners:** departments at the University of Sheffield **Contact:** 0114 222 0399 **Funder:** EPSRC **Amount:** £642,082	The project will develop a number of prototype designs for redesign of housing and neighbourhoods that better facilitate older people's mobility. It also aims to improve professionals' ability to design, develop and manage age-friendly places. The team will work closely with older people and their carers, a range of professionals who design and develop housing and neighbourhoods and those who manage the built environment and provide services for older people. Link to more information on FAST website	01/10/2013 30/9/2016
Human-Computer Interaction through Hand Gesture Recognition **Research lead:** Functional Technologies Ltd **Contact:** 0247 7040 337 **Funder:** TSB CR&D **Amount:** £33,000	Hand gesture recognition is a fast emerging technology for allowing Human-Computer Interaction (HCI) and one that has the potential for sign-language communication. Limitations of the existing hand gesture recognition techniques include: the complete gesture has to be in view of the camera, confusion between similar gestures, a high sensitivity to background movements and the high computational complexity to analyse the movements. The project is currently studying the feasibility of a new hand gesture recognition technique that may be able to overcome these limitations. Link to more information on FAST website	01/8/2013 30/11/2013
i2r Hand Rehabilitation Device **Research lead:** i2r Medical Limited **Contact:** 01202 575 749 **Funder:** TSB SBRI **Amount:** £342,367	Hand rehabilitation may be necessary following trauma, surgery or stroke but regaining a full range of movement and strength requires a lengthy program of rehabilitation. The project is developing a device that can be used by the therapist to set a treatment regime and then can be left with the individual to enable them to continue their rehabilitation at home. Link to more information on FAST website	01/12/2012 30/11/2014

Project title Organisation(s) Contacts Funding	Project summary	Start and finish dates
i2Web **Research lead:** Human-Computer Interaction Research Group, University of York **Partners:** Foundation for Assistive Technology; Public-i Group Ltd; with partners from Germany, Italy, Slovenia, Ireland **Contact:** 01904 432 722 **Funder:** EU FP7 **Amount:** €2,718,598	The project aimed to help web developers, web accessibility experts and people who commission websites and apps to deliver accessible web 2.0 applications, which are those that allow interactive and user-generated content such as Facebook, banking applications, etc. Rather than setting out guidance on how users can access these applications, the project team based their guidance on the strategies used by existing advanced web users who already employ a range of strategies. User testing was undertaken in York, Ireland and London involving older people, blind and partially sighted participants. The project has finished and a final version the i2web support tool is to be made public in 2014. Link to more information on FAST website	01/11/2010 30/4/2013
ICARE4EU **Research lead:** Health Sciences Research Institute, Warwick Medical School **Partners:** from The Netherlands, Germany, Finland, Italy **Contact:** 02476 522 891 **Funder:** EU Health Programme **Amount:** €1,214,321	An estimated 50 million people in Europe have multiple chronic health conditions. The project is studying best practice examples in Europe of integrated care programmes which include telehealth technologies. The strategy for collecting information has been established and questionnaires have been developed to establish the member country's policy regarding integrated care. The questionnaires have been tested, validated and translated into 11 languages, with responses expected in the first half of 2014, Link to more information on FAST website	01/3/2013 30/4/2016
ICARENET **Research lead:** Research Services, Faculty of Engineering, Imperial College London **Partners:** departments from Imperial College London; Lancaster University; partners from Germany, Israel, Netherlands, Switzerland, Denmark, Finland **Contact:** 020 7594 8773 **Funder:** EU FP7 **Amount:** €5,000,000	Context-aware sensor systems, both body-worn and in-home, have the potential to build up a picture of a person's activities and to provide assistance to disabled and older people. The project will create a network of European research groups and partners in industry to build up the knowledge base in this area and develop new sensor applications. The project has run a number of training events for researchers across Europe in human-computer interaction, led by experts in the field. Subjects covered included project, team and self-management, privacy, security, innovation and IP management. Link to more information on FAST website	01/1/2011 31/12/2014

Project title Organisation(s) Contacts Funding	Project summary	Start and finish dates
I-DONT-FALL **Research lead:** Docobo UK Ltd **Partners:** from Italy, Denmark, Greece, Serbia, Spain and the Netherlands **Contact:** 01372 459 866 **Funder:** EU CIP **Amount:** €5,270,000	Falls by older people account for approximately 40% of all injury deaths and many telecare solutions exist to detect or prevent falls. Studies show that falls are commonly the result of a complex range of conditions. The team propose that falls solutions have to be tailored to suit the individual. The goal of the project is to evaluate a fall management system that integrates different solutions. The integration platform has been developed and was presented at the 'ICT for Ageing Well' conference in Lithuania in November 2013. Evaluation of the system by professionals and users will continue in 2014. Link to more information on FAST website	01/4/2012 31/3/2015
If Only **Research lead:** Bath Research and Development Design Service, University of Bath **Contact:** 01225 386 575 **Funder:** EPSRC **Amount:** Not disclosed	The If Only app has been designed so that disabled people who experience usability issues around the home can make videos to demonstrate the problems they face and share these videos through YouTube. Over 100 films have been generated by users. The project used these videos to inspire a design competition, with potential solutions contributed by over 20 universities. Solutions ranged from support for poor gripping strength, better ways to boil water for hot drinks and help for people to lock and unlock doors. The project continues to host a catalogue of the videos via YouTube. Link to more information on FAST website	01/1/2011 10/5/2013
i-Focus **Research lead:** Advanced Digital Institute Ltd **Contact:** 01274 535 220 **Funder:** TSB ALIP dallas **Amount:** Not disclosed	The i-Focus consortium aims to develop an at-scale market for assisted living services. One work stream is developing standardised approaches to achieve interoperability between devices and services. The profile solution documents are available to download from the i-Focus website. A second work stream is developing a sector-led organisation to adopt standardised, shared approaches to tackling market barriers. The third work stream will develop a consumer service to support family networks to gain reassurance of an individual's independence at home. This service is completing its second year of trials. Link to more information on FAST website	31/5/2012 30/6/2015

Project title Organisation(s) Contacts Funding	Project summary	Start and finish dates
ILEARNRW **Research lead:** Dolphin Computer Access Ltd. **Partners:** from Malta, Greece, Romania **Contact:** 01905 754 577 **Funder:** EU ICT PSP **Amount:** €2,326,600	The project has developed learning software to support children with dyslexia and/ or dysorthographia (a problem with spelling). The ILearnRW system will store unique profiles for each individual and support learning and teaching strategies. The project has developed a prototype system and aims to have a working system ready for functionality testing in summer 2014 and for field trial in schools in the UK and Greece later in 2014. Link to more information on FAST website	01/10/2012 30/9/2015
inCASA - integrated network for Completely Assisted Senior citizen's Autonomy **Research lead:** Chorleywood Health Centre **Partners:** Dept of Information Systems and Computing, Brunel University, with partners in Italy, Denmark, France, Germany, Greece, Spain, Sweden **Contact:** 01923 287 100 **Funder:** EU ICT PSP **Amount:** €4,280,000	inCASA investigated whether changes in the state of a person's health can be determined from a combination of behavioural and physiological data. The project developed an interoperable platform for telehealth and telecare services based on the use of common standards and smart home technologies that are low cost and simple to use. Trials to monitor 40 people in their homes took place for 12 months over 2012-13. Findings demonstrate that behaviour changes and physiological changes can provide a risk stratification and patient management approach for health and care services. A modular, interoperable platform for remote monitoring has been developed and the project are analysing findings and entering into the dissemination and exploitation phase. Link to more information on FAST website	01/4/2010 30/6/2013
INDEPENDENT **Research lead:** Tunstall Group Ltd **Partners:** Work Research Centre Ltd; University of Hull; partners from Ireland, Germany, The Netherlands, Greece, Spain **Contact:** 01977 661 234 **Funder:** EU ICT PSP **Amount:** €5,250,000	There is growing recognition that telecare and telehealth services should be designed to support individuals and their care networks to undertake self-care rather than to fit the needs of health and care services. The project designed a range of services and evaluated these with over 180,000 people in five countries across six pilot sites. The project team report positive results from the trials with at least 50% of the users surveyed saying they had benefited from the service, with four of the sites seeing users report benefit rates of over 90%. The team report that findings from the trials indicate that services could be providing a cost and social return on investment within one and four years. Link to more information on FAST website	01/1/2010 31/5/2013

Project title Organisation(s) Contacts Funding	Project summary	Start and finish dates
INNOVage **Research lead:** SEHTA **Partners:** from Italy, France, Finland, Bulgaria, Greece, Spain, Cyprus, Slovenia, Lithuania, Czech Republic, Poland, The Netherlands, Sweden. **Contact:** 07905 201857 **Funder:** EU Interreg IVC **Amount:** €2,467,511	The project brings together 15 regions from across Europe to work on increasing the effectiveness of regional development policies in the field of eco-independent living for older people. The aim is to create a European network of organisations working on eco-independent living to share experience and knowledge in this area. The regional partners produced a good practice catalogue in ten European languages, with examples of eco-independent living for older people, including assistive technologies. A final conference will take place in Brussels on 7th October 2014. Link to more information on FAST website	01/1/2012 31/12/2014
Interactive sensory objects developed for and by people with learning disabilities **Research lead:** School of Systems Engineering , Reading University **Partners:** University of Reading; The Rix Centre **Contact:** 0118 378 8052 **Funder:** AHRC **Amount:** £465,673	The experience of handling artworks enormously enhances understanding of cultural heritage and this is especially so for those with learning disabilities. The project aims to bring together artists, technologists, experts in multimedia advocacy and people with learning disabilities to design multi-sensory objects that replicate objects of cultural significance in national collections. Project researchers are currently conducting two workshops with learners from Reading College at the University of Reading's Museum of English Rural Life with results available in June 2014. Link to more information on FAST website	01/4/2012 31/3/2015
Investigation into the provision of ICT to support behavioural monitoring of children with autism **Research lead:** Smart Environments Research Group, University of Ulster **Contact:** 028 9036 8918 **Funder:** ESRC **Amount:** £98,680	This project aims to develop services that support parents and carers to monitor the behaviour of young people with autism and to plan treatment to support behaviour change. The team are using smart-phone technology to provide a touch-based interface for fast data entry. A decision-support algorithm will guide users, such as parents or teachers, through the recording process, improving the gathering of relevant and accurate data. Data mining algorithms will allow professionals to observe trends in behaviour over time. The team propose that this approach will reduce the time required to determine the function of a behaviour and will enable early and effective interventions Link to more information on FAST website	01/5/2013 31/8/2014

Project title Organisation(s) Contacts Funding	Project summary	Start and finish dates
Investigation to improve lower-limb amputee prosthesis fit through the design of an intelligent socket **Research lead:** School of Design, Engineering and Computing, Bournemouth University **Partners:** Chas. A. Blatchford and Sons Ltd **Contact:** 01202 524 111 **Funder:** EPSRC **Amount:** £86,000	Fitting a lower limb prosthesis so that it remains comfortable is challenging and depends on achieving a good fit between the socket and the limb. That interface can become uncomfortable or painful if not designed properly. The project has created a clinical tool which can be used to assist and inform the fitting of lower limb prostheses in order to achieve sustainable comfort. Project partners are in the process of testing a socket that has integrated smart technology to test for pressure and humidity. The team report that the socket itself is still under development and that this phase has been informed by user testing. Link to more information on FAST website	01/10/2010 31/3/2015
I-stay@home **Research lead:** Habinteg Housing Association **Partners: from** Germany, The Netherlands, France, Belgium **Contact:** 0207 822 8700 **Funder:** EU Interreg IVB **Amount:** €5,325,263	The project has reviewed a range of ICT solutions that might help older people who live in social housing to continue to live independently. Following user consultation in 2012, 118 products and services were evaluated and are being made available to tenants and the public through the I-stay@home project wiki which was launched in December 2013. The evaluation phase of the project, where pre-selected ICT solutions are installed in tenants' homes, commenced in March 2014 with the research team recruiting tenants as participants. This evaluation phase will continue for twelve months. Link to more information on FAST website	17/1/2011 30/9/2015
ITTS **Research lead:** Centre for Rural Health, University of Aberdeen **Partners:** European Centre for Connected Health, Northern Ireland; partners from Norway, Finland, Sweden **Contact:** 01463 255 892 **Funder:** EU Northern Periphery Programme **Amount:** €2,321,754	The project is investigating whether the use of eHealth and videoconferencing can offer a cost-efficient and innovative way to provide health services to people living in remote areas in northern Europe. The project undertook ten demonstrator applications including: speech therapy, renal services, emergency psychiatry, diabetes services and exercise classes for rehabilitation. Equipment was deployed with participants and the research team gathered data on effectiveness. The findings were disseminated at a concluding project conference in March 2014. Link to more information on FAST website	01/9/2011 31/12/2013

Project title Organisation(s) Contacts Funding	Project summary	Start and finish dates
JADE **Research lead:** SEHTA **Partners:** from Italy, France and Turkey **Contact:** 07905 201857 **Funder:** EU FP7 **Amount:** €2,819,904	The project brings together five assisted living research clusters in Europe to develop a multidisciplinary approach to enhance research, improve policy and bring together researchers, industry and policy makers. The project has drafted a Jade White Paper to identify some of the barriers to widespread adoption of assisted living technologies. The concluding conference took place in December 2013 offering an overview of the main results, outputs and success stories. Link to more information on FAST website	01/2/2011 31/1/2014
Kinect-Based Platform for Engaging Older Population in the Assessment of Purpose-built Facilities and Services **Research lead:** Housing 21 **Partners:** EnginSoft UK Ltd **Contact:** 0870 192 4000 **Funder:** TSB CR&D **Amount:** £582,785	The project aims to find ways to identify the benefits of assisted living technologies for individual users. Their approach is to exploit recent advances in Microsoft Kinect games technology to develop methods to indirectly monitor a service user to assess health and behaviour changes, to deliver services support for carers and manage the risks within the home. A prototype system has been developed and a flat set up in which to evaluate the system. Artificial intelligence systems have been developed to understand the data that is being generated in pilot tests. Ethics approval has been gained to enable evaluation with users to begin. The team report that the prototype system looks promising but is still in its early stages. Link to more information on FAST website	01/6/2012 31/5/2014
Kinetic User Interfaces and Multiuser 3D Virtual Worlds for Older People **Research lead:** School of Engineering and Digital Arts, University of Kent **Contact:** 01227 823246 **Funder:** EPSRC **Amount:** £97,397	In recent years, there has been an emergence of computer-user interfaces using gestures, speech, and brain waves; Kinetic User Interfaces (KUI). The project investigated how KUI can be used to design innovative 3D virtual worlds which are accessible to older people. Four versions of gesture-based 3D virtual world prototypes were developed and tested in care homes. Most of the participants with dementia were able to interact with the prototypes with relative ease. Some older people with more serious cognitive decline required additional support from caregivers. The team propose that these technologies can support social inclusion, exercise and communication with carers. Link to more information on FAST website	01/4/2012 30/11/2013

Project title Organisation(s) Contacts Funding	Project summary	Start and finish dates
Kingkraft Shower Chair **Research lead:** Kingkraft Ltd **Contact:** 0114 269 0697 **Funder:** NIHR i4i **Amount:** £97,479	Kingkraft is a manufacturer of baths for disabled people who recognised there was a gap in the market for shower chairs. Work was undertaken between August 2010 and July 2013 to research the marketplace for shower equipment, and then to design and test a prototype shower chair. In early 2014 work was undertaken to improve the usability of the catch fastening details for paraplegic customers with launch of a finished showerchair intended for summer 2014. Link to more information on FAST website	01/8/2010 31/7/2013
Knowledge based engineering applied to the creation of custom moulded special seats to meet the clinical, functional and social needs of severely disabled patients **Research lead:** Faculty of Advanced Technology, University of Glamorgan **Partners:** Cardiff and Vale University Local Health Board **Contact:** 08456 434 030 **Funder:** EPSRC KESS **Amount:** £112,000	People who use wheelchairs for prolonged periods of time risk discomfort and injury if their wheelchair seats are poorly designed. Currently clinicians design and make customised seats for individuals but this is labour-intensive and of variable success. The scholarship project developed an expert system which integrates seating and wheelchair system design into a single modelling application. Evaluation in 2013 showed that results from using the automated system are comparable to clinicians undertaking assessments. Further work was undertaken in 2013 to develop and evaluate a rule-based algorithm for the classification of sitting postures. This found that the system is successful in identifying four types of curves that characterise sitting postures, with an overall accuracy of 93.9%. These findings have been published and work is underway to further develop the expert system. Link to more information on FAST website	30/9/2009 01/11/2014
KT-EQUAL **Research lead:** School of Health and Related Research, University of Sheffield **Partners:** University of Cambridge; University of Bath; Edinburgh College of Art; University of Salford; University of Loughborough, Reading University **Contact:** 0114 222 5454 **Funder:** EPSRC **Amount:** £1,873,015	The KT EQUAL consortium has brought together experts in engineering, construction, architecture, participatory and inclusive design, rehabilitation, psychology, change management and public engagement to work collaboratively with older people to promote knowledge of innovations in healthy aging and assistive technology development. The network engaged significant numbers of disabled and older people in discussing and commenting on the research under discussion. This provided valuable input for research teams. Link to more information on FAST website	01/6/2009 04/7/2013

Project title Organisation(s) Contacts Funding	Project summary	Start and finish dates
Liberating housebound obese individuals using augmented virtual reality **Research lead:** Dept of Surgery and Cancer, Imperial College London **Contact:** 020 7589 5111 **Funder:** EPSRC **Amount:** £244,665	Obesity treatment needs to include physical activity levels as well as changes to eating behaviour but some people find it difficult to attend exercise sessions due to embarrassment or mobility challenges. The project will use the Microsoft Kinect system to enable people to attend online physical activity sessions. Researchers asked children attending a weight management summer camp to play web-based motion detection games for six weeks. Kinect games that use avatars and voice over IP technologies have been also been trialled at home with a group of six adults. Researchers have completed data collection from these trials and have undertaken preliminary analysis. Link to more information on FAST website	01/2/2013 15/5/2014
LifeCIT **Research lead:** Faculty of Health Sciences, University of Southampton **Contact:** 023 8059 7979 **Funder:** NIHR i4i **Amount:** £249,634	Following a stroke a person may lose their confidence, motivation and the ability to move one arm and hand. Constraint Induced Therapy (CIT) has been shown to overcome this habitual 'non-use' of the arm. CIT involves wearing a mitten on the unaffected hand while use of the weak arm and hand is encouraged by intensive exercises. The aim of this study is to develop a web-based rehabilitation game to support people who have had a stroke to carry out CIT at home with optional online therapist support. The research team have developed the LifeCIT website, the findings from a randomised controlled trail are being analysed and results are due for publication in summer 2014. Link to more information on FAST website	01/3/2011 01/3/2014
Living It Up **Research lead:** NHS 24 Scotland **Contact:** 0141 337 4501 **Funder:** TSB ALIP dallas **Amount:** Not disclosed	Living It Up (LiU) is one of four communities funded to deliver assisted living services at scale. Based in Scotland, LiU plan to build the capacity of disabled and older people and their carers and support communities to adopt innovative health and care services. Services that will be developed include 'Hidden Talents'; an app to support people to identify and use their hidden talents for the benefit of themselves and their communities. The Living it Up web portal has been created to allow people to obtain advice and form social contacts in their area or online. Link to more information on FAST website	31/5/2012 30/6/2015

Project title Organisation(s) Contacts Funding	Project summary	Start and finish dates
LiveWell **Research lead:** Faculty of Health and Human Sciences, University of Plymouth **Partners:** from Portugal, Austria, Spain, Romania, Iceland, Slovenia **Contact:** 01752 585 858 **Funder:** EU LLP **Amount:** €291,191	The project intends to support people with Parkinson's Disease and their carers to self-manage their condition, increase their level of social inclusion, and provide training and support about the disease. The project aims to develop a telehealth system that will enable health professionals to remotely monitor the individual's participation in training activities. An online forum will be developed to enable individuals, carers and professionals to interact. A draft version of the training modules and exercises, which is available to view on the project website, was tested in November 2013 to gain early assessment of the contents and of the LiveWell platform features, feasibility and accessibility. The aim is that testing of the full version of the platform will occur in seven European partner countries before summer 2014. Link to more information on FAST website	01/10/2012 30/9/2014
Living with a urinary catheter **Research lead:** Dept of Primary Health Care, University of Oxford, **Contact:** 01865 289 288 **Funder:** NIHR RfPB **Amount:** £242,392	An estimated 450,000 people in the UK are long term catheters users. Continence care and catheters are personal topics, not easy to discuss with others. Catheter users often cope through trial and error. Researchers interviewed 40 male and female catheter users of different ages to gather a wide range of experiences of long term catheterisation. The project team developed a web resource that describes catheterisation, the types of catheters available and personal issues arising from catheter usage. The website hosts an online forum for people to share experiences and support. Link to more information on FAST website	01/11/2011 30/6/2013
MALCOLM **Research lead:** SEHTA **Partners:** from France **Contact:** 07905 201857 **Funder:** EU Interreg IVC **Amount:** €199,974	The regions of England and France that border the channel share the challenge of an aging population and each region has developed different approaches to developing assisted living (telecare and telehealth) services. The project aims to understand this difference and see what lessons can be learned for the development of innovative products and services. A key activity will be to map the assisted living capabilities in the regions using a standardised methodology to enable a useful comparison. Link to more information on FAST website	01/2/2014 31/3/2015

Annex A: Complete listing of AT research and development activity 2013-14

Project title Organisation(s) Contacts Funding	Project summary	Start and finish dates
MALT **Research lead:** School of Health and Related Research, University of Sheffield **Partners:** Leeds University **Contact:** 0114 222 5454 **Funder:** TSB ALIP, ESRC **Amount:** £1,810,000	MALT aims to identify the service redesign that is required to deliver telehealth at-scale and to calculate the impact on health economics and costs. The team have developed a financial model that enables commissioners to estimate the costs and benefits of different service options. Data collection to populate the model and provide default data has been completed with two NHS partner areas. Findings on staff and user acceptance have been published. These findings have supported co-design work with NHS partners to identify new service models. Further work to develop and disseminate an online version of the financial tool and to identify how to support the capacity of NHS staff to consider transformational change will be undertaken over 2014. Link to more information on FAST website	01/6/2011 30/11/2014
Manipulating the appearance of steps and stairs to make them safer for older people to negotiate **Research lead:** Bradford School of Optometry and Vision Science, University of Bradford **Contact:** 01274 236296 **Funder:** NIHR i4i **Amount:** £195,687	About a third of people over 65 fall at least once a year and this can have significant implications on their mortality, health and quality of life. Researchers have found that falls often occur on steps and stairs and that vision plays a major role in successful stair negotiation. Using the gait and vision laboratory at the University of Bradford, the project team have worked with a group of 50 older people to test a range of different step highlighters. Researchers found that the participants did perceive the steps with the added vertical stripe highlighters as taller and increased their foot clearance. Link to more information on FAST website	01/5/2012 30/4/2014
MATSIQEL **Research lead:** Faculty of Engineering and Environment, University of Northumbria **Partners:** departments at University of Northumbria; partners from Bulgaria, Germany **Contact:** 0191 243 7611 **Funder:** EU FP7 **Amount:** €189,000	Demographic changes across Europe mean there is an urgent need to develop ways of using technology to model the likely impact of an ageing population on healthcare and support services and to find ways of using technology to improve quality of life for older and disabled people. The team undertaking this modelling also looked at how to develop technological solutions such as telecare and online recreational games, which could help improve quality of life for older people. The concluding project conference took place in September 2013. The team note that a book of abstracts is available. Link to more information on FAST website	20/1/2011 19/1/2014

Project title Organisation(s) Contacts Funding	Project summary	Start and finish dates
METALL **Research lead:** Dolphin Computer Access Ltd. **Partners:** University of Southampton; Optelec Limited; Royal National Institute of Blind People; Dyslexia Action **Contact:** 01905 754 577 **Funder:** TSB CR&D **Amount:** £1,241,607	Around 500 million people worldwide are blind, visually impaired or dyslexic. Metadata, the storage of data and a description of its purpose, can personalise the delivery of accessible content to users across different technologies. The aim of the project was to demonstrate how access to on-demand, just-in-time, text-based digital content, can support accessibility. The project developed an accessibility metadata authoring tool and annotation service, which the team propose could be adopted by the creative digital industries to create metadata encoded resources. Development partners are now moving into the exploitation phase. Link to more information on FAST website	01/1/2012 30/6/2013
More Independent **Research lead:** Liverpool PCT **Contact:** 0808 100 1929 **Funder:** TSB ALIP dallas **Amount:** Not disclosed	The More Independent (MI) project is one of the four dallas communities that aim to deploy assisted living (telecare and telehealth) services at-scale. The approach to this challenge taken by Mi is to encourage individuals to take ownership of their own health and social care from an early age and to manage wellbeing in later life through better planning. The project will address the need to develop consumer level services that are appealing and affordable to people living on a low income. The Mi Mobile Smart House, the development of which is based on the HfT Smart House, has been launched and is being used within the community to demonstrate and promote sales of a range of assisted living technologies. An online version of the smart house is also available. Link to more information on FAST website	31/5/2012 30/6/2015
MICA **Research lead:** Institute of Brain, Behaviour and Mental Health, University of Manchester **Partners:** King's College London; University of Manchester **Contact:** 0161 275 7629 **Funder:** MRC **Amount:** £897,680	Mental health problems, such as schizophrenia, affect 2% of people and close monitoring of symptoms is required to prevent a relapse. The project aims to build a system for long-term symptom monitoring that can be linked to hospital and community based IT and care management systems. This end-to-end system will use widely available technologies based on open standards. The system is currently under development with work being undertaken to understand and address the challenge of integrating IT systems from the home through to the hospital. Link to more information on FAST website	01/2/2013 31/7/2015

Project title Organisation(s) Contacts Funding	Project summary	Start and finish dates
MND Wheelchair Project **Research lead:** Motor Neurone Disease Association **Partners:** Invacare UK; Otto Bock Healthcare PLC; Sunrise Medical Limited. **Contact:** 01604 250505 **Funder:** DH Innovation and Excellence **Amount:** £255,000	Motor Neurone Disease (MND) is a rapidly progressive, terminal neurological condition, of relatively low incidence. User requirements are for a powered wheelchair that: can be provided rapidly; can easily accommodate additional technology such as communication aids, respiratory equipment or powered control; and that can be adapted to provide increased posture support as the condition progresses. The team will develop service models to enable people with MND to receive a fast track assessment and provision of a wheelchair. The project is working with wheelchair manufacturers and stakeholders to develop a design for a powered wheelchair that can be rapidly adapted to the individual's changing needs. Link to more information on FAST website	01/4/2013 31/3/2015
MOBILE.OLD **Research lead:** AdvTec Ltd **Partners:** from Austria, the Netherlands, Spain, Romania, Germany **Contact:** 01793 480 888 **Funder:** EU AAL **Amount:** €2,497,725	Public transport services are increasingly offered online, with limited provision of phone or face to face customer services. This can limit the mobility of older people who are unfamiliar with computers. The team are providing travel services on internet-enabled TV, to provide a more familiar technology interface. Additional accessibility is provided through text-to-speech solutions for audio announcements. To support more technically confident people a smart phone-solution will allow access to Mobile.Old services outside the home. Evaluation has been completed, with findings due for publication in summer 2014. Link to more information on FAST website	01/6/2012 31/5/2014
MobileSage **Research lead:** Smart Environments Research Group, School of Computing and Mathematics, University of Ulster **Partners:** partners from Norway, Romania, Spain **Contact:** 028 9036 8918 **Funder:** EU AAL **Amount:** €2,398,645	The project has provided older people with context-sensitive, personalised and location-sensitive tools to allow them to carry out and solve every day travel tasks. The MobileSage services are installed on a mobile phone and cloud storage of the user profile ensures information is presented when required, in the language and format required by the user. The presentation of these services on their mobile phone is personalised to each individual. Following evaluation and design improvements that were carried out in 2013 a second version of the MobileSage Help-on-Demand service was released and trialled in 2013. Link to more information on FAST website	07/7/2011 30/3/2014

Project title Organisation(s) Contacts Funding	Project summary	Start and finish dates
Mobility, Mood and Place **Research lead:** Openspace Research Centre, Edinburgh College of Art **Partners:** Kings College London **Contact:** 0131 221 6177 **Funder:** EPSRC **Amount:** £1,273,657	Recent research shows that remaining active is vital for healthy ageing and that exercise provides protection against mental decline in old age. The project will investigate whether the experience of different environments impact on mood and emotion and whether this then influences people's willingness to be active. The team will make recommendations about the design of physical environments that will reduce anxiety and encourage people to be more active long into old age. The team propose to ask six older participants to have their brain activity measured using an EEG headset as they walk through chosen urban routes. Link to more information on FAST website	01/9/2013 31/8/2016
MOBISERV **Research lead:** Bristol Robotics Laboratory, University of West of England **Partners:** from Greece, France, Finland, Netherlands, Italy, Switzerland **Contact:** 0117 965 6261 **Funder:** EU FP7 **Amount:** €3,600,742	The Mobiserv platform aims to develop an intelligent autonomous robot to support older people to live independently. The team report that the robot can now learn to interact appropriately with users by monitoring their behaviour. The robot has capacity for two-way communication with the user, through speech or using a touch screen. User evaluation was undertaken and researchers report that the system can add value to older people's lives by supporting independence and encouraging interaction and stimulating activities. Link to more information on FAST website	01/12/2009 31/03/2014
MOMENTUM **Research lead:** NHS 24 Scotland **Partners:** Scottish Centre for Telehealth and Telecare; Telecare Services Association; partners from Denmark, Estonia, Israel, Norway, Spain, Sweden **Contact:** 0141 337 4501 **Funder:** EU ICT PSP **Amount:** €500,000	To support assisted living (telehealth and telecare) services to grow in scale, Momentum aims to build a network of organisations to gather and disseminate knowledge of best practice in assisted living deployments. The Momentum project has published 21 case studies of successful assisted living deployments in nine countries, based on responses to the Momentum questionnaire in 2012 and 2013. The case studies are accompanied by eight country reports that analyses the local policy and legal environment for assisted living. Link to more information on FAST website	01/2/2012 31/7/2014

Project title Organisation(s) Contacts Funding	Project summary	Start and finish dates
MoMo **Research lead:** Inventya Ltd **Partners:** from Germany, France, Luxemburg, Switzerland, Belgium **Contact:** 0845 055 9844 **Funder:** EU AAL **Amount:** €2,072,406	The MoMo solution aims to support older people to increase their level of physical activity and reinforce their cognitive competences by using video-conferencing games. The team propose this approach will promote physical interaction and will support monitoring of the individual's performance. Between December 2013 and March 2014 the team report that they undertook focus groups with end-users in Germany and France and health professionals in France and Switzerland. The findings from these studies will inform further design of the games over 2014. Link to more information on FAST website	01/6/2012 31/5/2015
MOROW **Research lead:** Stroke and Vascular Research Centre, University of Manchester **Contact:** 0161 306 7614 **Funder:** TSB SMART **Amount:** £130,450	5,000 people a year in the UK are left with permanent impairments after a stroke. The project team have developed a smart, electro-mechanical device to enable stroke survivors to practise walking at an earlier stage of recovery than previously possible. The project have produced and evaluated the device. The team note that findings will be made available in spring 2014. Link to more information on FAST website	01/3/2013 28/2/2014
MOST **Research lead:** Tunstall Group Ltd **Partners:** NHS North Yorkshire PCT; The Nuffield Trust; Ernst and Young Ltd **Contact:** 01977 661 234 **Funder:** TSB ALIP **Amount:** £940,375	The aim of this project was to identify economic and business models for at-scale delivery of telehealth. Partners are developing a toolkit of technology and guidelines to support the deployment of telehealth services. The team report that it was not possible to test the toolkit with NHS partners due to the impact of the introduction of new commissioning arrangements. A number of focus groups were undertaken to review this toolkit. The Nuffield Trust has developed a novel approach to evaluation of telehealth that uses standard hospital and community data sets. They propose that this method is likely to be more effective for assessing these technology interventions than a randomised controlled trial approach. Findings will be published in summer 2014. Link to more information on FAST website	01/1/2011 01/4/2013

Project title Organisation(s) Contacts Funding	Project summary	Start and finish dates
MyDisplay-v2 **Research lead:** Gamelab **Contact:** 0207 749 4833 **Funder:** TSB SBRI **Amount:** £35,652	6 million disabled and older people could benefit from the ability to personalise their experience of websites, e.g. by changing font size and colour and background colour. Website owners could also benefit from being able to measure the number of disabled people who use their websites, if only to calculate the return on their investment in accessibility. The project created a prototype MyDisplay-v2 tool to support personalisation of websites for accessibility. Researchers will use evidence of the value of the tool to attract potential licensees to fund further development of the tool. Link to more information on FAST website	01/4/2013 31/3/2014
MYHEALTHAVATAR **Research lead:** Dept of Computer Science and Technology, University of Bedfordshire **Partners:** University of Lincoln; partners from Hungary, Germany, Greece **Contact:** 01582 489 230 **Funder:** EU ICT PSP **Amount:** €3,364,588	Health services and their records systems are fragmented across many European countries, which is a challenge for travellers. MyHealthAvatar is a proof of concept for a personal health record (PHR). The PHR will employ an 'avatar' (a virtual presence) to provide a digital representation of the individual's health status and to facilitate the collection and communication of health information. The team report they have established the design of the avatar system and developed a scenario of how the system would be used in order to inform the design phase. Link to more information on FAST website	01/3/2013 29/2/2016
MyPLACE **Research lead:** School of Computing Science, Newcastle University **Partners:** departments from University of Newcastle; Northumbria University **Contact:** 0191 222 7972 **Funder:** EPSRC **Amount:** £1,301,006	The MyPlace team aim to design age-friendly cities. They will investigate people's experiences of mobility and access to the urban environment and how this changes over time. The project team will enable members of the public to participate in the research, planning and design of the urban environment working with city councils in the north-east of England. The team will develop, create and test a digital platform and toolkit to support this public engagement. Digital sensors will be used to capture evidence and experiences from older people as they travel through city centres. Link to more information on FAST website	01/10/2013 30/9/2016

Project title Organisation(s) Contacts Funding	Project summary	Start and finish dates
NANA **Research lead:** Centre for Assistive Technology and Connected Healthcare, University of Sheffield **Partners:** departments from University of Sheffield; University of Reading; **Contact:** 0114 222 5454 **Funder:** ESRC NDA **Amount:** £1,035,060	Malnutrition in older people, which can affect 1 in 4 of the older population, is linked to physical frailty. The Nana project worked to improve the current pen and paper methods used for collecting information about dietary intake, physical activity, mood and cognitive function. The Nana team created and tested a computerised toolkit for older people to record their mood and what they eat and drink. The evaluation found that older people were happy to use new technology at home on a daily basis. The team propose that these methods are more effective for communicating information on nutrition for older people and should be used more widely. Link to more information on FAST website	01/3/2009 30/6/2013
NAVMEM **Research lead:** Navevo Ltd **Partners:** from Germany, Sweden, the Netherlands **Contact:** 01462 476 444 **Funder:** EU AAL **Amount:** €1,980,000	Age related memory impairment or brain injury following accident or stroke may impact on a person's ability to navigate and to orient themselves when travelling. The team propose that providing constant, precise travel information can 'disable' the individual and not stimulate their capacity for independent travel. The project conducted user studies and analysed the results. These findings were presented to the technical partners at a project meeting in London in 2013 to support the design of prototypes for a user interface for a travel support service. A smart phone-based prototype has been developed for demonstration purposes. Link to more information on FAST website	01/10/2012 31/3/2015
Optical Navigation System for Visually Impaired People **Research lead:** Dept of Computer Science, University of York **Contact:** 01904 325 500 **Funder:** TSB SBRI **Amount:** £148,846	For people with vision impairment navigating around an unfamiliar environment presents significant challenges. GPS-based route finding systems have performance limitations that mean that they can only guide the user to the general vicinity of their destination rather than to the precise location required. The project team are developing a head-mounted sensing system embedded in a set of normal spectacles. The data that is gathered from this system will be used to provide information that can guide a person towards a precisely defined end point. Link to more information on FAST website	01/6/2013 31/5/2014

Project title Organisation(s) Contacts Funding	Project summary	Start and finish dates
OTCH **Research lead:** Primary Care Clinical Sciences, University of Birmingham **Contact:** 0121 414 6764 **Funder:** NIHR HTA **Amount:** £1,930,486	The project will undertake an evaluation of occupational therapy in care homes. The therapy intervention will include the provision of assistive technologies such as adapted cutlery or small adaptations to the environment. The team report that staff training on facilitating independence and mobility and the use of adaptive equipment has been delivered to participating care homes, with control homes receiving this after the 12 month follow-up. The evaluation stage is concluding and findings will be analysed over summer 2014. Link to more information on FAST website	01/9/2009 30/8/2014
Pain rehabilitation **Research lead:** Interaction Centre, University College London **Partners:** University of Leicester; Imperial College London **Contact:** 020 7679 0686 **Funder:** EPSRC **Amount:** £1,504,100	Assistive technology has not been exploited to support services to help people manage pain, largely because of the complex emotional issues involved. The project has developed prototype software, which can be used to motivate people who experience back pain while they are doing physical exercise. The project has developed prototype software, Going-With-The-Flow, which was created to provide spoken feedback in response to movement. To measure the degree the person was able to bend, the team used an iPhone attached by an adjustable belt to the participant's trunk. The phone was also used to provide auditory feedback at fixed intervals of increased stretch. Most participants reported significantly better performance with sound feedback. Link to more information on FAST website	01/5/2010 30/4/2014
Performance-based selective training for robot-mediated upper limb motor learning and stroke rehabilitation **Research lead:** School of Psychology, University of Birmingham **Partners:** departments from University of Birmingham **Contact:** 0121 414 4932 **Funder:** MRC **Amount:** £404,451	Over half of stroke survivors experience difficulty with reaching and grasping. Recent research suggests that therapy-assisted rehabilitation works because it is personalised to the individual and focuses on those areas which the individual finds most difficult. The project will attempt to replicate this approach for this robot-mediated rehabilitation programme, changing task difficulty across training sessions. The first year of the project has involved trials with healthy participants. An evaluation phase with participants who have had a stroke will be carried out in 2014. Link to more information on FAST website	01/11/2012 31/10/2015

Project title Organisation(s) Contacts Funding	Project summary	Start and finish dates
PIA **Research lead:** School of Computing and Mathematics, University of Ulster **Partners:** StickyWorld Ltd; Accord Group; from Norway, Germany and Spain **Contact:** 028 9036 6129 **Funder:** EU AAL, TSB **Amount:** €1,198,878	Older people typically wish to live independently in their homes and to perform daily activities by themselves or with the minimum of support. The PIA system will provide support to older people by offering video clips of tips on how to overcome challenges with daily living. These clips will be made available on a touch screen-based tablet computer. Sensors will be placed in different locations in participants' homes in order to help the PIA system select and present location-relevant video clips. A first version of prototype was evaluated in early 2014 through field trials with end-users and formal and informal carers. Link to more information on FAST website	01/3/2013 28/2/2015
Portrait System for Care Staff of People with Dementia **Research lead:** dot.rural (RCUK Digital Economy Hub) **Partners:** University of Dundee **Contact:** 01224 274065 **Funder:** EPSRC SIDE **Amount:** £10,027	Many people with dementia may experience problems with communication due to speech or memory impairment. This makes it difficult for care staff in residential homes to establish strong relationships and to understand the individual's life and personality. The Portrait system is designed to help care staff see the whole person by providing an easy-to-use way to see information about the lives of residents before they entered the care home. Portrait has been installed in the Heathfield care home in Scotland and plans are underway to expand its use elsewhere. Link to more information on FAST website	01/4/2012 30/4/2013
PREDICT **Research lead:** Faculty of Medicine, Imperial College **Partners:** The Royal Infirmary of Edinburgh; University of York **Contact:** 020 7594 9826 **Funder:** NIHR HTA **Amount:** £1,507,799	People with obstructive sleep apnoea hypopnoea syndrome (OSAHS) have difficulty in breathing during sleep due to blockage of the throat. This leads to disturbed sleep and excessive daytime sleepiness. OSAHS can be treated with continuous positive airway pressure (CPAP) which allows the individual to breathe pressurised air through a mask at night. Treatment been approved by NICE for use with middle-aged people but there is little research on its effectiveness for older people. 278 older people participated in the Predict study, with data collected over a 6-12 month period. The study concluded in summer 2013 and findings are due to be published in November 2014. Link to more information on FAST website	01/8/2009 30/6/2013

Project title Organisation(s) Contacts Funding	Project summary	Start and finish dates
PRESSURE 2 **Research lead:** Clinical Trials Research Unit , University of Leeds **Contact:** 0113 343 1477 **Funder:** NIHR HTA **Amount:** £1,856,758	Pressure ulcers are often a complication of serious or long term illness and are mainly caused by sitting or lying in one position for a long time. The project will investigate the difference between high specification foam mattresses and alternating pressure mattresses (electrically powered air filled mattress with sections which inflate and deflate in an alternating cycle). Both mattresses are used for people at high risk of pressure ulcers but there is no evidence of comparative benefits and some indication that people find foam mattresses more comfortable. Link to more information on FAST website	01/9/2013 01/4/2018
PrICELESS Design **Research lead:** Faculty of Technology, Design and Environment, Oxford Brookes University **Partners:** University of Reading; University of Southampton; University of the West of England, **Contact:** 01865 741 111 **Funder:** EPSRC **Amount:** £1,184,087	As people age, some people do adapt to changing physical circumstances and continue to cycle in older age. However many lack the desire to cycle because of fear of personal injury. The focus of the project is on people approaching later life (aged 50-59) and in later life (aged 60+) living in four cities and their surrounding areas: Oxford, Reading, Bristol and Cardiff. The project has developed the cycle BOOM website which provides the opportunity for members of the public to register their interest in taking part in the study. A literature review and scoping exercise have commenced which will help to inform the development of a toolkit for policy makers, engineers, designers, planners and architects. Link to more information on FAST website	01/10/2013 30/9/2016
ProFouND **Research lead:** School of Nursing, Midwifery and Social Work, University of Manchester **Partners:** 21 partners from 17 regions in 10 EU member states **Contact:** 0161 306 7614 **Funder:** EU ICT PSP **Amount:** €1,030,000	Many programmes are underway to reduce the number of older people experiencing falls, which have a significant impact on their health and independence. The project aims to support adoption of telecare-enabled falls-prevention services in at least 10 EU countries by 2015. The project has a website which will host the evidence-based content which the team are beginning to collect. It also enables participants to register to join the study. The team are developing an app to provide information for older people and their carers about how to prevent falls. Link to more information on FAST website	01/3/2013 29/2/2016

Project title Organisation(s) Contacts Funding	Project summary	Start and finish dates
RATULS **Research lead:** Stroke Research Group, Newcastle University **Contact:** 0191 208 6707 **Funder:** NIHR HTA **Amount:** £3,094,000	For several years researchers have undertaken studies of the benefits of using robotic assistance to support people to regain the use of a weakened arm following a stroke. This project will seek to establish conclusive evidence of the impact of robot-assisted training on arm function after stroke. The evaluation approach will be to compare robot assisted training with an enhanced NHS arm rehabilitation programme consisting of repeated practice of everyday activities. Link to more information on FAST website	01/4/2014 31/7/2017
REACTION **Research lead:** Dept of Information Systems and Computing, Brunel University **Partners:** Chorleywood Health Centre; partners from Spain, Sweden, Denmark, Germany, Greece, Germany, Hungary, Austria, Belgium, Switzerland **Contact:** 01895 203 397 **Funder:** EU FP7 **Amount:** €11,000,000	The incidence of diabetes is increasing and although people with type 2 diabetes who are not insulin users do not need to monitor their blood glucose levels the Reaction team proposed that a period of monitoring would help to support better management of the condition. The Reaction telehealth monitoring system was piloted in Chorleywood Health Centre for 12 months with 107 patients with diabetes participating as part of their regular review. Findings indicate this approach enables more accurate risk stratification and identification of patients requiring intervention. The team propose significant savings can accrue from wider implementation of this low-cost telehealth intervention. Link to more information on FAST website	01/3/2010 28/2/2014
REFORM **Research lead:** York Trials Unit, University of York **Contact:** 01904 321736 **Funder:** NIHR HTD **Amount:** £1,048,609	There is some evidence to suggest that foot problems and inappropriate footwear may increase the risk of falls for older people. The project is comparing the clinical and cost effectiveness of a multi-faceted podiatry intervention for falls prevention for people aged over 65s. It is also assessing the podiatrist's and participant's experiences of the intervention and the trial process. Researchers completed a pilot phase of the study in December 2013. The findings have been used to refine the design of the proposed large scale trial and the project team are now allocating participants on a random basis to different trial groups. Link to more information on FAST website	01/12/2011 31/5/2015

Project title Organisation(s) Contacts Funding	Project summary	Start and finish dates
Restoration of Reach and Grasp in Stroke Patients using Electrical Stimulation and Haptic Feedback **Research lead:** School of Electronics and Computer Science, University of Southampton **Partners:** departments from University of Southampton **Contact:** 023 8059 5000 **Funder:** EPSRC **Amount:** £464,231	People who have had a stroke leading to one-sided weakness (hemiplegia) in the arm require support for rehabilitation. Damaged muscles can be made to work by using Functional Electrical Stimulation (FES) on the nerves in the arm and shoulder. The project has evaluated a prototype home-based FES arm rehabilitation system working with six stroke survivors who had established hemiplegia. The project team found that participants experienced significant improvements to their ability to move their arm and to complete tasks. This data was used to further develop the system and the final phase of evaluation was completed in spring 2014. Findings will be available in summer 2014. Link to more information on FAST website	01/3/2011 28/2/2014
REWIRE **Research lead:** Dept of Engineering Science, University of Oxford **Partners:** from in Italy, Switzerland, Spain, Slovenia **Contact:** 01865 273 000 **Funder:** EU FP7 **Amount:** €3,558,902	Many people are discharged from care in hospital and sent home with the recommendation that they carry out specific exercises in order to continue their rehabilitation. The project has developed and tested a virtual reality-based rehabilitation platform that will encourage people to continue intensive rehabilitation at home while being remotely monitoring by staff at their hospital. The project has also developed some self-adaptive games to support walking rehabilitation at home. These games are currently under evaluation. Link to more information on FAST website	01/10/2011 30/9/2014
RICHARD **Research lead:** Centre for Health and Social Care Research, Sheffield Hallam University **Partners:** Advanced Digital Institute Ltd; CLAHRC-SY; partners from Italy, Sweden, Poland **Contact:** 01274 535 220 **Funder:** EU FP7 **Amount:** €3,349,863	The project focused on embedding telehealth services within hospital and community systems. The project used a range of technologies, including secure out-patient video consultation and a shared electronic health record. The service was provided from a telehealth hub based at Airedale NHS Foundation Trust in Yorkshire. The project evaluated the service through providing support to care home residents and to people at home with COPD. The impact of providing the service to care homes was to reduce hospital admissions by 45%, length of hospital stay by 30% and total hospital bed days by 60%. The impact of the service to people with COPD was to reduce hospital admissions by 45%, length of stay by 9% and total bed days by 50%. Link to more information on FAST website	01/9/2010 31/8/2013

Project title Organisation(s) Contacts Funding	Project summary	Start and finish dates
Robobraille in Education **Research lead:** Royal National College for the Blind **Contact:** 01432 265 725 **Funder:** EU Leonardo da Vinci **Amount:** €140,000	RoboBraille is a free email and web service capable of converting electronic documents into a range of high quality, alternative formats for people with vision impairment: including Braille, mp3 and Daisy, with full text and audio presentation in a range of languages. The project has analysed RoboBraille's impact in education for students and teachers and created the 'Catalogue of Good Practice' in using Robobraille in education, which is available to download from the Robobraille website. Link to more information on FAST website	01/11/2011 31/10/2013
Robojean **Research lead:** iANSYST Ltd **Contact:** 01223 420 101 **Funder:** TSB SBRI **Amount:** £100,000	People with reading impairment need text in a different format from the original. An accessible format may have a larger or different font, different foreground and background colours, or audio. The azzapt cloud service automatically converts a document from its original to a preferred format on different devices. The project team proposed that the quality of these conversions and the experience of using them on different devices needed improvement. Demonstrators have been created that can support text-to-speech, improve the intelligibility of the spoken text and permit annotations to the audio file which can be added to the original text file. Outcomes of the project have been used to improve the azzapt cloud service. Link to more information on FAST website	01/7/2012 31/12/2013
ROBOT-ERA **Research lead:** School of Computing and Mathematics, University of Plymouth **Partners:** from Italy, Germany, Sweden **Contact:** 01752 584 584 **Funder:** EU FP7 **Amount:** €8,459,081	The project aims to develop a service to support older people at home and when travelling that uses existing robotic systems and intelligent, sensor networks. More than 160 potential users of Robot-Era services were involved in focus groups and creative workshops to identify which robotic services Robot-Era should develop. The team are setting up two test sites in Italy and Sweden in preparation for the trials to be held during 2014. Link to more information on FAST website	01/12/2011 30/11/2014

Project title Organisation(s) Contacts Funding	Project summary	Start and finish dates
RUBICON **Research lead:** Faculty of Computing and Engineering, University of Ulster **Partners:** from Ireland, Italy, Spain, Sweden **Contact:** 028 9036 6305 **Funder:** EU FP7 **Amount:** €3,308,140	To enable robotic technologies to support older and disabled people it is necessary to ensure they can first operate seamlessly in everyday home situations. The project has developed cognitive and machine learning solutions that they believe could lead to cheaper and more adaptive robotic assistance. In summer 2013 the first version of the Rubicon software was released which allows the robotic system to make decisions based on what is happening in a particular environment. Evaluations of this component and a short validation of the system in a care home are currently being undertaken. The findings from this evaluation will be available in summer 2014. Link to more information on FAST website	01/4/2011 31/3/2014
SafeMove **Research lead:** e-Learning Studios Ltd **Partners:** from Germany, Austria, Switzerland, Israel **Contact:** 024 7652 5550 **Funder:** EU AAL **Amount:** €1,160,221	Older people may become reluctant to travel due to reduced confidence in their ability to cope with tasks which they previously found easy. The project aims to support older people to undertake daily activities such as buying tickets for public transport or going to the post office The project has investigated existing solutions, tools and devices and have worked with users to identify the kinds of problems that people may need help with (scenarios). The scenarios include “find public transportation”, “find home”, “grocery shopping”, “digital walk” or “schedule tasks”. The team are developing a prototype system and are testing this in a pilot evaluation. Link to more information on FAST website	01/7/2012 30/6/2015
SALT **Research lead:** Business School, Newcastle University **Partners:** Years Ahead Ltd; Critical Data Ltd; Docobo UK Ltd; RTC North Ltd; Cybermoor Services Ltd; Age UK; ADL Smartcare Limited; Intrahealth Ltd **Contact:** 0191 243 0770 **Funder:** TSB ALIP, ESRC **Amount:** £2,000,000	The objective of the project was to design new business models for large-scale assisted living services. The project has found that: the current assisted living (telecare and telehealth) market is significantly smaller than predicted and few, if any, assisted living businesses were identified as genuinely sustainable. Activity to co-design services with 3rd sector partners has identified that the e-marketplaces for care services may not suit assisted living services and have not been widely adopted. Work is underway to identify how to build the capacity of industry and service providers to develop disruptive, transformative services based on the needs of older and disabled service users and consumers. Link to more information on FAST website	01/2/2011 21/6/2014

Project title Organisation(s) Contacts Funding	Project summary	Start and finish dates
SAMS **Research lead:** School of Computing and Communications, Lancaster University **Contact:** 01524 510 313 **Funder:** EPSRC **Amount:** £248,497	An increasing number of older people regularly use the internet to keep in touch with their families, particularly grandchildren. This online activity presents an opportunity to harness rich, routinely available information that may contain indications of changes in the linguistic, executive and motor speed abilities in older people. Promoting self-awareness of change in cognitive function is a key step in encouraging people to self-refer for assessment for dementia related conditions. The project will develop a non-invasive tool that helps individuals develop this self- awareness. Link to more information on FAST website	01/4/2013 31/3/2016
SCRIPT **Research lead:** Adaptive Systems Research Group, University of Hertfordshire **Partners:** departments from University of Hertfordshire; R U Robots Ltd; University of Sheffield; partners from Netherlands, Italy, Germany **Contact:** K.Dautenhahn@herts.ac.uk **Funder:** EU FP7 **Amount:** €4,643,983	The project aims to use robotic technology to encourage intensive use of rehabilitation exercises for people who have had a stroke. The project developed a prototype system including hand and wrist orthosis and software components. During 2013 the system underwent a six week evaluation with 24 participants across three countries. The results of this evaluation are being analysed. A new version of the device has been developed and six additional games have been developed. Further development and dissemination of the findings will be undertaken over 2014. Link to more information on FAST website	01/11/2011 31/10/2014
SENSE-PARK **Research lead:** Cure Parkinson's Trust **Partners**: from Germany , Norway , Portugal **Contact:** 07789 842 372 **Funder:** EU FP7 **Amount:** €2,737,627	The symptoms of Parkinson's Disease are treated as they arise, and there is little that the individual can do to actively manage or monitor their condition. The project aims to develop an unobtrusive information system for people with Parkinson's to use at home, based on a wrist sensor. The aim is that this will provide a practical tool to monitor patterns in the progress of the condition and to use this information to understand when best to provide self-care information to the individual. The project completed its development phase in 2013. Developments will be tested throughout 2014. Link to more information on FAST website	01/10/2011 30/9/2014

Project title Organisation(s) Contacts Funding	Project summary	Start and finish dates
SGSCC **Research lead:** Interactive Systems Research Group, Nottingham Trent University **Partners:** from Germany, Portugal, Norway **Contact:** 0115 848 6019 **Funder:** EU LLP **Amount:** €533,228	It is important for people with learning difficulties to learn social competence but it is rarely taught in schools and colleges. The project is developing computer games for adolescents and young adults with mild learning difficulties in order to increase their social competence and their employability. Project partners have agreed on the final versions of the game scenarios for desktops and mobile phones. An initial analysis of social competence and technological support through gaming has been published. The project team are developing the games, which will be available for testing in 2014. Link to more information on FAST website	01/1/2013 30/6/2015
SHARE-IT **Research lead:** Institute of Education, University of London **Partners:** Birkbeck College; University of Birmingham **Contact:** 020 7612 6000 **Funder:** EPSRC **Amount:** £241,599	Children with autistic spectrum conditions have poor communication skills and difficulty in performing tasks that require social interaction. The project will investigate how different body-worn and mobile devices can be used to create a scalable, intelligent, learning environment. The research team have developed a suite of tools for creating (authoring) the learning environment. The Share-IT software is being tested on Windows and Apple devices and has been demonstrated to parents and teachers. The project has also been able to integrate eye-tracker technology into the learning environment. Information from the eye-tracker device will provide researchers with further input about the child's actions and this will inform the software agent's behaviour in real-time. Link to more information on FAST website	01/1/2013 31/7/2014
SIMPLE4ALL **Research lead:** Edinburgh Research and Innovation, University of Edinburgh **Partners:** from Finland, Romania, Spain **Contact:** 0131 650 9090 **Funder:** EU FP7 **Amount:** €3,990,615	For people who use voice output communication aids, the synthetic voice used by the device has a significant impact on the individual. The project has developed a number of applications to support speech processing including: Dexter, which is a diary system based on open source toolkit which extracts the most relevant features from a non-transcribed speech file and then turns the file into text; Ossian which is a tool to create speech synthesis applications; and the 'Tundra Corpus', an online repository of speech resources in various languages which is freely available to the speech-processing community. Link to more information on FAST website	01/11/2011 31/10/2014

Project title Organisation(s) Contacts Funding	Project summary	Start and finish dates
SmartCare **Research lead:** NHS 24 Scotland **Partners:** Scottish Centre for Telehealth and Telecare; partners from Greece, Spain, Italy, Austria, Belgium, France, Finland, Germany, Luxemburg, Portugal, Croatia, Estonia, Serbia, The Netherlands **Contact:** 0141 337 4501 **Funder:** EU ICT PSP **Amount:** €8,000,000	The challenge for organisations wishing to deliver assisted living (telecare and telehealth) services at scale is the lack of standards to support data-sharing, coordination and communication. In this project 24 European regions are defining a set of integration building blocks; ten regions will then use this specification to pilot integrated health and social services while others will prepare for early adoption. The project will produce and document much needed evidence on the impact of integrated care. Guidelines and specifications for procuring, organising and implementing the service building blocks will be produced. Pilot regions began operation in spring 2014. Link to more information on FAST website	01/3/2013 29/2/2016
SONOPA **Research lead:** Docobo UK Ltd **Partners:** from The Netherlands, Spain, Germany, France, Belgium **Contact:** 01372 459 866 **Funder:** EU AAL, TSB **Amount:** €1,444,061	Promoting physical activity and social networking of older people is proposed as one way to maintain their physical confidence and independence. The project will employ a set of computer and sensor technologies, for example, reminders and recommendations on easy-to-use wall displays in the home. The research team will employ data analysis techniques to create a model for the wellness of the user using four measurement areas: social, eating, leisure habits and mobility. The project has demonstrated the results of the testing phase and are preparing for the next evaluation phase. Link to more information on FAST website	01/10/2012 31/3/2015
SPHERE **Research lead:** Dept of Electrical and Electronic Engineering, University of Bristol **Contact:** 0117 954 5391 **Funder:** EPSRC IRC **Amount:** £11,683,481	The UK is the most obese nation in Europe with a rapidly ageing population that is especially at risk from isolation, depression, strokes and fractures caused by falls in the home. To address these challenges the Sphere project will bring together researchers from a range of disciplines to investigate how sensor technologies can help to deliver innovative health and care support services at home. The project will develop sensors for a range of applications, such as those that employ video and motion analytics to predict falls or detect strokes. The project has recruited a research team and early work has started. Link to more information on FAST website	01/10/2013 30/9/2018

Project title Organisation(s) Contacts Funding	Project summary	Start and finish dates
Stories at the Dentist **Research lead:** School of Computing, University of Dundee **Partners:**, University of Dundee **Contact:** 01382 385 597 **Funder:** EPSRC **Amount:** £293,221	One challenge facing people with learning disability is anxiety when visiting the dentist. The project aims to develop a computer based communication system to support people with learning disabilities to understand dental procedures with the aim of reducing their anxiety. Researchers ran a design workshop in June 2013 to obtain advice and information from the learning disability community. Based on this information a prototype of the communication software was developed. This is now available to view on the project website. Link to more information on FAST website	01/1/2013 30/6/2014
STRANDS **Research lead:** School of Computer Science, University of Birmingham **Partners:** University of Leeds; University of Lincoln; partners from Sweden, Germany, Austria **Contact:** 0121 414 3744 **Funder:** EU ICT PSP **Amount:** €10,774,552	Enabling robotic assistants to understand and adapt to an unstructured home space as it changes over time is challenging. Spatio-temporal information about people moving and furniture changing position are largely treated as errors by robots and these errors accumulate over time, preventing many robots from running for more than a few hours at a time. The intention is that Strands robots will be tested in a care home for older people in Austria and an office environment patrolled by a security firm in the UK by the end of the project. Link to more information on FAST website	01/4/2013 31/5/2017
Street mobility and accessibility **Research lead:** Dept of Epidemiology and Public Health, University College London **Contact:** 0207 679 1680 **Funder:** EPSRC **Amount:** £1,281,008	Walking (or cycling) around an area helps people to keep physically active in their daily life, reducing the risks of obesity and depression. Busy roads can deter people from going outside their home to socialise, walk or cycle because of noise or fear of injury. This is called community severance. The project will develop an understanding and measure of Community Severance. The project report that they have set up an Advisory Group and appointed three researchers to the project team. Link to more information on FAST website	01/1/2014 30/9/2016

Project title Organisation(s) Contacts Funding	Project summary	Start and finish dates
Strokeback **Research lead:** School of Electronics and Computer Science, University of Southampton **Partners:** Research for Science and Technology Ltd; partners from Germany, Greece, Hungary **Contact:** 023 8059 5000 **Funder:** EU FP7 **Amount:** €4,300,561	People who survive a stroke typically need intensive rehabilitation in order to regain lost functionality. The StrokeBack project intends to develop an automated remote rehabilitation system for use in home settings. Researchers will use state-of-the-art monitoring devices to form a wireless body area network to gather information about the individual and to track their progress. No update information is available. Link to more information on FAST website	01/10/2011 30/9/2014
Study into the effectiveness of a postural care education program **Research lead:** Child Health Offices, East Kent Hospitals University NHS Foundation Trust **Partners:** University of Kent **Contact:** 01227 782 469 **Funder:** NIHR RfPB **Amount:** £241,930	Physically disabled children may need to maintain good posture. The project intends to help parents and staff in mainstream schools to support children to improve their posture using an education program modelled on 'An A-Z of postural care', a booklet previously developed by parents, therapists and teachers. Seventy-five parents and teaching staff took part in the training programme and follow-up. Results suggest that a postural care training programme is an effective way of improving the confidence and knowledge of carers and that participants had fewer concerns about posture maintenance after attending the course. Link to more information on FAST website	01/7/2011 31/8/2013
SUSOROL **Research lead:** Faculty of Engineering, University of Leeds **Contact:** 0113 343 2080 **Funder:** NIHR i4i **Amount:** £346,569	Around 14 million people in the UK have a bladder control problem, costing the NHS £600m annually. These continence issues can severely impair quality of life. Various devices, such as incontinence pads, exist to combat these continence issues, but have significant disadvantages. The project will build on previous research by developing new components and engineering new materials into user-approved, fully-flushable continence management devices. No update information is available. Link to more information on FAST website	12/9/2011 12/9/2013

Project title Organisation(s) Contacts Funding	Project summary	Start and finish dates
SUSOSTOMY2 **Research lead:** Faculty of Engineering, University of Leeds **Contact:** 0113 343 2080 **Funder:** NIHR i4i **Amount:** £297,752	In the UK, over 100,000 people live with a stoma, commonly known as a colostomy, ileostomy or urostomy. This is a surgically-created opening in the bowel that allows the removal of waste out of the body, to drain into a pouch or other collection device, known as an ostomy device. A major concern amongst stoma users is changing and disposing of their ostomy device. The project will develop new materials to enable the prototyping of a fully toilet-disposable ostomy device. Researchers will develop materials that can be biodegradable within a municipal waste treatment environment. No update information is available. Link to more information on FAST website	03/5/2011 02/5/2013
SYSIASS **Research lead:** School of Computer Science and Electronic Engineering, University of Essex **Partners:** University of Kent; East Kent Hospitals University NHS Foundation Trust; partners in France **Contact:** 01206 872 770 **Funder:** EU Interreg IVA **Amount:** €2,466,406	Some older and disabled people who would benefit from using a powered wheelchair lack the necessary strength, cognitive ability or dexterity to operate joystick controls effectively and safely. The aim of this project is to develop a wheelchair system that uses human-machine interface for hands-free control. Researchers have equipped a commercial wheelchair with multiple sensors and embedded computers. The team have demonstrated the capacity of the system to automatically avoid obstacles. The system is not accurate and robust enough for commercial use because of the limitations of the current sensors. Future work will address these challenges with further testing of the wheelchair with more participants. Link to more information on FAST website	01/12/2010 31/12/2013
Telehealth for COPD patients **Research lead:** Dept of Engineering Science, University of Oxford **Contact:** 01865 273 000 **Funder:** DH and Wellcome HIC **Amount:** Not disclosed	The project aims to develop an easy-to-use mobile phone based system that will support people with Chronic Obstructive Pulmonary Disorder (COPD) to monitor their condition. The project has shown that a well-designed self-management application on an Android tablet can be made intuitive and easy to use, even by older people with no prior experience of computing. The project team report a high level of engagement and continued use by the 23 participants who are taking part in the feasibility study. The percentage of days on which the older participants have completed their diaries is 84%. This evaluation continues. Link to more information on FAST website	01/6/2012 31/5/2015

Project title Organisation(s) Contacts Funding	Project summary	Start and finish dates
TeleSCoPE **Research lead:** Health Design and Technology Institute, Coventry University **Partners:** Telecare Services Association **Contact:** 024 7615 8000 **Funder:** EU Health Programme **Amount:** €961,518	The project has developed a European Code of Practice for Telehealth Services. The code covers a range of technologies including mobile apps, interactive television and worn, carried and (potentially) implanted sensor devices. The framework and initial content of the draft Code was validated in five member states during 2012 and 2013. Extensive consultation has taken place throughout the period of the project and the code was launched in October 2013. Link to more information on FAST website	01/8/2010 30/6/2013
Text Entry by Inference **Research lead:** School of Computer Science, University of St Andrews **Contact:** 01334 463 253 **Funder:** EPSRC **Amount:** £183,157	The project aimed to improve the efficiency and ease of text entry for disabled people. The project developed two new intelligent text entry methods: a system that enables disabled users to communicate efficiently using an eye-tracker and an intelligent text entry method inspired by stenography. The team report that they aim to release the software under an open source license and they hope to attract third-party developers, possibly by merging the project into a larger project that has an established developer community. Link to more information on FAST website	01/3/2011 31/5/2013
The Effectiveness of Portable Electronic Vision Enhancement Systems for Near Vision in Visual Impairment **Research lead:** Faculty of Life Sciences, University of Manchester **Contact:** 0161 306 7102 **Funder:** NIHR RfPB **Amount:** £247,429	Reading presents a major challenge for people with low vision and it is known that this is a major cause of depression in an older population. Recent advances in technology have brought about an explosion in the number and range of portable and moderately-priced electronic magnification aids, but these are currently not available through the NHS. Evidence is needed as to whether these magnifiers could offer a significant benefit to the majority of people with low vision and therefore whether they should be routinely dispensed in low vision clinics. The study is trialling optical magnifiers for two months. Link to more information on FAST website	01/10/2012 30/9/2014

Project title Organisation(s) Contacts Funding	Project summary	Start and finish dates
The Heels Trial **Research lead:** Nottingham Clinical Trials Unit, Nottingham University Hospitals NHS Trust **Contact:** 0115 884 4919 **Funder:** NIHR HTA **Amount:** £1,358,852	About 15% of all people with diabetes get foot ulcers. There are currently no treatments, but there is anecdotal evidence that, for some people, lightweight fibreglass heel casts, or 'heel cups', have encouraged an improvement in the rate of healing and can reduce pain. The team report that they have recruited 466 of the planned 529 participants so far to the trial, working with 30 diabetes centres throughout the UK. These participants will be followed-up every 2 weeks for up to six months. Link to more information on FAST website	01/2/2011 31/1/2016
TOPS **Research lead:** Centre for Rural Health, University of Aberdeen **Partners:** Institute of Rural Health Research, Wales **Contact:** 01463 255 892 **Funder:** RCUK Digital Economy **Amount:** £152,500	The aim of the project was to support older people in rural areas living with chronic pain. It aimed to do this by providing online support and advice on appropriate exercise and activities and tips and advice to help their condition. The project team investigated the views of older people to find out their views about online, assistive support programmes. Results suggest that older people and their health and social care providers are open to the use of assisted living as part of an overall care package but they are resistant to any proposal that this could replace face-to-face care. Link to more information on FAST website	01/1/2011 31/12/2013
TRACY **Research lead:** School of Geography, Earth and Environmental Sciences, University of Plymouth **Partners:** from Spain, Norway **Contact:** 01752 584 584 **Funder:** EU FP7 **Amount:** €511,178	Planners recognise that it is important to address the needs of older people in developing future transport strategies in Europe. The project has reviewed the impact of an ageing population, previous literature concerning transport, mobility and older people and EU-wide and national level policies and programmes that impact on transport. The research team were able to develop solutions and recommendations, and to identify research gaps. A concluding project conference to disseminate findings was held in Brussels in November 2013. Link to more information on FAST website	01/10/2011 30/9/2013

Project title Organisation(s) Contacts Funding	Project summary	Start and finish dates
True Colours **Research lead:** Dept of Psychiatry, Oxford Neuroscience **Contact:** 01865 613 131 **Funder:** NIHR Applied Research **Amount:** £1,606,946	Bipolar disorder is a recurrent and severe mental illness and people with bipolar disorder also experience a high level of physical illness, particularly cardiovascular disease. Monitoring of both psychological and physical status is central to care management. The project has developed the 'True Colours' website, which allows people with bipolar disorder to report their mood either online or by text message. The team report that a range of additional health related questions has been added to the True Colours website, together with a series of self-help booklets to extend the application of the approach to a wide range of mental health disorders. The programme has been rolled out across all adult community mental health teams in Oxford and will be evaluated in 2014. Link to more information on FAST website	01/12/2009 30/11/2014
TRUMP **Research lead:** School of Computing Science, Newcastle University **Partners:** departments from Newcastle University; University of Northumbria; University of Aberdeen; University of Dundee **Contact:** 0191 222 7972 **Funder:** EPSRC **Amount:** £1,684,861	Services supporting people with chronic diseases face particular challenges in rural areas in the UK. This issue is also relevant to India where 71% of the population live in rural areas. The project will explore the potential of telehealth systems that use mobile phones (m-health). The team report that activity has been undertaken to map the healthcare approaches to supporting self care in the different countries. Pilot study areas have been selected in Andhra Pradesh in India and rural Aberdeenshire and Newcastle in the UK. Detailed study work in these areas is due to be carried out in 2014. Link to more information on FAST website	01/1/2012 31/12/2014
Trustworthy Robotic Assistants **Research lead:** Dept of Computer Science, University of Liverpool **Contact:** 0151 795 4275 **Funder:** EPSRC **Amount:** £378,892	The development of robotic assistance for disabled and older people is being held back by safety concerns. The project will analyse techniques to promote safety in human-robot interactions. The project team are investigating how robotic assistants can be proven to be safe within the home environment. They will use a process of testing that starts with constant verification of tasks and is followed by simulation-based testing before moving on to real-life user evaluation. These findings have been presented at a range of conferences over 2013. Work will continue to evaluate in-home safety issues over 2014. Link to more information on FAST website	01/3/2013 31/8/2016

Project title Organisation(s) Contacts Funding	Project summary	Start and finish dates
TWIST **Research lead:** Royal Cornwall Hospitals NHS Trust **Contact:** 01872 250 000 **Funder:** NIHR RfPB **Amount:** £249,794	This project aimed to develop a rehabilitation approach for stroke survivors who experience weakness in their hand or arm. The study recruited 240 participants who undertook a six week trial of exercise with the Wii in addition to their usual rehabilitation. The team report that a follow up of the last participant for this study was completed at the end of March 2014. A qualitative study which included 18 of the 240 participants has been completed and a paper has been submitted to the Journal of Clinical Rehabilitation. Full results of the trial will be published in July 2014. Link to more information on FAST website	01/1/2011 29/12/2013
UBhave **Research lead:** School of Psychology, University of Southampton **Partners:** departments from University of Southampton; University of Oxford; University of Cambridge; University College London; University of Birmingham **Contact:** 023 8059 3995 **Funder:** EPSRC **Amount:** £1,524,140	The project is investigating the potential of mobile phone technology to support behaviour change interventions. Digital Behaviour Change Interventions (DBCIs) are interactive, automated packages of advice and support for behaviour change. The aim is to use the phone to gather data about the user's behaviour unobtrusively and to provide users with peer and expert advice through an online social network. The project will focus on weight management, and aims to recruit large samples of people from the 'MyPersonality' population of 3 million Facebook users. There is currently no information available on the progress of this project. Link to more information on FAST website	01/10/2011 31/3/2015
UBIHEALTH **Research lead:** Interaction Centre, University College London **Partners:** from Denmark, Italy, Switzerland, Mexico, Chile, China, USA **Contact:** 0207 679 0686 **Funder:** EU FP7 **Amount:** €814,800	There are proposed to be a wide range of applications for digital healthcare interventions that use data gathered from the individual through sensors in the environment, including supporting disabled and older people to maintain independence. The project has created a research exchange foundation to enable students from Mexico, Chile, China and the USA to share knowledge in pervasive (digital) healthcare. Link to more information on FAST website	01/9/2012 31/8/2016

Project title Organisation(s) Contacts Funding	Project summary	Start and finish dates
United4Health **Research lead:** NHS 24 Scotland **Partners:** from Czech Republic, Denmark, Finland, France, Germany, Greece, Italy, Norway, Poland, Slovenia, Spain **Contact:** 0141 337 4501 **Funder:** EU ICT PSP **Amount:** €10,500,000	The Scottish government has invested heavily in the development of telehealth services. The project will involve the telemonitoring and the treatment of people with diabetes, Chronic Obstructive Pulmonary Disease (COPD) or Cardiovascular disease (CVD). The project team are undertaking a multi-centre clinical trial measuring the efficiency and the cost effectiveness of these telehealth solutions. The ambition is that this investment and the expertise gained by Scottish companies will help to unlock the market for these services in the whole of the EU. The project will start rolling out information services to support self-care, that can be accessed through tablet computers and smartphones, from May 2014 across Ayrshire, Arran and the Clyde Valley. Link to more information on FAST website	01/1/2013 31/12/2015
Use of computer games to provide motivating, child centred therapy to improve bimanual skills for children with hemiplegic cerebral palsy **Research lead:** Limbs Alive Ltd **Contact:** 0191 282 3198 **Funder:** NIHR RfPB **Amount:** £248,198	Babies who experience stroke can grow up to experience difficulty using one side of their body (hemiplegia). The research team has previously designed computer games requiring two-handed control that encourage the use of a weaker arm. The aim of this project was to find out if children will play these games regularly and to establish their impact. Children participating in the trial received a laptop with a randomly allocated set of games installed. For those participating in the intervention group, the games required participants to build dexterity in both hands and the task difficulty was adjusted to take account of increasing skill in bi-manual hand use. Findings are currently being analysed and will be published in summer 2014. Link to more information on FAST website	01/1/2011 31/12/2013
USEFIL **Research lead:** Institute of Digital Healthcare, Warwick University **Partners:** from Germany, Finland, Israel, Greece, The Netherlands **Contact:** 0247 6151 341 **Funder:** EU FP7 **Amount:** €4,630,000	The aim of this project is to develop affordable and unobtrusive home monitoring and web communication solutions to support older and disabled people to live independently. The needs of target users for such a system have been identified. This has formed the basis for the system design. The project has produced the individual modules that will form the Usefil system; these include a wrist watch, an internet TV, a tablet and an interactive mirror. The system is being trialled with participants. Link to more information on FAST website	01/11/2011 31/10/2014

Project title Organisation(s) Contacts Funding	Project summary	Start and finish dates
Value Ageing **Research lead:** Centre for Built Environment Research, Queen's University Belfast **Partners:** from Italy, Austria, Spain, Belgium, Greece, Ireland **Contact:** 028 9097 4006 **Funder:** EU Marie Curie **Amount:** €1,834,810	The project will seek to understand the ways in which existing values are driving technology innovation, and how technology in its turn is changing society standards. The aim of the project is that social scientists, ethicists and technologies will learn from each other. The project consortium organised the 'Graceful Ageing: Exploring the contribution and potential of ICT' conferences, which took place in Dublin in September 2013. Link to more information on FAST website	01/10/2010 30/9/2014
VERITAS **Research lead:** Dept of Information Systems and Computing, Brunel University **Partners:** University of Newcastle; partners from Germany, Greece, Italy, Spain, France, Belgium, Bulgaria, Czech Republic, Switzerland **Contact:** 01895 203 397 **Funder:** EU FP7 **Amount:** €11,701,443	There is a need for a more consistent approach to ensure all services meet basic accessibility requirements. This project aimed to develop assess tools for built-in accessibility support at all stages of ICT and non-ICT product development, including specification, design and testing. The project team have demonstrated accessibility engineering in a series of public conferences throughout Europe using computer models, simulation and virtual reality. The team report that evaluation proved that the simulation and design experience methods developed by the team are appropriate tools for designing more inclusive products. Link to more information on FAST website	01/1/2010 31/12/2013
ViPi **Research lead:** Interactive Systems Research Group, Nottingham Trent University **Partners:** from Lithuania, Belgium, Greece, Cyprus **Contact:** 0115 848 6019 **Funder:** EU Lifelong Learning (Grundtvig) **Amount:** €428,931	The aim of this project was to explore the ways in which ICT can be used to increase the employment of disabled people. The project developed training modules that could be accessed online and via mobile phones. The team report that the ViPi ICT curriculum, training courses, desktop and mobile games, e-learning platform were delivered and piloted in all five partner countries during 2013. The evaluation results were published in early 2014. The ViPi portal is now available with a range of learning materials and online educational games suitable for people with learning difficulties. Link to more information on FAST website	01/1/2011 31/12/2013

Project title Organisation(s) Contacts Funding	Project summary	Start and finish dates
VISAL **Research lead:** RNIB South West **Partners: from** Netherlands, Austria, Slovakia, Croatia **Contact:** 0117 953 7750 **Funder:** EU Lifelong Learning (Grundtvig) **Amount:** Not disclosed	Although they represent an increasing part of the population, visually impaired older people can be a marginalised community in lifelong learning. The project is developing an informal training course, tailor-made to meet the learning needs of older people with vision impairment. The evaluation phase of the project ran between May and September 2013 with the participation of more than 70 visually impaired older people from Austria, Croatia, Slovakia and the UK. A revised toolkit based on feedback was tested between December 2013 and February 2014. New resources are being developed with the support of visually impaired participants. Link to more information on FAST website	01/11/2012 31/10/2014
V-TIME **Research lead:** Newcastle University and Newcastle upon Tyne Hospitals NHS Foundation Trust **Partners: from** Israel, Belgium, Italy, the Netherlands, Czech Republic **Contact:** 0191 282 5959 **Funder:** EU FP7 **Amount:** €7,477,391	Health and care services invest significantly in falls prevention initiatives. Pilot studies indicate that using a treadmill together with virtual reality applications not only provides physical exercise but stimulates functions such as visual scanning and dual tasking as people 'plan' where to walk and negotiate obstacles. A randomized controlled trial involving a diverse group of older people will demonstrate the extent to which this intervention reduces fall risk, improves mobility and enhances cognitive function. Evaluation is due to start in 2014. Link to more information on FAST website	01/1/2012 31/12/2015
WAM **Research lead:** Civil and Environmental Engineering, University College London **Partners:** departments from University College London **Contact:** 020 7679 7224 **Funder:** EPSRC **Amount:** £994,066	A number of projects are looking at the potential of exoskeletons to support people to walk unaided. WAM is developing concepts for an exoskeleton and are looking at materials and techniques that might improve the design of the exoskeleton. Project engineers have been researching the body forces associated with daily life activities such as walking, sitting down, standing up, cooking and other household tasks. Link to more information on FAST website	01/3/2013 29/2/2016

Project title Organisation(s) Contacts Funding	Project summary	Start and finish dates
WheelSense **Research lead:** Faculty of Engineering and Computing, Coventry University **Partners:** Coventry University **Contact:** 024 7688 8673 **Funder:** NIHR i4i **Amount:** £600,000	The project developed a system for measuring and improving wheelchair performance, which uses a folding platform with measurement software accessed via a laptop or desktop computer that can be used by clinical staff in specialised equipment services. A multi-centre evaluation with NHS partners took place between September 2013 and April 2014 to assess the usability of the system. The Wheelsense team are seeking a commercial partner to take the final product to market. Link to more information on FAST website	01/5/2010 30/4/2013
Year Zero **Research lead:** Illumina Digital Ltd **Contact:** 0208 600 9300 **Funder:** TSB ALIP dallas **Amount:** Not disclosed	The project aims to develop online applications that enable individuals to manage their health information throughout their life and to integrate this information with that held by statutory services such as the NHS. Services currently being developed include: 'A Better Plan', a personal care planning app owned by the citizen which can be shared with family, friends, carers and the statutory services; 'Good Neighbours', a web-based network that can be used as a circle of care to support an individual; and eRedbook, the UK's first digital Personal Child Health Record, that provides parents and clinicians with the tools they need to manage a child's healthcare from day one. Link to more information on FAST website	31/5/2012 30/6/2015

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