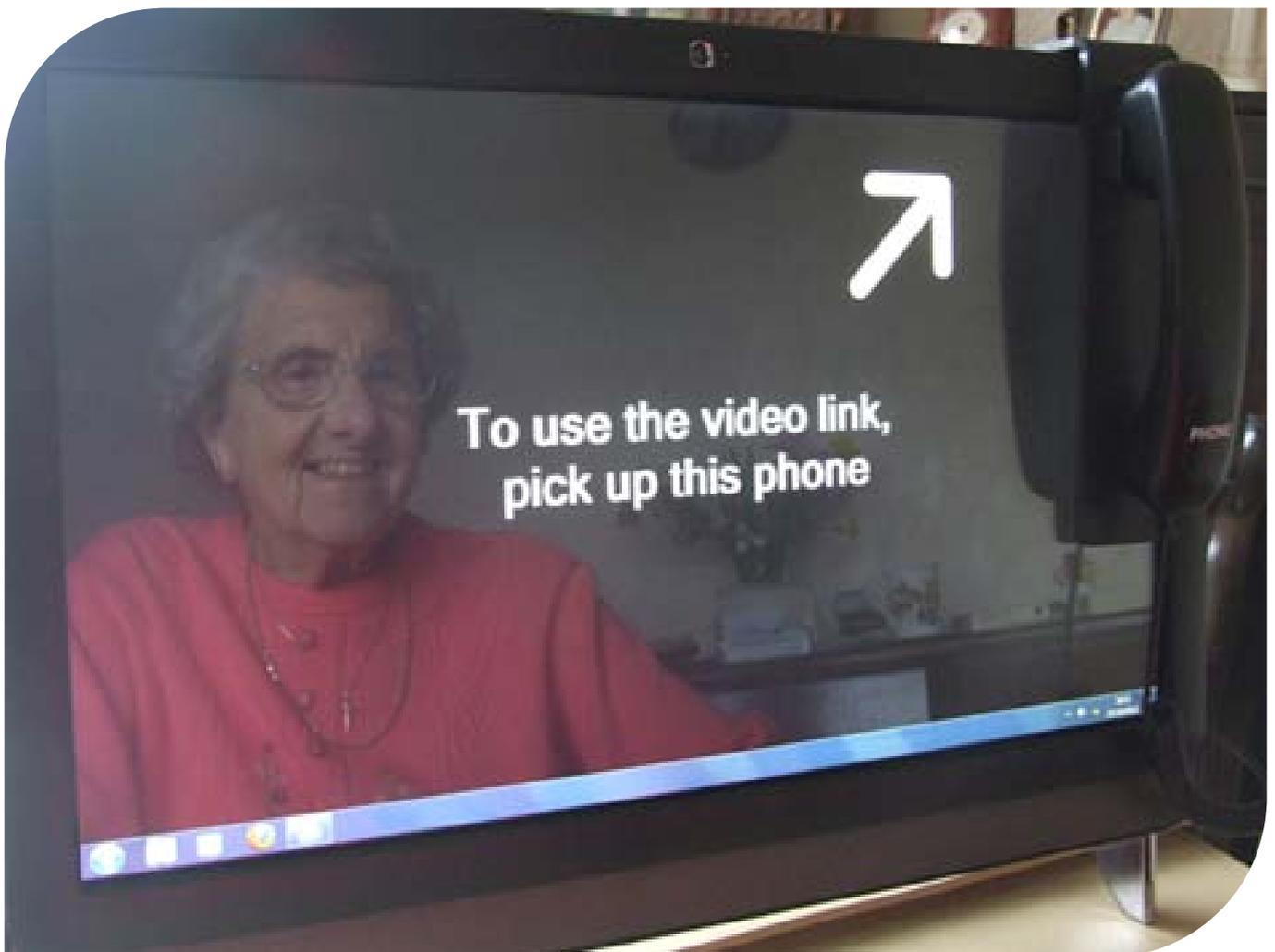




Department  
of Health

# Research and development work relating to assistive technology

2012-13



July 2013



Department of Health

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2012-13

Presented to Parliament pursuant to Section 22 of  
the Chronically Sick and Disabled Persons Act 1970

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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 purposes 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 2012-March 2013 FAST recorded 218 projects carrying out research and development activity in assistive technology over the year, of which 88 concluded during the year, a similar level of activity to that recorded in last year's report.

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 2012-March 2013 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.

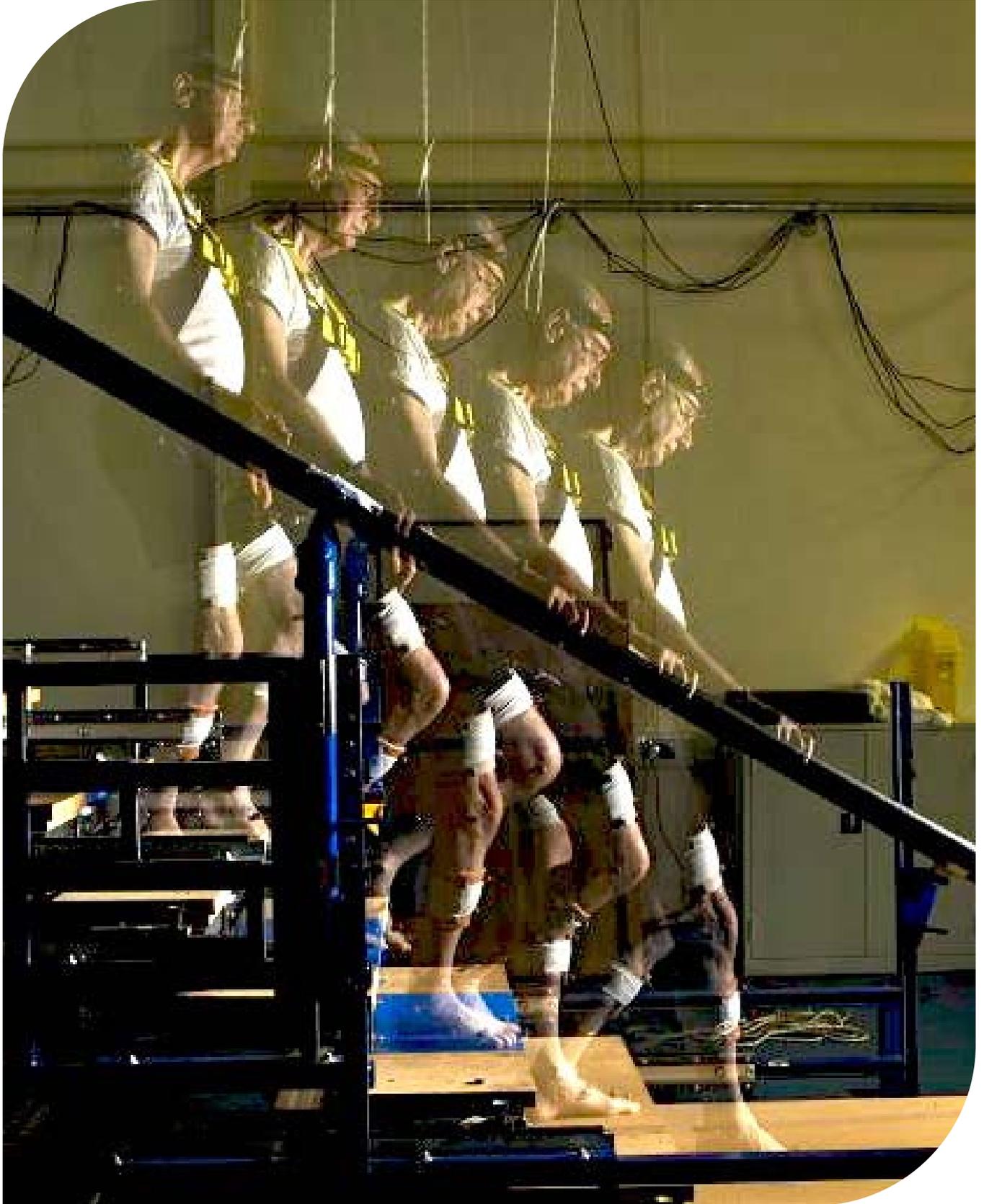
The report includes, in Annex A, a full listing of government and EU funded research into assistive technology in the UK that has started, finished or was carried out during the year. The listing provides hyperlinks to enable readers to find further information on the FAST website, [www.fastuk.org](http://www.fastuk.org), 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:

- 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.
- 
- 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;

Biomechanical and sensory constraints of step and stair negotiation in older age /© Manchester Metropolitan University



## The policy context

Policy initiatives across government departments have been shaped by the drive to reform public services at a time of sharply constrained resources and rapidly increasing demand. A report published by the King's Fund<sup>1</sup> in January 2013 suggests that, if current trends continue, the UK could be spending nearly one fifth of GDP<sup>2</sup> on public provision of health and social care by 2061. In this context, innovation and technology are seen as key enablers for efficiency, productivity and quality in services. Central government and the devolved administrations are looking to develop services, including assistive technology services, which are personalised and integrated, which support independent living in the community, and which prevent or reduce admissions to hospitals and care homes.

### Equitable access to care and support

In July 2012 the government published<sup>3</sup> plans for the reform of social care in England. The White Paper 'Caring for our future: reforming care and support' proposed a system which would promote independence and wellbeing through community support, better housing, reablement services and support for carers. The White Paper recognized the importance of assistive technology in supporting independence, noting in particular the value of home adaptations and telecare and telehealth services.

Alongside the White Paper the government published a progress report on social care

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1 The King's Fund: [link here](#).  
2 GDP - gross domestic product  
3 Care and Support reforms: [link here](#).

funding reform in England that accepted the principles of the Dilnot Commission<sup>4</sup> by capping the costs of care that any individual would have to meet. While this clarity on funding was widely welcomed, there were concerns voiced, for example by the Local Government Association,<sup>5</sup> about whether a cap on costs alone would sort out the considerable issues to be tackled to ensure equitable provision of good quality long-term care for increasing numbers of older people.

The 2013 Queen's Speech included a Care Bill<sup>6</sup> which, subject to Parliamentary approval, will bring together care and support law into a single statute. Based on last year's White Paper,<sup>7</sup> the Bill places duties on local authorities to promote well-being, prevent needs for care and support, promote integration of health and social care services, and provide information and advice. The Bill aims to personalise services through a legal entitlement for everyone to a personal care plan and personal budget. Other elements include a national minimum eligibility level for care, to make access to care more consistent around the country, and a right to support for carers. The Bill will implement the principles of the Dilnot Commission by creating a cap on social care costs and a higher means test threshold than at present.

In April this year, NICE expanded its work into social care as well as health care, became the National Institute for Health and Care Excellence, and published quality standards on dementia<sup>8</sup> and looked after children.

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4 Commission on Funding of Care and Support chaired by Andrew Dilnot: [link here](#).  
5 Local Government Association: [link here](#).  
6 Parliamentary publications: [link here](#).  
7 Gov.uk: [link here](#).  
8 NICE expansion: [link here](#).

A number of areas in England have made progress towards integrating health and social care services and to support progress, in December 2012, the Department of Health published<sup>9</sup> details of the transfer of £859 million in 2013-14 from the NHS to local authorities to promote integrated care and adult social care services which have a health benefit. In May 2013 leaders of health and care in England signed a commitment<sup>10</sup> to make integrated health and care the norm over the next five years.

Services in Wales are organised separately from those in England and findings published in the NHS Wales Chief Executive's report indicate<sup>11</sup> that initiatives to integrate services have brought savings and improved services. To support further integration, in January 2013 the draft Social Services and Well-being (Wales) Bill, that will require the NHS and social services in Wales to collaborate, was introduced to the Welsh Assembly.<sup>12</sup>

## The impact of new commissioning arrangements in the NHS in England

The NHS in England is currently undertaking one of the most ambitious programmes of restructuring in its history. As part of the changes, at the start of April 2013, Primary Care Trusts (PCTs) closed and responsibility for commissioning health services transferred to Clinical Commissioning Groups (CCGs) at local level and to the NHS Commissioning Board (now to be known as NHS England) at regional and national level. Health and social care services are to be planned jointly with

local councils through new Health and Wellbeing Boards and councils have taken over responsibility for public health.

In November 2012 the Health Secretary published the government's first mandate<sup>13</sup> for the NHS Commissioning Board. His Foreword to the Mandate pointed out that: 'An ageing population, rising costs of treatments, and a huge increase in the number of us with long term, often multiple conditions are rewriting our relationship with health and care, all at a time of acute pressure on public finances.' Priorities in the Mandate include supporting people with long-term physical and mental health conditions by empowering them to manage their own care and by 'embracing opportunities created by technology', including the expansion of telehealth and telecare services.

In December 2012 the government published<sup>14</sup> its plans for increasing choice for patients in the NHS in England. The statement outlines how patients will be able to choose from any provider in England when they are first referred to see a specialist in secondary care and sets out other measures to extend choice. Under the Any Qualified Provider (AQP) programme, patients will have a choice of service provider in at least three local community and mental health services, including adult hearing, community eye services, continence, musculoskeletal, podiatry and wheelchairs. The aim is to raise standards through competition on quality and patient satisfaction, not on price. The services to be involved have been chosen by primary care trusts and it will be up to CCGs to decide whether to use this approach in future. Providers, who can be from the public, private

9 Gov.uk, NHS funding transfer: [link here](#).

10 Commitment to integration: [link here](#).

11 NHS Wales Chief Executive's Annual Report 2011/12: [link here](#).

12 Social Services and Wellbeing (Wales) Bill: [link here](#).

13 Gov.uk, NHS Mandate: [link here](#).

14 Gov.uk, Patient Choice: [link here](#).

or voluntary sector, have to meet NHS standards.

In February 2013 the government laid regulations<sup>15</sup> before Parliament on procurement, patient choice and competition in the NHS in England, with wording which some saw as an unwelcome shift towards more competition, and which were re-worded in March. The regulations, which are to be implemented by NHS England and CCGs, state that it is for commissioners to decide how to secure the best services for patients, using integration, competition and patient choice as appropriate. Commissioners are able to offer contracts to a single provider without a tender where only that provider is capable of providing the services.

Under changes<sup>16</sup> to the GP contract from April, GPs will be rewarded for: improving the assessment of people with dementia; improving care management for frail older people and other high risk patients at risk of unplanned hospital admissions; using technology to help monitor the health of people with long term conditions (telehealth) and improving online access to services.

### Changes to the commissioning of specialised assistive technology services

From April 2013 the NHS Commissioning Board took over responsibility for commissioning specialised NHS services in England, with the aim of creating a single, national approach. In November 2012 the Board published an operating model,<sup>17</sup> a 'Manual for Prescribed Specialised

Services'<sup>18</sup> and draft service specifications, setting out what it will commission and what local CCGs will commission. The specifications for services D1a-e cover specialist equipment services for wheelchairs, communication aids, environmental controls, prosthetics and artificial eyes.<sup>19</sup> These services were previously included in Definition No.05 of the NHS Specialised Services National Definition Set.<sup>20</sup>

In addition to changes to the commissioning of specialised services for prosthetics, the government announced<sup>21</sup> in February 2013 that it is making available £11 million over the next 2 years to ensure service veterans are able to access a high level of prosthetic and rehabilitation care. NHS facilities will receive a share of up to £6.7 million to access the latest technology and provide the highest quality of prosthetic care for veteran amputees. A £1million fund will also help to improve prosthetics services for civilian amputees.

The NHS Commissioning Board's service specification<sup>22</sup> for communication aids draws on last year's report from the Office of the Communication Champion<sup>23</sup> which provided a model service specification and quality standards for augmentative and alternative communication (AAC) services.<sup>24</sup> It adopts the Communication Champion's recommendation for a hub and spoke model, in which regional hubs would undertake specialised assessment and procurement and

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15 Gov.uk, Regulations on Procurement: link here.

16 Department of health, GP contracts: link here.

17 NHS Commissioning Board, Operating Model: link here.

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18 NHS Commissioning Board, Specialised Services Manual: link here.

19 Specialised services: link here.

20 NHS Specialised Services: link here.

21 Gov.uk Prosthetic care for veterans: link here.

22 NHS Commissioning Board, communication aids service specification: link here.

23 FAST website: link here.

24 Communication Matters website, National Standards for AAC Services: link here.

support local services. Hubs could be based in the statutory, voluntary or private sector.

The charity Communication Matters published two major reports on AAC services in April 2013. According to the research report 'Shining a Light on Augmentative and Alternative Communication',<sup>25</sup> 23,000 people across the UK may be living without access to a powered communication aid that would enable them to have a voice and nearly a third of a million people across the UK are benefiting or may benefit from AAC support. Carried out by the University of Sheffield, the report exposed the great variation in service provision across the UK. The second report<sup>26</sup> set out a model of AAC service provision for the future based on a project funded by the Department for Education. The aim was to support the transition to new commissioning arrangements following the NHS changes in England, and to help move provision incrementally towards the hub and spoke model with support from health, education, and voluntary sector services.

## Personal budgets and the consumer market

Users of social care in England are to be offered the option of controlling a personal budget for their care.<sup>3</sup> The roll out of personal health budgets in England was announced<sup>27</sup> by the Care and Support Minister in November 2012, with £1.5 million identified to support the plans. Personal health budgets have been piloted at 20 primary care sites during 2012 and an independent evaluation found<sup>28</sup> that their use led to an improvement in people's quality of life and that savings can be made. The benefits seemed to be felt

more strongly by people with the highest health needs. As a result, they will be initially targeted at those who are currently getting NHS Continuing Healthcare. It is hoped that CCGs will offer a personal health budget to more people with a long term condition who may benefit. The government is also piloting<sup>29</sup> personal budgets for the parents of disabled children and for disabled people.<sup>30</sup>

According to the 2012 Design Industry Voices report,<sup>31</sup> businesses and design agencies are failing to seize the opportunity of the 'Blue Pound'. 10 million disabled people live in the UK with a combined annual spending power in excess of £80 billion - the Blue Pound. Among factors that discouraged disabled consumers from spending were poorly designed products, inaccessible premises, and poor or inappropriate communications including websites and printed information.

## Disabled people, support and access

The Paralympic Games held last summer went a good way to achieving parity of esteem with the Olympics, putting the focus on sporting achievement, excitement and entertainment, highlighting ability not disability and the contribution of cutting-edge technology. Paralympic athletes became household names. The media discussed how to portray the athletes' stories and impairments, and whether the Games would lead to a change in attitudes to disabled people at a time of on-going discrimination and changes to benefits.

In February 2013 the government published<sup>32</sup> 'Fulfilling Potential: Building a deeper

25 Shining a light on AAC: [link here](#).

26 AAC service provision model: [link here](#).

27 Gov.uk personal health budgets: [link here](#).

28 Personal Budgets: [link here](#).

29 SEN pathfinders: [link here](#).

30 ODI website,: [link here](#).

31 Design Industry Voices 2012: [link here](#).

32 Office of Disability Issues (ODI): [link here](#).

understanding of disability in the UK today'. This paper provides an analysis of current evidence on disability in the UK to inform the next stage of the government's disability strategy and to support public understanding and debate. The report does not include policy recommendations. It provides analysis of the number of disabled people in the UK, as well as looking at the way disability develops over life. It then focuses on the lives of disabled people by looking at outcomes and barriers to taking part in different areas of life, including access to equipment and adaptations.

The government is carrying out radical reforms to welfare benefits to incentivise work, simplify systems and restrain spending on welfare. Support to enter work and to live active, independent lives is available to disabled people through a number of benefits and services which have been under review over the past year.

In November 2012 the government announced<sup>33</sup> £15 million additional funding for improvements to the Access to Work scheme, which helps disabled people keep or get employment, including through provision of equipment. Access to Work has previously been called 'the government's best kept secret' so, to raise awareness of the changes, the government proposes to expand the marketing campaign, targeting particularly young disabled people and those with mental health conditions. The programme helped 30,000 people in 2011/12 and research indicates that 45% of Access to Work customers would be out of work if they did not receive support through the scheme.

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33 DWP, Access to Work press release: [link here](#).

As part of the welfare reform programme, Work Capability Assessments were introduced to assess entitlement to the new Employment and Support Allowance (ESA) which replaced Incapacity Benefit. According to the latest figures published<sup>34</sup> in April 2013, over half of the people assessed were eligible for ESA, while just under half were found fit for work and were given help to find a job through the Work Programme. Of those eligible for ESA, 23% were placed in the work related activity group, while 29% were to receive unconditional support due to sickness or disability. The figures also showed that since October 2010, 742,000 people on Incapacity Benefit had been reassessed and over 203,000 people, or nearly three in ten, had been found to be capable of work and no longer eligible for sickness benefits.

Most Work Capability Assessments are carried out by Atos, a private company, and concerns voiced by organisations representing disabled people have led to changes to the process. In February 2013 a report from the Commons Public Accounts Committee<sup>35</sup> highlighted the level of decisions that were overturned on appeal. A further report<sup>36</sup> by the Committee in February 2013 on the performance of the Work Programme concluded that significantly fewer people found work through the programme than would have done if the programme did not exist.

Further changes to welfare and support programmes were announced<sup>37</sup> during the year and the potential impact of these changes on the lives of disabled people is not

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34 Work capability assessments: [link here](#).

35 Public Accounts Committee, Work Capability Assessment review: [link here](#).

36 Public Account Committee, review of the Work Programme: [link here](#).

37 DWP.gov.uk, press release, ILF: [link here](#).

yet clear. The government confirmed that the Independent Living Fund (ILF), which provides financial support for severely disabled people, would close on 31 March 2015. Responsibility for supporting ILF users is being transferred to local authorities in England and the devolved administrations in Scotland, Wales and Northern Ireland.

The Welfare Reform Act 2012,<sup>38</sup> which received Royal Assent in March 2012 and came into force from April 2013 onwards, included the following changes: replacing Disability Living Allowance with the Personal Independence Payment and the introduction of Universal Credit to 'provide a single streamlined payment that will improve work incentives', replacing income-based Jobseeker's Allowance, income-related Employment and Support Allowance, Income Support, Child Tax Credits, Working Tax Credits and Housing Benefit. Universal credit will be rolled out<sup>39</sup> from October 2013 with approximately 12 to 13 million tax credit and benefit claims transformed into eight million universal credit payments

Concerns have been voiced about the impact of Personal Independence Payments (PIP) on disabled people as they include a new system of periodic assessments using new criteria, which take into account the use of equipment and adaptations. Disabled people have also been concerned about reductions from April in housing benefit for working age tenants living in social housing<sup>40</sup> who are considered to have a spare room. The government is providing councils with £150 million in 2013/14 to help people affected by these reforms. This includes an extra £25 million

funding to help disabled people who live in adapted properties to stay in their homes and councils have discretion over whether disabled children are eligible for their own bedrooms.

Around a third of all Blue Badges (parking concessions) were issued to people who received the higher rate of the mobility component of Disability Living Allowance and the PIP criteria are similar. The Disabled Persons' Parking Badges Act 2013 passed into law<sup>41</sup> in January 2013 with the aim of protecting people who genuinely need a Blue Badge by clamping down on abuse. A speech<sup>42</sup> in November 2012 by the Transport Minister to the National Rail Accessibility Group highlighted the Access for All programme, a £370 million programme that will see accessible routes installed at more than 150 stations by 2015.

## Joining up support around the child

In February 2013 the government published<sup>43</sup> the Children and Families Bill, which includes provisions on special educational needs. The aim of the Bill is to get services in local authorities, health and social care in England to provide joined-up support from birth to age 25 through joint commissioning, joint plans for individuals, personal budgets, and a local 'offer' about the services available. There are no specific provisions on assistive technology or AAC, though the Bill provides a framework for the provision of such services. The plans are being tested in 20 SEN Pathfinder<sup>44</sup> areas. The government and key health

38 The Welfare Reform Act 2012: [link here](#).

39 DWP, universal credit: [link here](#).

40 DWP, press release on housing benefit changes: [link here](#).

41 [Parliament.uk](#), Blue Badge scheme: [link here](#).

42 YouTube, speech by the Transport Minister: [link here](#).

43 Children and Families Bill: [link here](#).

44 SEN pathfinder extension: [link here](#).

organisations have launched<sup>45</sup> a new pledge about making improvements to the health of children and young people, including better care for disabled children and young people and those with long term conditions.

The government has launched the Child in a Chair in a Day programme<sup>46</sup> to improve wheelchair services in England, based on services delivered by children's wheelchairs charity Whizz-Kidz. Whizz-Kidz also launched a manifesto<sup>47</sup> entitled Generation Inspired? at Downing Street, supported by Paralympic double gold medallist Hannah Cockroft. 'Generation Inspired?' is the result of a consultation to find out what young disabled people want the legacy of the 2012 Paralympics to be.

### The challenges of longer life

The report 'Ready for Ageing' from the Lords Select Committee on Public Service and Demographic Change<sup>48</sup> looks at the implications of an ageing population for individuals and public services between now and 2030. Key projections include: over 50% more people with three or more long-term conditions in England by 2018 compared to 2008 and over 80% more people aged 65 and over with dementia in England and Wales by 2030 compared to 2010. The report calls for changes in attitudes to ageing, better information for financial planning, incentives to work longer, a radical shift to care at home whenever possible, and integration of health and social care. The report highlights the importance of housing, equipment and adaptations and the potential for telehealth and telecare. Sir David Nicholson, the head of the NHS Commissioning Board, believes

hospitals are 'very bad places for old, frail people' and has called<sup>49</sup> for alternatives to be found. Likening the scale of the issue to the 'national scandals' surrounding the care of mental health patients during the 1960s and 1970s, in January 2013 he pointed out that around 40% of patients in the average general hospital have dementia in some form.

There has been a drive to improve the quality of services for people with dementia following the launch of the Prime Minister's Dementia Challenge last year. This is an ambitious programme of work which builds on the National Dementia Strategy. It has three strands: health and care, dementia-friendly communities and research. In October 2012, the Health Secretary announced<sup>50</sup> funding for care homes and wards specially designed for people with dementia. Up to £50 million will be available to NHS trusts and local authorities in England, working in partnership with care providers, to help tailor hospitals and care homes to their needs. The care providers involved will need to sign up to the Dementia Care and Support Compact. Research by the King's Fund<sup>51</sup> demonstrates that good design can help with the management of dementia.

These initiatives were followed in December 2012 with a government announcement<sup>52</sup> of £22 million new funding for dementia research projects, including the UK's first ever trial to measure the additional length of time that people with dementia can live safely and independently in their own homes, when they are provided with a specialised telecare package. The Technology Strategy Board

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45 Gov.uk, improving child health: [link here](#).

46 Child in a Chair innovation: [link here](#).

47 Whizz-Kidz manifesto: [link here](#).

48 Ready for Again report: [link here](#).

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49 [Alzheimers.org.uk](#), NHS CB announcement: [link here](#).

50 Gov.uk, funding for care homes: [link here](#).

51 King's Fund report on design and dementia services: [link here](#).

52 Gov.uk, dementia research: [link here](#).

(TSB) announced<sup>53</sup> in April 2013 a funding call titled 'The Long Term Care Revolution' which will see an investment of up to £2.4m for industry-led Small Business Research Initiative (SBRI) projects. The funding call notes that the assessors will be looking for 'novel thinking to blow apart conventional thinking about institutional long-term care'.

In April 2013 NICE published<sup>54</sup> a guide to support the commissioning of high-quality, evidence-based care of people who have dementia, including options such as extra-care housing, assistive technology, telecare and adaptations to the home and environment, together with the social care dementia quality standard 'Supporting people to live well with dementia'.

### Improving housing

To address the need for high quality, warm and safe homes for disabled and older people a number of initiatives were announced in 2012. The Department of Health's Warm Homes, Healthy People fund<sup>55</sup> announced in September 2012 that it would be investing £500,000 in the Foundations Independent Living Trust (FILT) Warm Homes Service<sup>56</sup> so that home improvement agencies and handyperson schemes across England can provide fuel poverty advice and distribute grants to keep vulnerable people warm. In October 2012 the Department of Health launched<sup>57</sup> a £300 million fund to provide new and modernised homes for older and disabled people. Local authorities will be able to bid for money to build specially designed and

adapted new homes and to modernise existing specialised housing. This was followed in December 2012 with an announcement<sup>58</sup> from the Minister for Care Services that the Department of Health is putting a further £40 million into the Disabled Facilities Grant (DFG) scheme to support home aids and adaptations. This is in addition to the government's commitment to provide £745 million over the four years to 2015 for this programme.

A report published in February 2013 by the All Party Parliamentary Group on Housing and Care for Older People has highlighted the benefits of improving housing options for older people, including a reduction in health and social care costs and the freeing up of family housing. The report *Housing our Ageing Population: Plan for Implementation (HAPPI2)*<sup>59</sup> reviews progress since an earlier report in 2009 (HAPPI) and urges a nationwide drive to build high-quality retirement housing to HAPPI standards. This would include using telecare and telehealth to support independence and security, while reducing the need for on-site staff.

### Assisted living through connected health and care services

A report<sup>60</sup> from the cross-party Digital Policy Alliance highlights the potential benefits of using telehealth and telecare in managing long-term conditions and the increasing demand for care from an ageing population. The report also identifies significant barriers to adoption and suggests some remedies for these. Barriers include: weakness in the evidence base; funding (the systems nature of telehealth and telecare means that the funder may not see the financial benefit);

53 Long-term care revolution, TSB: [link here](#).

54 NICE guide on dementia care: [link here](#).

55 Gov.uk, Warm Homes, Healthy People fund: [link here](#).

56 Foundations.uk: FILT: [link here](#).

57 Gov.uk press release homes for independent living: [link here](#).

58 Gov.uk, support for DFGs: [link here](#).

59 Housing LIN, HAPPI2 report: [link here](#).

60 DP Alliance report: [link here](#).

resistance to change, a skill and knowledge deficit, and the need for a new service model; client/ patient reluctance; the need for affordable yet secure technology (preserving privacy and security will need standards, regulation and increased bandwidth).

The aim of the Whole System Demonstrator (WSD) programme that started in 2008 and finished in May 2011 was to investigate the evidence base for telehealth and telecare. Headline findings published by the Department of Health<sup>61</sup> in December 2011 were positive for telehealth: 'if delivered properly, telehealth can substantially reduce mortality, reduce the need for admissions to hospital, lower the number of bed days spent in hospital and reduce the time spent in A&E'. A number of academic articles by the Nuffield Trust were published in 2012 relating to the telehealth services that were piloted, and these reported mixed results.<sup>62</sup> Meanwhile local services have been implementing telehealth services based on an analysis of local requirements and in February 2013 the research organisation 2020Health published<sup>63</sup> an evaluation report on the Yorkshire and Humber Telehealth Hub showing that telehealth can reduce hospital admissions, provide care at home and improve patient outcomes. The reason for apparent discrepancies in evaluations of these services is not yet clear and the differing nature of the services that were studied, population groups studied and maturity of the technologies deployed may make such comparison difficult.

The first WSD research paper on telecare was published<sup>64</sup> in February 2013 and this

concluded that the provision of telecare services did not lead to significant reductions in health and social care service use, which were the measures used, over the 12 month trial period. Following experience of deployment of local telecare services over the last decade, a number of telecare services have identified value from such services, and a number of councils, NHS and private sector partners are investing in at-scale service deployments, some supported through funding from the TSB Assisted Living Innovation Programme (ALIP).

TSB ALIP, working in partnership with other funding programmes, has been supporting research, development and commercialisation of assisted living services for the past five years.<sup>65</sup> While focused on telecare and telehealth, the scope of the programme includes other remotely provided services to support independence for disabled and older people. The latest programme of projects under the delivering assisted living lifestyle at scale (dallas)<sup>66</sup> funding round were announced<sup>67</sup> in May 2012. The four successful consortia that will be testing the delivery of scaled services with communities throughout the UK were awarded £25 million of government money, to which they have added their own financial contributions. The consortia aim to reach over 169,000 new users of assisted living services by the end of the programme in 2015.

In December 2012 the Scottish Government, NHS Scotland and Scottish local authorities published 'A National Telehealth and Telecare Delivery Plan for Scotland to 2015: Driving Improvement, Integration and

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61 Gov.uk, WSD findings: [link here](#).

62 Nuffield Trust, WSD results: [link here](#).

63 2020health report: [link here](#).

64 Oxford Journals, WSD telecare evaluation: [link here](#).

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65 TSB video highlighting achievements of five years' ALIP programme: [link here](#).

66 TSB ALIP dallas programme: [link here](#).

67 Dallas press release; [link here](#).

Innovation'.<sup>68</sup> The Delivery Plan states that by 2015 telehealth and telecare should enable choice and control in health, care and well-being services for an additional 300,000 people and by 2020 telehealth and telecare should be delivered at scale. The Telemonitoring NI service<sup>69</sup> in Northern Ireland, which is provided by the TF3 Consortium in conjunction with the five health and social care trusts, monitors the vital signs of people with long-term conditions and has worked with 1,500 individuals to date.

The Department of Health believes that at least three million people with long-term conditions and/ or social care needs could benefit from telehealth and telecare by 2017 and is promoting these services through its 3 million lives (3ML) programme<sup>70</sup> which is a partnership with the NHS, social care, housing, industry and patient representatives. Seven telehealth 'pathfinders', consisting of NHS and local authority organisations including CCGs, are to agree contracts with industry suppliers that will mean that 100,000 people will be able to benefit from these services in the course of 2013-14. Tenders for the work are being developed and NHS England will be leading on promoting telehealth. One element of the work being undertaken by the pathfinder sites is to address one of the barriers to the introduction of telehealth services by establishing a tariff for these services that provides incentives to keep people out of hospital.

In a related initiative, Digital First (formerly Digital by Default),<sup>71</sup> there is a continuing emphasis on the importance of digitising communication and information management

and reducing unnecessary face to face contact in the delivery of NHS services in England. The aim is to create more efficient and convenient services and to save money, with an estimate that every 1% reduction in face-to-face contact could save the NHS up to £200m. In January 2013 the Health Secretary challenged the NHS to raise their ambitions and to go paperless by 2018.<sup>72</sup>

In December 2012 the NHS Commissioning Board's National Director of Patients and Information set out<sup>73</sup> his vision for a new online customer service platform for the NHS to promote a digital by default approach. NHS Choices and the online versions of NHS Direct and NHS 111 will be merged and patients will be encouraged to use it, 'in preference to engaging with the physical services'. The NHS Commissioning Board also launched<sup>74</sup> the new Health Apps Library in March 2013, a library of NHS-reviewed health apps to help people manage their health, and a new partnership with the Online Centres Foundation to help up to 100,000 more people to use the internet to improve their health.<sup>75</sup>

For many people the use of the internet and mobile phones for communication is first nature. According to Ofcom's Communications Market Report 2012 published<sup>76</sup> in July 2012, text-based communications are surpassing traditional phone calls or meeting face to face as the most frequent ways of keeping in touch for UK adults and UK households now own on

68 Scotland.gov.uk telehealth and telecare delivery: link here.

69 Telemonitoring NI service: link here.

70 3 million lives: link here.

71 Digital by Default: link here.

72 Gov.uk, digital first: link here.

73 e-health insider, patient platform: link here.

74 NHS Commissioning Board, NHS apps: link here.

75 NHS Commissioning Board, Internet Health: link here.

76 The Communications Market July 2012: link here.

average three different types of internet-enabled device. Supporting the increased use of the internet, in September 2012 the Culture Secretary announced<sup>77</sup> that ten cities around the country will share £114 million as part of the roll-out of superfast broadband. However there are challenges to providing all public services online. Ofcom reported<sup>78</sup> in December 2012 that 3.8 million disabled people have never used the internet and that disabled people are over three times more likely never to have used the internet than those with no disability.

### Support for innovation in health and social care

In December 2012 the Department of Health published<sup>79</sup> an update on the implementation of the report 'Innovation health and wealth, accelerating adoption and diffusion in the NHS'. Six 'high impact innovations' included Digital First,<sup>71</sup> the 3 million lives<sup>70</sup> telehealth and telecare programme and the Child in a Chair in a Day programme<sup>80</sup> to improve wheelchair services. The latter includes a review of wheelchair services for all ages and the development of tariffs for these services, which are also included in the Any Qualified Provider programme.

Innovation, Health and Wealth (IHW) is hosted by NHS England. Plans for future work include raising awareness amongst patients and the public of the everyday technologies available from modern primary care services, such as Skype, remote monitoring and electronic care planning, through a Which? consumer campaign in 2013. NHS England will also host a multi-million pound

Specialised Services Commissioning Innovation Fund (SSCIF) to test and evaluate specialised innovations. The aim is that better evidence will result in more robust commissioning decisions and more rapid, widespread adoption of proven innovations in the NHS, meaning that patients will have earlier access to innovative care.

To support the rapid adoption of new technologies, the NHS in England has established a NICE compliance regime to ensure consistent implementation of NICE Technology Appraisals throughout the NHS and social care. Fifteen new Academic Health Science Networks (AHSNs) are also being established across the NHS in England. AHSNs aim to align education, clinical research, informatics, innovation, training and education and healthcare delivery. The goal is to improve patient and population health outcomes by translating research into practice, and developing and implementing integrated healthcare services.

Recognising that small businesses (SMEs) are an engine for growth in the economy and that the public sector needs to do more to support SMEs, and in particular start ups, the NHS in England is doubling its investment in their SBRI funding stream<sup>81</sup> which provides seed funding to support the development of innovative products and services.

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77 Gov.uk, broadband investment: [link here](#).

78 Ofcom consultation on access to online services: [link here](#).

79 IHW report: [link here](#).

80 Child in a Chair innovation: [link here](#).

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81 IHW, investment through SBRI: [link here](#).

## Innovation and growth

There are over eleven million people with a limiting long term illness, impairment or disability in Great Britain,<sup>82</sup> many of whom depend on assistive technology for independence, access to employment, education and to take part in community life. To meet the needs and aspirations of disabled and older people, the government is recognising the ‘importance of innovation, of thinking differently and of finally harnessing the power of technology for the improvement of patient care and patient experience.’<sup>83</sup> With an urgent requirement to grow the UK economy, government policy is also focused on harnessing innovation to generate employment and sales in the UK and overseas.

Professor Mark Hawley, Director of the recently launched Centre for Assistive Technology and Connected Health (CATCH) at the University of Sheffield, has a long history of involvement in assistive technology research.



Professor Mark Hawley

CATCH brings together more than forty researchers from ten different departments within the University of Sheffield and Hawley believes that ‘the best research is done by multi-disciplinary teams, everyone brings a different perspective and it’s that clash of ideas, and the resultant synergies, that create these really novel and useful ideas.’

Hawley feels that the benefit of research and development work undertaken through universities is that this gives time for collaborations to create the basis for long term productive partnerships. ‘A research programme doesn’t necessarily have to produce a finished product in a year, or even three years, but it will inspire a lot of fundamental research which will lead towards useful applications.’

CATCH researchers identify the unmet needs of potential AT users, using their links with the Barnsley Assistive Technology team and other service providers, service commissioners and people with long-term conditions. ‘We use focus groups, interviews and a number of other methods to bring views and information together as a statement of what service users’ needs and aspirations actually are.’

As well as projects that focus on large population groups with a long-term condition, such as Chronic Obstructive Pulmonary Disease (COPD), other projects, such as the Vivoca2 project, focus on a smaller population group, in this case, people with a speech impairment. ‘A project like Vivoca2 might only help a relatively small number of people in the UK, but world-wide might have a considerable impact, where our industry partners can supply a reasonable number of products for this niche need’.

82 Source: Family Resources Survey 2010/11

83 Gov.uk: Health Secretary, Innovation in the NHS and social care, March 2013: [link here](#).

Funding for the centre typically comes from the Engineering and Physical Research Council (EPSRC), National Institute for Health Research (NIHR) and more recently the TSB ALIP programme.

Hawley is keen to work more with funding organisations that support partnerships with industry. 'The only way to get things out to people is through a commercial route and there are few opportunities to get products to people through non-commercial means - someone at some point has to make something and sell it and you can't leave commercial partners out of that process.'

Hawley is happy with the support CATCH receives from funding agencies but can struggle with a funding gap. 'You've done the research and proved a concept and produced a prototype and then we need funding to take it that bit farther to market.' 'Innovation is important', states Hawley, 'and the support and encouragement we receive from EPSRC, the other research councils and NIHR is helpful, but it could be a bit more joined up. We need a pathway for promising projects that can eventually be sold in the domestic and international market. We need a smoother way through rather than fighting at each stage.'

For the team at the Bath Institute of Medical Engineering (BIME)<sup>84</sup> the first step to creating innovative products is to identify unmet need. BIME, an independent charity, has increasingly focused their development activity to respond to requests from members of the public whose needs are not met by current products. These requests are put through a process of review and this is supplemented by advice from a panel of AT professionals, occupational therapists and

physiotherapists from around the UK who identify the needs of their clients and critique existing assistive technology products.

BIME has a strong history of creating 'one-off' products in response to individual referrals. Dr Nigel Harris, Director of BIME, notes that this is one of the benefits of being a charity and gives an example. 'BIME created a guitar stand for someone with a neuromuscular condition that enables them to stand and continue to play their guitar professionally, which has made a huge difference for them.' However, the team is aware of the need to support larger populations as well as respond to the needs of individuals.



Dr Nigel Harris /© BIME 2013

To use BIME's expertise to the benefit of larger numbers of people, Harris is aiming for BIME to become better known as an innovation partner by 3<sup>rd</sup> sector organisations. 'These organisations have many members and a high level of expertise about a specific medical condition. BIME can complement this by providing expert knowledge around AT solutions.' He also sees that BIME's role in gathering and distilling market requirements could be valuable to manufacturers, particularly as the consumer market for assistive technology devices expands.

BIME has internally funded a streamlined new product development process, created through a Knowledge Transfer Partnership

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84 Bime homepage: [link here](#).

(KTN) with the University of Bath. This gives a clear structure and defined points for evaluating the potential of a new product. BIME will make this process publicly available on their new website, in July. 'We can only take on a few major projects at a time and for every one or two taken forward there may be eight that have been excluded.'

This process enables BIME to take a rigorous approach to identifying projects that will not just meet the needs of relatively small population groups, but which will result in products that will benefit a wider population, with a commercially viable level of demand.

The inTouch video conferencing system<sup>85</sup> developed by BIME for people with dementia, is an example of a product that may benefit a much greater number of people, 'if you can design a system that can be used by a person with dementia, it can be used by anyone'. The project was based on gaining an in-depth understanding of a client's needs and capabilities. 'This takes time and a manufacturer isn't necessarily going to be able to afford that'.

Harris describes the development work undertaken on the Somnia project, funded by the New Dynamics of Ageing (NDA)<sup>86</sup> programme, which also led to a commercialisation partnership with industry. One result of this project is the 'Night Light Tray', which helps people orientate themselves at night as they reach for items on their bedside table. The tray was developed for disabled people, but would be of benefit to anyone. BIME plans to make the tray commercially available in the summer of 2013.

Harris envisages a future where people in their 70s and 80s will increasingly be prepared to spend their money to maximise their independence. 'There is a massive potential in the future commercial provision of technology.' However, he recognises that it is difficult to run a profitable business in assistive technology in the current market, with many companies 'sourcing goods from the Far East which do not necessarily include any user-centred design work as part of their development process.'

Harris believes that UK companies who operate in this way are missing an opportunity. 'In the UK, we haven't quite got our heads around the fact that this is an international market. There's an ageing population in China, in the US and in Europe, who need well designed assistive technology. We need to think globally and we're really not doing that yet.'

Harris notes that government encouragement to innovate and export is helpful. 'There are clear opportunities, but I don't think the government has yet realised the significant skills UK plc has and the opportunity to design and manufacture AT for a global market.'

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85 InTouch video link project: [link here](#).

86 Somia information on the NDA website: [link here](#).



*“It gives me peace of mind that if I do fall and knock myself out, I know help will come and it gives my family peace of mind for the same reason.” (Janice)*

A focus group at Coventry University/ © Coventry University 2013; a falls alarm/ © Tunstall (UK) Ltd 2013; and a falls alarm/ © Tynetec Ltd 2013

## Responding to the impact of a fall

Older people are known to be at a greater risk of falling than the general population and a third of older people lie undetected for at least one hour after a fall. Falling often results in dehydration, hypothermia, or injury. A fear of falling can restrict older people's social activities, leading to a poorer quality of life. Researchers are looking at the design of the home environment to assess how to prevent falls and support healthy aging at home. While assistive technologies cannot prevent people falling, remote activity monitoring and body-worn fall detector sensors, connected to a home hub, can detect some falls and alert carers to the incident, reducing the impact of a fall.

### Innovation in supporting people at risk of falling

Over 800 older people fall every day in the West Midlands region alone. Many local authorities offer older people living at home an assistive technology support package of sensors, which may include a falls detector. Fall detectors can provide a rapid alert to an incident, but their use and effectiveness varies.

In a project funded by the NHS West Midlands Innovation Fund, which took place between January 2011 and April 2013, researchers at the Health Design & Technology Institute (HDTI) at Coventry University investigated the reliability of the fall detectors that are currently available on the market. The project team conducted a comprehensive review of the literature on falls detection and a market review of fall detection products and these reviews are now available

to download from the project website.<sup>87</sup> The project also ran focus groups with telehealthcare service leads and people from across the West Midlands to find out the reasons for use or non-use of devices. During the course of the project it became clear that fall detectors are widely used with younger people prone to falls, for example those with epilepsy. The remit of the service evaluation was therefore extended to include younger participants.

Twenty people living in the region participated in a service evaluation which explored their experience after being issued with a fall detector as part of their care package. The majority of participants were pleased with their fall detector and valued the reassurance it gave them. However, most participants conceded that improvements still needed to be made and a number of participants had stopped wearing their fall detectors as they found them uncomfortable, or they found the numbers of false positive alerts (signalling a fall when one had not occurred) and false negative alerts (when a fall had not been detected) unacceptable.

The research team propose that manufacturers of falls detectors are rarely in touch directly with end-users, having contact mainly with the health and social care staff who purchase the devices on behalf of their clients. The project aimed to provide better information to manufacturers so that future designs can better meet people's needs, leading to higher levels of use. The project held a dissemination event in Birmingham in June 2012, which was attended by health and social care professionals, manufacturers, users and academics. Participants at the dissemination event concluded that there is a lack of knowledge amongst the public and

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<sup>87</sup> HDTI website, falls resources: [link here](#).

healthcare professionals which can prevent the use of fall detectors by people who may benefit from them. It was also found that there is a need for sharing of best practice across the region to develop the use of technology within falls services.

The project received further funding to continue work into 2013 and, as a result of the further funding, HDTI have produced a range of resources to raise awareness of not just falls detection, but also falls prevention, response and best practice for professionals. The resources, which include a booklet, 'Worried About Falling?', a video, 'Me and my fall detector', a 'Good Practice Guide on Fall Detectors' and resources for 'Sharing Innovation in Falls Services' can be found on the project website.

### Biomechanical and sensory constraints of step and stair negotiation in older age

Many older people struggle with going up and down flights of stairs. A third of people older than 65, and half of people 80 and older, fall on stairs, with sometimes devastating impact on their health and independence and an estimated cost to the NHS of £1 billion each year. The focus of this project, which took place between September 2009 and August 2012, was to understand how muscle weakness and vision problems, the main reasons people have problems on stairs, affect older people's ability to use stairs safely.

Funded by the New Dynamics of Aging (NDA) programme, researchers at Manchester Metropolitan University examined the design of stairs, specifically the combination of step-rise (height) and step-going (depth), to assess whether older people lack the strength to cope with high steps or have difficulty landing

safely on narrow steps. Twenty five participants (65 years and above) including individuals with a history of falls, and twenty younger participants (under 40 years) underwent a series of tests on a staircase with adjustable steps.

The project was able to compare muscle strength data with performance of the participants on the staircase and researchers were able to analyse where people look when they descend and ascend a flight of stairs and how this changes with alterations in step dimension.

Two papers setting out the findings are now being prepared: one correlating muscle strength data and performance; and one that analyses where people look when using stairs and how this changes with alterations in step dimension. The aim is that these papers will be published towards the end of 2013.



Biomechanical and sensory constraints of step and stair negotiation in older age /© Manchester Metropolitan University

## Recovering and regaining abilities

An effective programme of rehabilitation can significantly reduce the psychological and physical damage caused by an illness or injury. Projects reporting this year focus on identifying the most effective rehabilitation programmes to support people to regain full use of arm and hand following stroke and to manage the impact on walking of reduced sensation in the feet. Of increasing importance due to the involvement of armed forces in a number of peace-keeping missions around the world, is the establishment of effective programmes to support people to manage the impact of the loss of a limb. It is hoped that smarter, better designed prosthetic technologies will support the individual as they undergo rehabilitation.

### Wii STAR

The biggest concern highlighted by stroke survivors following discharge from hospital, is that rehabilitation in the community does not start quickly enough, or last for long enough. 55%-75% of stroke survivors are left with residual weakness in their affected arm and hand. Evidence suggests that intensive, task specific rehabilitation can enhance recovery of movement following stroke. Researchers in the Wii Star project propose that virtual reality rehabilitation offers a way for people to practice specific rehabilitative tasks intensively for a sufficiently prolonged period of time to facilitate arm and hand recovery. However, the cost of virtual reality technology, and the requirement for specialist technical support, limits the availability of this technology for most stroke survivors.

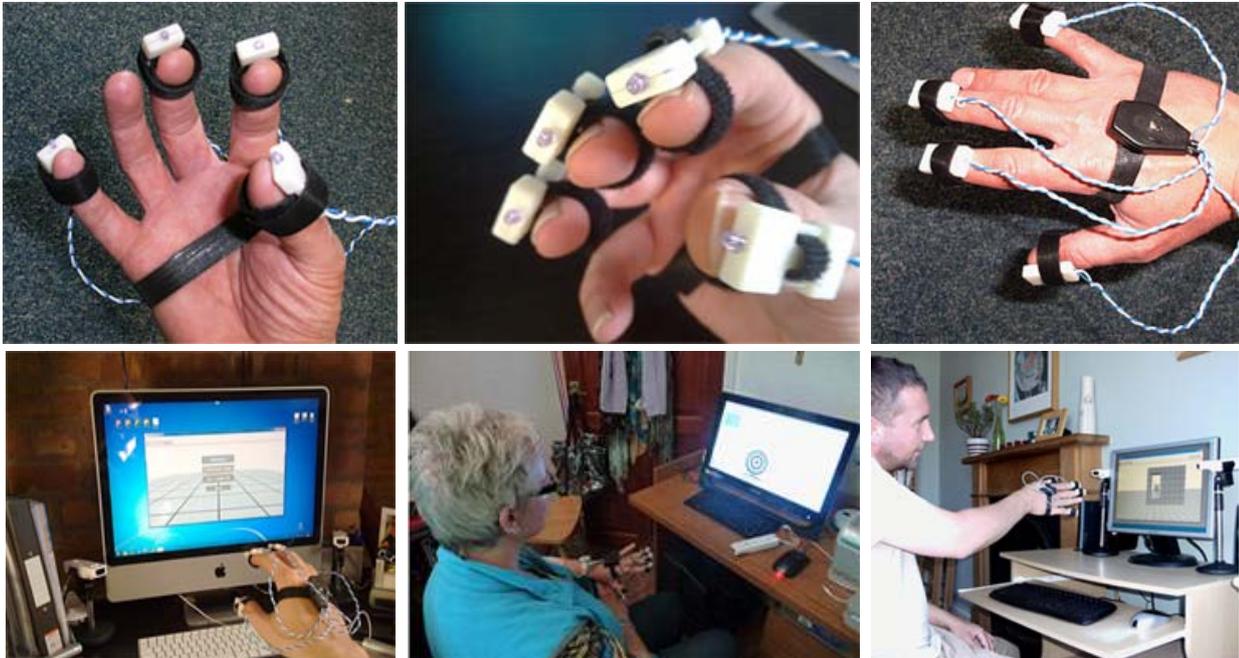
Commercial gaming consoles that provide low cost virtual reality environments, such as the Nintendo Wii and Microsoft Kinect, have been used by a number of therapists in clinical settings and have been shown to improve arm and hand function. So far, there has been weaker evidence to link virtual reality therapy with improving use of the affected arm or hand when undertaking daily living activities.

These consoles have a high level of acceptability and provide easily understood feedback. However, Wii and Kinect games are not designed for therapeutic use, the controls do not allow the appropriate practice of hand dexterity and these systems have not been demonstrated as effective for rehabilitation use in home settings.

Between September 2009 and March 2013 researchers at the University of Nottingham and Nottingham Trent University undertook a feasibility stage, randomised controlled, trial aimed at evaluating the effectiveness of an infra-red glove and Wii technology, for supporting stroke survivors to undertake activities of daily living.

Working with a local user group the project, funded by Nottinghamshire Collaboration for Leadership in Applied Health Research and Care (CLAHRC), developed the Wii Star system, which consists of a virtual glove that enables the capture of the location of the hand, fingers and thumb, and accompanying games. Four games with varying levels of challenge were developed to encourage movements of the hand that are required for undertaking daily living activities.

Having been advised on the frequency and intensity of use, 30 participants used the system in their homes for a period of eight weeks. A comparison group received normal treatment, without using the Wii system.



Once the equipment is set-up, the glove fitted, and the programme running - the games are really rather absorbing! I found it very useful that little notes would flash-up periodically reminding me to breath and asking if I needed a break (I forgot to do both!).

The glove used to assess hand movement for the Wii Star project and participants undertaking gaming exercises / © University of Nottingham

Measures of arm and hand ability were taken before, during, and after Wii use. Barriers to using this sort of gaming console were determined through interviews with participants, carers and the community stroke team. Results from the project have identified the most appropriate outcome measures for rehabilitation using a Wii. These outcome measures will inform a future definitive study of virtual reality arm rehabilitation.

As a result of feedback from stroke survivors and therapists and the emergence of new gaming technology the glove itself has gone through several stages of development to ensure it is robust, easy to put on and wear and that the games are sufficiently motivating to encourage players to repeat the movements at the frequency required to improve their arm and hand function. Researchers plan to use this glove in future research.

### ATRAS

80% of people can have some problem with movement after surviving a stroke<sup>88</sup> and those who have little useful hand function as a consequence of their stroke have to rely on carers to help them with daily activities such as dressing and bathing. There is currently a lack of knowledge about how assistive technologies can support rehabilitation programmes.

The Atras project was led by Salisbury NHS Foundation Trust and took place between January 2009 and September 2012. The project, which was funded by the National Institute of Health Research (NIHR), investigated the benefits of different types of assistive technology used to improve hand and arm movement after a stroke. Assistive

technologies used to support stroke rehabilitation for hand and arm can include electrical stimulation, orthotics, robotics, gaming (virtual) technologies and therapy devices.

A literature review was undertaken on all types of assistive technologies used in arm and hand rehabilitation following stroke and this found that, overall, using assistive technology for rehabilitation did have a small to moderate benefit. The review also identified the types of assistive technology used in practice. Researchers propose that, to undertake trials of assistive technology devices, a clearer understanding of the typical recovery process of arm function after stroke is required.

Project members ran workshops, focus groups and surveys with health care professionals and with groups of stroke survivors and carers, both those who were familiar with, and those inexperienced in, assistive technologies. Participants strongly felt that, for technologies to be clinically useful, designers and developers of technology should respond to the views of stroke survivors, carers and health professionals. Findings were that assistive technologies were not widely used in practice. Although staff and stroke survivors felt that they could be used more widely, researchers propose that for this to happen, better evidence of benefits may be needed.

Questionnaires were also sent to acute stroke units and rehabilitation clinics in England to find out about staff levels and the treatment provided to people in the first year after a stroke. The project team found that few clinics met national staffing levels and none met the levels that the National Stroke Quality Strategy Quality Marker recommend that centres should aspire to.

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88 Stroke Association, Physical effects of stroke: link here.

## Recent developments in lower-limb prostheses

Provision of a prosthetic limb is only part of a rehabilitation programme aimed at supporting an individual to recover from loss of a limb. Sensory feedback from the ankle and foot to the brain, known as 'sensorimotor mechanisms', play a major role in controlling standing and walking, but individuals who have one or both of their lower limbs amputated have to learn to use other sensory inputs in order to walk again. Understanding which additional sensory inputs amputees use to adapt their gait in order to negotiate obstacles and go up and down steps is especially important. As well as ensuring the prosthetic foot clears the obstacle or step edge as the limb is swung forwards, to operate correctly the prosthetic limb also has to be positioned correctly as it hits the ground. Little is known about how sensory feedback is used by amputees to control their prosthesis, which means that manufacturers are unclear on how to design useful support features in their products.

This project, which took place between February 2010 and October 2012, was led by the University of Bradford and was funded by the Engineering and Physical Sciences Research Council (EPSRC). Amputees using a lower-limb prosthesis were involved in trials to analyse how they were able to negotiate floor-based obstacles and descend steps (leading with their prosthesis) while wearing goggles to prevent them seeing the prosthesis. This enabled researchers to determine the extent to which control of the prosthetic limb/ foot is reliant on vision versus the sense of 'feel' from the prosthetic limb.

Data collection is complete and findings from the study are being analysed. Some early findings that are emerging indicate that when

amputees switch to using a hydraulic foot-ankle device which can 'self-align' according to the terrain being walked over and/or the speed the amputee is walking at, bodyweight is transferred onto the prosthetic limb in a smoother, less faltering manner and, as a consequence, the individual's chosen walking speed increases.

There is however an increase in the amount of 'work' required by the hip and knee joints when using the hydraulic foot-ankle device compared to a rigid ankle device. However, because all walking speed levels were significantly higher when using the hydraulic foot-ankle device, the overall level of work required at the joints, per meter travelled, was significantly lower. The findings indicate that a hydraulic ankle-foot device, like other passive prosthetic devices, is most effective when used at the walking speed it is set up for. At this stage it is unclear how use of a hydraulic foot-ankle device impacts upon the sensorimotor control aspects of gait. The project team are writing up the study's latest findings for publication in 2013.

## Customisation of cosmetic covers for artificial limbs

Amputees cover their prosthesis with a 'cosmesis' or cover, made out of foam. The foam protects the internal workings of the prosthesis and, in theory, provides a better aesthetic appearance to the prosthesis. The main problem with foam cosmeses is that the material often restricts the functionality of the prosthesis and over time degrades and ruptures. Another problem is that the foam does not move like, or resemble, human skin and this can affect the acceptability of the prosthetic limb to the amputee. The project, which took place between September 2010 and March 2013, aimed to redesign the foam cosmesis to improve the functionality of

prostheses and enable easier access to prosthetic internal components during fitting and maintenance. The project also aimed to improve the look of the cosmesis, so that it appeared more like skin.

Funded by the EPSRC, the research was led by a team at the University of Strathclyde, with partners including Blatchford and Sons Ltd who are prosthetics manufacturers. The team tested a combination of foamed plastics and coatings to discover a wide range of materials with potential to be used in the production of cosmeses, with different feel, self-cleaning, appearance and colour properties. Researchers also completed a product design specification and developed a first and second prototype cosmesis for trial with participants. The project surveyed prosthetic users to measure satisfaction with current products on the market and to inform the design priorities.

The outcome of the project will be a commercially available product that should become available on the market in 2013.

### SSHOES

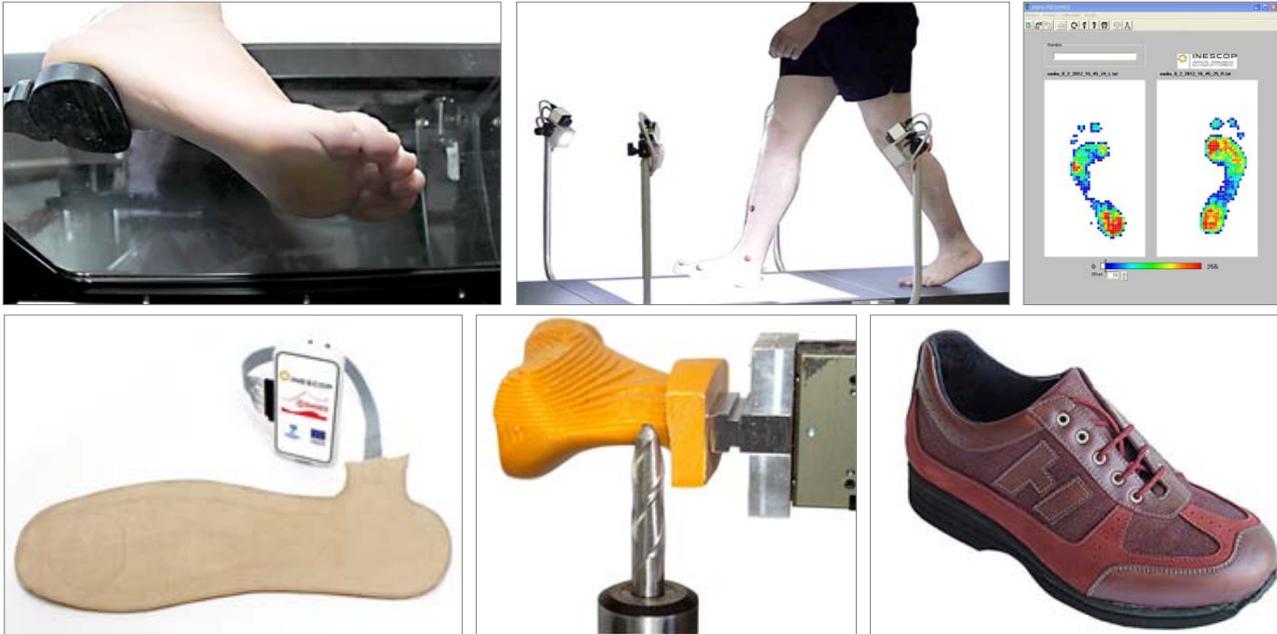
Diabetic neuropathy affects the nerves that supply sensation to the feet, decreasing the feeling of pain and making it difficult for the individual to feel small cuts, blisters or sores. Narrow blood vessels in the feet carry less blood so that less oxygen and nutrients are available to contribute to heal injuries and fight infection. The combined effects of nerve damage and decreased blood flow increase the chance of complications from injury, which can include amputation of the foot.

Uneven pressure, changes in temperature and increased humidity can lead to a higher risk of pressure sores or ulceration on the feet. People with diabetes often require customised footwear which is designed to

alleviate pressure under the foot. Rocker soled shoes, which have a thicker-than-normal sole with a rounded heel, are designed to rock the foot forward during walking and have been shown to reduce pressure underneath the front of the foot. However, there is no consensus on the best way to design rocker-soled shoes for use by people with diabetes.

The Sshoes project, which took place between July 2009 and June 2012, was a partnership between the University of Salford, a collaboration of footwear manufacturers and other academic research partners across the European Union (EU). The aim of the project, funded by the EU Framework Programme 7 (FP7) programme, was to develop assessment, design and rapid manufacturing techniques to produce affordable bespoke shoes. The techniques developed included a three-dimensional scanner to measure foot shape, a portable gait analysis system that records walking characteristics and the impact on the foot as it hits the ground, and a novel sensor system for characterising foot movement within a shoe. Information gathered from these systems will be input to the Sshoes Platform - Clinic Environment software designed by the project team to specify the optimal shoe for the individual with diabetes and to facilitate the organisation of the production process. The aim is that using a robotic machining process should enable production of the shoe in less than two weeks from assessment.

Experiments undertaken as part of the project showed that current designs of rocker shoes need to be reconsidered and the project has produced recommendations for the design of rocker shoes which can reduce pressure on the foot by up to 39%. The Sshoes system has been developed as a commercial venture and will be released on to the market in 2013.



The scanner, gait analysis system, sensor system, machining process and finished bespoke Sshoe.

## Tomorrow's technology

While robots can seem to belong to science fiction, robotic technologies have become well understood through their use in industrial applications. Researchers have worked on the concept of personal service robots for health applications for decades, but the focus has generally been on monitoring the home environment and providing the older user with information, rather than providing physical assistance in daily living activities. Robots which can physically interact with objects and items around them have been successfully used in factory production lines where the environment is predictable and controlled, but have not previously been not been trialled or used in domestic environments which is unpredictable and uncontrolled.

Recent years have seen a number of experimental projects to develop an exoskeleton, an external 'framework' with a power source, which can be used by someone with limited mobility to enable independent walking. There are some health benefits to this approach in comparison to the use of a wheelchair, and a number of prototype systems have been developed, but most are too clunky and inefficient to yet be usable and commercially viable. Work reporting this year attempts to address these drawbacks.

### SRS

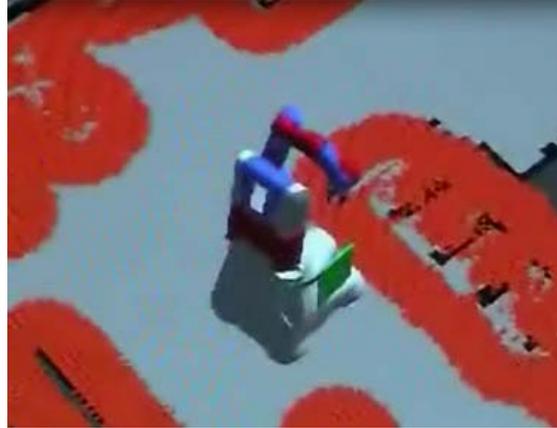
The SRS project, funded by the EU FP7 programme, created prototypes of remotely controlled, semi-independent robotic devices designed to support older people at home. The project, which took place between January 2010 and January 2013, aimed to

develop the SRS robot so that it could act as a 'shadow' of its controller and learn the older person's behaviour. The aim was that the robot could assist the older person with daily tasks, in the same way that a visiting family member or other carer would help out.

Researchers from Cardiff University and the University of Bedfordshire, working with several EU partners, have developed a remote control mechanism so that robots can be operated remotely via a call centre communication network. Remote support means that the robot's abilities and intelligence can be supplemented by staff from the call centre if the robot encounters situations it does not know how to deal with. The project team have designed flexible arms for the SRS robot, giving it the physical capability to carry out domestic tasks. To enable the robot to develop the intelligence to undertake these tasks, the project team created a robotic self-learning program that would act semi-autonomously within a safety framework.

Results of interviews with groups of older people, their relatives and healthcare professionals confirmed that home safety was their most important concern. Older people were particularly worried about falling at home. They saw the benefits of a robot that could deliver heavy objects, but they considered that fetching and carrying items would usually be unnecessary unless they had a temporary illness.

The prototype robot has been tested with older adults in a real home environment in three areas of support: providing emergency help once a falling incident has been detected, fetching and carrying items in response to user instructions and allowing family members or carers to have a 'virtual' look at an older adult's home to monitor that



Videoclips of the robot being controlled remotely, the onscreen simulation of the robot, the robot working in the older person's home, bringing the item requested /© SRS 2013

all is well. The robot trials helped to identify technical problems arising from having a robot operating in a real home and to obtain feedback from older people about their attitudes towards having a robot shadowing them in their own homes.

The final robotic concepts produced by the project will be developed further in co-operation with industrial and commercial partners.

### RELEASE

The Release project, which took place between September 2011 and March 2013, with funding from the EPSRC, undertook a feasibility study aimed at developing concepts for an exoskeleton. The challenge was to design an exoskeleton that would be invisible to observers and liberating for the end user beyond the 'basic' issue of supporting someone to be able to walk. The project involved researchers from University College London with a variety of backgrounds; orthopaedics, physics, mechanical engineering, nano-technology and accessibility.

Working with representatives of end user groups, the project established prospective users' needs for an exoskeleton. They then assessed how these needs would impact on the technology development options. Researchers used biomechanical knowledge of walking to develop the exoskeleton concept. The project also looked at options for materials that could alter from being flexible to stiff, so that it could be used to support movement, and investigated a suitable energy source to drive the exoskeleton system.

Researchers found potential materials to use for the basis of the exoskeleton, such as magnetic gels used with chemical actuators,

which can change size and stiffness when exposed to different magnetic field strengths or low electrical voltage. The researchers propose that these materials may provide the basis for a motor-less exoskeleton. This allowed the project team to concentrate on identifying a means of generating the required magnetic field without it being obvious to view in an exoskeleton design.

The research findings from this project are being taken forward into the WAM - Wearable Assistive Materials project, which has been funded by the EPSRC and started in March 2013. The WAM team now aim to use the knowledge gained from Release to produce the composite material which will have the appropriate properties for the basis for an exoskeleton.

## Location aware and active

Despite reduced physical and cognitive confidence most older and disabled people want to continue to travel around the country independently. There has also been a significant increase in the number and sophistication of the computerised mapping and location-based services coming on to the market. Many of these technologies are based on advances in Global Positioning Satellite (GPS) services which have the potential to provide detailed information customised to an individual's needs. However, such services can be difficult to use by disabled people because the information may be inaccessible in its present format.

### RECALL

Research undertaken with groups of people with learning disabilities and their trainers has shown that they can become excluded from lifelong learning opportunities and community activities on leaving compulsory education. Younger adults with learning disabilities will have been provided with transport in order to take part in educational and leisure activities and rarely get the opportunity to develop independent travel skills of their own.

The Recall project, funded by the EU Lifelong Learning Programme (LLP) found that support staff often did not have the skills or were not motivated to support people with learning difficulties to learn to travel independently. Focusing on an individual learning need for a particular student, most support programmes take the form of a travel book of photos of a particular route, which are modified on an ad-hoc basis. Programmes of training are patchy and potential beneficiaries

with learning disabilities do not get the opportunity to obtain the cognitive learning that needs to take place. There is consequently little opportunity for independent navigation or control in making a journey.

Applications for smartphones, or 'apps', have become easier to develop and the marketplace has become saturated with apps to support their users to navigate while outdoors. Not all of these apps are useful or accessible to people with learning disabilities. In this project, which took place between November 2009 and October 2012, young adults with learning disabilities tested mainstream smartphone apps for location finding. The results suggested that commercially available apps were too complex, presented cluttered interfaces and were too hard to learn to use for this group of potential users.

Researchers at Nottingham Trent University in the UK and a number of UK and EU partners developed a location based service, called 'Route Mate'. This is an Android phone app that uses a games-based learning approach in order to engage users with learning disabilities in rehearsing, planning and undertaking independent journeys.

Route Mate was trialled in the UK by students from Queen Alexandra College in Birmingham, who had previously found it difficult to find apps or software that adequately reflected their needs and abilities. The research team have highlighted the potential of Route Mate as a teaching aid and route reminder, as it hands control over to the student so that they can decide on their own landmarks and information points when creating a route.

Route Mate has two elements, the app for Android phones, and a browser based

planning tool that will run on any recent PC. They are freely available to use and the app can be obtained from the Recall website.<sup>89</sup>

## Freedom to Roam

The Freedom to Roam project, led by researchers from CELS Business Services, aimed to create a personalised independent platform of software, hardware and technical architecture to support a consumer level travel support service. The project, which took place between October 2009 and November 2012 with funding from the TSB ALIP programme, aimed to develop a range of services to provide older adults with the right information at the right time to support them in travelling. Researchers were able to take advantage of rapid advances in PC tablet technology to prototype a tablet solution to track an older person's location, send them location-relevant messages and enable them to call their carer for help. The aim was that the local Council or other community service could provide information to the system which could then be made available to the individual when out in their neighbourhood.

The project team carried out a three week field trial with 40 older adults to gauge their use of the applications and their attitudes towards the information provided. Services tested included access to bus timetables, a GP appointment service and support to find local events and activities. The capability was developed to allow family members or formal carers to track the movements of the mobile device user. Software was developed that would enable this information to be sent and downloaded securely, using unique identification codes.

Overall users felt that the services would be useful but that the next generation of older

people were more likely to adopt such services at scale due to their greater familiarity with mobile internet applications.

The aim was that development of this platform would provide a facility for software developers to make their services available to the market. Rules were developed that would enable the app developers to provide apps to the system and to enable these to be evaluated and rated to ensure that the most usable and accessible could be recommended for use.

While there are no plans for commercial development of the outcomes, learning from the project is informing work being undertaken within the i-focus project<sup>90</sup> being funded through TSB dallas funding.

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89 Recall website: [link here](#).

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90 i-focus project: [link here](#).



Participants reviewing Freedom to Roam applications/© Colourweb Ltd

## HAPTIMAP

The project was funded by the EU FP7 programme to make geographical information and location based services more accessible to disabled and older people. Haptimap, which took place between September 2008 and August 2012, created visual presentation techniques of digital maps and also developed non-visual interaction methods like touch and hearing to support disabled people to access mapping information.

The aim of the project, that included teams from Queen's University Belfast, the University of Glasgow and a number of EU partners, was to embed accessibility into the development process for digital mainstream maps and mobile location-based products. To do this they provided the developers of geographic travel applications with a toolkit and guidelines to simplify the development of accessible services.

Researchers carried out initial user studies with 221 participants, using their feedback to design and build the toolkit architecture and guidelines. Final evaluations involved 392 users and 27 developers who evaluated the toolkit and demonstrator applications.

The HaptiMap toolkit allows software engineers easy access to the HaptiMap multimodal components. It was designed for all mobile and desktop platforms but has found most favour on Android and iOS. On these two mobile platforms there are a number of directly 'pluggable' components such as a tactile compass, a Geiger compass, a touchover map and an activity recogniser. A support system is also available for the toolkit.

A number of demonstrator apps have been created to test various components of the HaptiMap Toolkit. One demonstrator of the toolkit is the 'Joined' smartphone application.

This can be used to help find locations on a map by providing direction and distance information via sound and vibration. The researchers found that adding voice, sound and vibration feedback to maps both augments and replaces visual feedback. The research team propose that this is useful for everyone in crowded, noisy environments, as well as of use to people with a vision impairment.

The 'Joined' api comes together with a working server (i.e. the backend that manages users positions) provided by GeoMobile. This has been demonstrated at the JuicyBeats music festival in Germany, enabling people to locate their friends, download information about acts and navigate the event. Users tested the app and gave feedback via a questionnaire.

This app is available for free from both the iTunes store and Google Play.



locate by sound



or vibration



Vision impaired participants testing the Haptimap application at Juicybeats music festival in Germany.

## Healthy communities

Home monitoring of the health of people with long-term conditions offers a way for them to feel more in control and can potentially reduce the need to visit outpatient or GP services. This may be of particular value to people who live in rural areas. However, until the recent publication of the findings from the telehealth trials in the Whole System Demonstrator (WSD) programme, there had been little systematic evaluation of telehealth services. Scotland has taken an active approach to developing integrated telehealth and telecare services across the region and researchers report on a large trial undertaken to understand the impact of telehealth services in a rural Scottish context. The EU has also funded a number of telehealth projects and one reporting this year focuses on developments in sensor systems and smart TV that may support improved telehealth services in future.

### eCAALYX

The aim of the eCaalyx project, involving the University of Plymouth in the UK and a number of EU partners and funded by the EU Ambient Assisted Living (AAL) programme, was to monitor the health of older people with multiple chronic conditions and to provide continuous support, guidance and health education in order to prevent a deterioration in their condition. The project which took place between June 2009 and May 2012, builds upon the capabilities and infrastructure created in a previous project, Caalyx, which finished in 2009.

Researchers report that the eCaalyx project has successfully created a 'wearable body system' vest with built-in sensors and developed an accompanying smartphone app

which can be used to gather and present the data. Trials conducted for this project indicate that the app can detect if the wearer is lying down, standing, sitting or walking and take measurements of pulse, blood pressure, respiration and body temperature.

Researchers propose that the system is able to detect a health problem based on the data gathered from the sensor system. This could enable the person to be alerted to seek appropriate help. If they were not able to respond, their physiological measurements and GPS location could be sent directly to a monitoring centre who could alert a support team. The smartphone app can similarly be used to track the wearer if they have cognitive difficulties and move outside a pre-set 'safe zone'. Measurements can be taken at any time, whether the vest wearer is at home or mobile, irrespective of which EU country they are in. The research team are not yet in a position to make a commercial version of this system available on the market.

The project also developed the concept of a 'Health Channel' on a Smart TV that allows older people to talk to their family members or other carers and emergency services via a videoconferencing system. The aim was that using the TV older people could get reminders of appointments, to take medicine, to check their weight or take glucose readings, blood pressure readings and other physiological measurements. The Health Channel is navigated through an on-screen menu system with a minimal number of steps and standardised presentation style designed to accommodate cognitive deficits.

The research team are not at a stage to make a Health Channel service available on the market but are seeking further funding to enable them to develop guidelines for other Smart TV menu control methods using speech, sound or gesture.



Researchers demonstrating the wearable body sensor system and smartphone app /© eCaalyx

### telescot

telescot was funded as a network of academic research by the Chief Scientist Office (CSO) in Scotland between March 2008 and January 2013, to investigate whether home monitoring can be a safe and effective way for people who live in rural areas to manage a range of long term conditions. The project was led by the University of Edinburgh and a number of projects within the programme undertook trials of telehealth services for people with hypertension, chronic obstructive pulmonary disease (COPD), diabetes and stroke. Readings could be transmitted via a modem to a secure website which could be accessed by the participants and their practice nurse. This allowed healthcare advice and treatment to be provided by telephone, text or email.

The telescot COPD trial initially recruited 40 people in a feasibility study and then a further 256 people for a full trial. Findings suggested that while people with COPD valued the service highly, it has not impacted on either the number or length of admissions to hospital due to COPD. Project researchers in the COPD telehealth project in the Lothian region interviewed service users and professionals about their experience of telemonitoring.

Both participants with COPD and healthcare professionals felt that forming a relationship with the professional who provided continuity of care was important in the delivery of telemonitoring services. Some professionals described challenges arising from the 'bolting-on' of telemonitoring provision to existing care provision, which they felt had resulted in problems in providing continuity in care.

Two types of telehealth systems were used in the trials and healthcare workers were asked to comment on the kind of features they

would like to see in future systems. The results of these evaluations were used to support the design of a prototype generic telemonitoring website, which was again demonstrated to healthcare workers to further seek their views. The prototype was well received with healthcare workers who considered it easier to use and more user friendly in comparison to their experience of using other telehealth systems.

Researcher reviewing the telehealth device on the telescot project.



## Making Smart TV smarter

Many older and disabled people have visual, auditory, speech or motor impairments which can make it hard for them to use online services, including digital TV. Digital TV is becoming a means of accessing a range of applications in the areas of healthcare. Design practices for developing TV-based applications can marginalise older and disabled people by not taking into account their impairments. Many disabled people already use online services and have preferred formats for how they want to view the information on different devices. Researchers are exploring ways to record these preferences and for information to be automatically presented to the individual in the preferred format, making browsing information online quicker and more enjoyable.

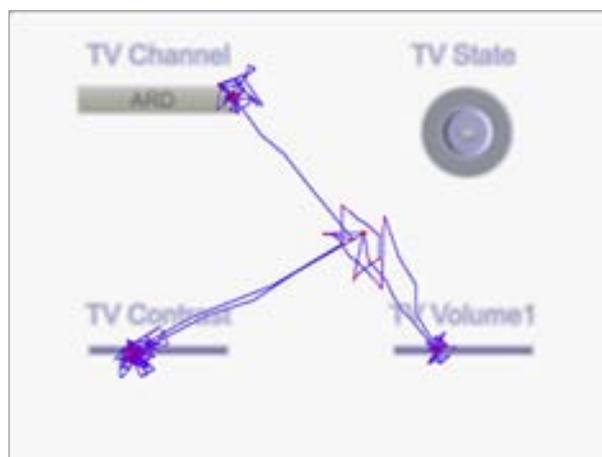
### GUIDE

With funding from the EU FP7 programme, researchers from the University of Cambridge, working with partners in the EU, have developed the 'Guide user simulator' to help designers in visualising, understanding and measuring the effect of visual and mobility impairment in older people and how these impairments may change users' perceptions of different designs. The project, which took place between February 2010 and January 2013, has also published guidelines on how to make digital TV more accessible to disabled people and a method for categorising the different formats preferred by disabled people.

The project team ran three phases of trials with older adults in the UK to evaluate their

preferences in accessing services and compared their responses with those found by other European partners. The preferences of each individual when viewing the TV is called a user profile, with the changes to the format of the information being termed the adaptation. The studies undertaken in this project provided insight on how well a user profile can be generated automatically and how accurately an adaptation can be selected and performed, based on that profile.

The project demonstrated that users can access digital services with ease using gestures, voice recognition, tablet computers and by using TV screen menus as well as using a manual remote control.



Visualisations to help designers understand how disabled users interact with different user interfaces.

A first prototype of the Guide simulation tool has been developed. It allows developers to evaluate their designs in relation to various vision and motor impairments. This means that the developer can perceive the user interface as if they had vision impairments, and they can assess how an impaired person can interact with the user interface layout.

### MyUI

The MyUI project aims to support the mainstreaming of accessible and personalised Information Communication Technology (ICT) systems delivered on a smart TV. The project involved a number of EU and UK partners with Nottingham University Business School as the main UK contact. Working between February 2010 and October 2012, the team developed a system which collects information about users' requirements and preferences in viewing information as well as information about the tasks the user is undertaking (the context) in real-time during use. This enables the user interface for ICT and Smart TV applications to adapt to the individual user's changing needs.

Working with manufacturers, industrial partners, developers and older end-users, the research team developed a prototype MyUI demonstrator. The prototype was tested by more than 180 older people from the UK, Spain and Germany. The demonstrator can be accessed through different modes, including by speech and gesture and consists of an adaptive user interface for Smart TV, including a main menu screen, an email application, and a weather application. The project also included a number of games (controlling an on-screen hot air balloon, a painting guessing game and a squash-like game) and cognitive games (following a trail on-screen, a card matching game and Sudoku) accessed by a relatively cheap TrackIR infrared receiver which reacts to a handheld controller. The research team propose that the user's responses to these games can be analysed to detect problems with accessing the interface.

The applications were tested by 5 older people to establish their usefulness. Most participants could play the games and most said they would like to play the games again.

They were less sure that their efforts reflected how capable they were.

The aim is that apps for the MyUI system would be developed by independent app developers and this activity has been supported through the development of an online library of adaptive design patterns, an adaptive interface engine and an Eclipse Integrated development environment (IDE) plug-in to allow the building of bespoke adaptive user interfaces.

The project team have no plans currently to make the MyUI system publicly available, although the design patterns and plug-in are available on the website.

Main menu screen and card matching game /© MyUI project



## Inclusive future

Exclusion from the online world is becoming a significant problem for some people, impacting on education, work and social activities and restricting their ability to active manage their lives. According to World Health Organisation estimates, about 180 million people worldwide are visually impaired, with 135 million having low vision and 45 million who are blind. Increasingly mainstream ICT applications do take into account the access needs of blind people and those with vision impairments, but accessibility interface options can be substantially less useable those that have not been adapted. There is also now a need to consider how people requiring adaptations to applications can work collaboratively with those who don't.

### MyDocStore

The MyDocStore project, led by iANSYST Ltd, addressed the difficulty of those with print impairments in getting accessible, readable documents when they want, where they want and in the format they prefer. The aim of the project, funded by TSB SBRI, was to develop a technological solution that allows print-impaired users to view downloadable files in accessible formats, through an internet browser, desktop application or via a smartphone or tablet, in as few steps as possible.

MyDocStore uses remote information storage (cloud storage) and desktop and mobile based file management to store users' personal documents along with their particular access preferences. Documents can then be downloaded in the format that best meets those preferences. The project, which took place between April 2011 and December 2012, demonstrated the possibility of

providing automatic conversion of documents using a pre-determined format and making these available on both mobile devices and PC platforms.

MyDocStore has received further funding to develop a prototype web service, branded 'azzapt', and this was launched as an online service in early 2013. Work will continue throughout 2013 to improve the conversion quality and features available through the service.

### Collaborative Cross Modal Interfaces

Rapid advancements in ICT have led to new methods of social, academic and professional collaboration, supporting problem-solving by teams who are geographically separated. ICT potentially supports blind people to undertake work online but no systems have been developed to support teams consisting of sighted and blind colleagues to work together.

The CCml project, which took place between August 2010 and April 2012, explored the use of input and output technologies that use multiple methods (modes) of communication, such as sound, haptics (touch) and graphics. Researchers from Queen Mary, University of London were funded by the EPSRC to examine how support can be developed for collaboration between visually impaired users and sighted users, focusing specifically on how to collaboratively edit diagrams.

Several user studies were undertaken with visually impaired and sighted adults, young people and children to develop and test the cross-modal approach to diagram editing.

The output of the project, the CCml Editor, is now available<sup>91</sup> as freely downloadable,

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91 CCml website: [link here](#).

## Inclusive future

open-source software, with set up instructions available from the CCml Editor website. Using a commercially available device, Phantom Omni Haptic, users can create and edit diagrams using an interface that allows visual, auditory and haptic input.

The CCml diagram editing tool has been included in the University Graphical User Interface Course which was delivered to 120 undergraduate and postgraduate students as a study in the design and evaluation of non-visual interfaces with real-world participants. Two Masters Computer Science students and an undergraduate student have used the CCml editing tool as a basis of their projects.

The project will form the basis for a further project, Design Patterns for Inclusive Collaboration (DePIC), which started in July 2012 led by Queen Mary, University of London with funding from the EPSRC.

The CCml diagram editing tool ©  
Collaborative Cross Modal  
Interfaces Project



## Building social networks

As social care budgets come under pressure across Europe, it has become important to find ways to ensure older people remain socially included and able to take advantage of their social networks. Older people may experience social isolation due to increasing physical and cognitive impairments that impact on their ability to travel to meet friends. The internet and other digital technologies can offer opportunities to create and sustain relationships with friends and family, but older people may be reluctant or unconfident to use these technologies. A number of projects funded by the EU report this year on work to develop online social networks for older people.

### SilverGame

The SilverGame project, involving the Golden-Oldies Charitable Trust in the UK, with partners in Europe, has created online applications which have been developed to encourage socially isolated older people to interact with their peers in a safe online environment, supported by a network of sensors in the home to gather data on the individual's activity.

The project, which took place between May 2010 and July 2012, with funding from the EU AAL programme, provided a virtual environment to allow older people to share their hobbies. The project aimed to guide people to turn online interactions into real social interactions and increase their physical attendance at accessible events. The online games aimed to help improve participants' physical and cognitive abilities with support based on data gathered from the SilverGame

home sensor network. The SilverGame system also incorporated a videoconferencing system to allow direct communication between older people, their friends and family members.

The SilverGame prototype included three applications: a virtual song club, where people could meet to socialise and sing with each other, a multimedia driving simulator for cognitive training for traffic situations and a sensor-based dance and activity application. Researchers propose that if participants enjoyed these interactions, they may be confident to attend nearby events with their new contacts. The project prototype version of SilverGame was presented at the AAL Forum in the Netherlands in September 2012. It is not anticipated that a commercial system will be made available.

Silvergame website aimed at encouraging real life activity such as singing clubs.



### SeniorEngage

The SeniorEngage project, involving Microlink PC Ltd in the UK and a number of EU partners, was funded by the EU AAL programme, to look at the ways in which technology can be used to support older people once they retire from the workplace. Some older people become depressed and socially excluded once they retire because of problems with their physical health. Researchers propose that they may miss the day-to-day relationships they have formed with fellow workers and feel that they no longer have a role within society.

The SeniorEngage project, which took place between December 2010 and December 2012, developed the 'MeetMe' system, which provides an internet-based network aimed at helping retired people to contribute knowledge and expertise and to mentor younger professionals.

A six week evaluation of the SeniorEngage service was conducted to assess the participants' experience of the technology. Twenty eight participants, with mixed ICT abilities, were asked for their feedback at the start and end of the evaluation. Twenty four younger participants were also invited to test SeniorEngage to compare responses and reactions.

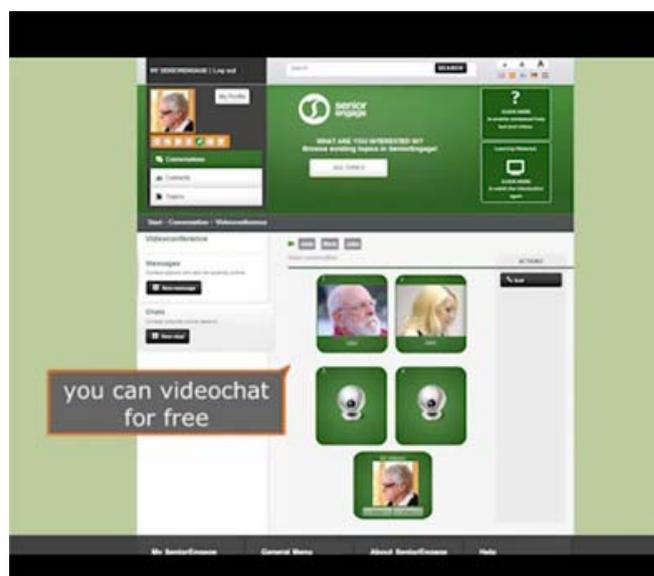
Older participants mostly enjoyed using SeniorEngage, but many did not have the necessary ICT skills to overcome computer problems. This affected their confidence in using SeniorEngage and they required more training and support to continue using 'Meet Me'. SeniorEngage had also aimed to support older people to form local interest groups based on hobbies and to form support groups for particular illnesses or age-related conditions, but the project found that, at the end of the trial period, this face to face

connection had not been made as a result of online networking.

This project ran several focus groups to examine what support older people might need to participate in online networks. The project published guidance based on the responses of older people in the focus groups and their experiences in using 'Meet Me'. A second report has examined the usability and accessibility requirements of older people who have additional physical and cognitive needs in accessing online networks. These reports are available from the project website.<sup>92</sup>

The consortium intends to release a publicly available version of the SeniorEngage website towards the end of 2013.

Video clip of an introduction to the Senior Engage website /© SeniorEngage 2013



92 SeniorEngage website: [link here](#).

## HOPES

The aim of the Hopes project which took place between September 2010 and March 2013 was to develop an online social network platform that not only encourages safe use of the network by older people but also provides a resource for the informal care network. The project consortia, which involved Microsoft in the UK and partners from France, Germany and Italy, designed and tested a prototype online social networking platform.

The Hopes web platform supports an online magazine which could provide the framework for searching content and rating articles; a shared care site, RallyRound, for the informal care network that provides a shared calendar, contact list, task list and a notice board for posting messages; and a social window site that enables interface to Facebook, supporting the engagement of the broad range of members of a care network who are likely to be Facebook users but who are unwilling to sign up to a separate, closed social network. The platform also enables connection with the GetOUT mobile application which provides information on local activities and enables invitations to be sent between networks to attend events in the local community. The Hopes web platform also provides an interface to other well-known, mainstream services, such as Skype and the Bing Translation Service.

One focus of the project was the need to establish a robust but simple identity and information sharing consent process that was usable by older people. The solution chosen by the project was to allow people to use existing IDs from mainstream social networking sites, such as Facebook, Microsoft Live, Google and Yahoo.

The Hopes platform was provided as a live service (deployed on Microsoft's Azure cloud)

and was made available to the Hopes communities in France, Germany and Italy for a user evaluation phase which completed in March 2013. The platform will continue to be available to these communities until July to give the project the opportunity to explore exploitation opportunities.

The final output from the project was published in May 2013. Some of the European partners are considering the use of the platform for further research or to use to provide a social inclusion service within their region. In the UK, Microsoft is taking learning from the project into projects being funded through the TSB dallas programme.

Website for the Hopes project



## Staying in touch

Dementia has become a national priority in the UK as it affects a large and growing number of people and has a life-changing impact on the individuals affected and their families and friends who become carers. A large number of people with dementia may spend long periods of time alone, particularly if family members do not live locally. Improving social interaction for people with dementia may extend the time that they can live independently in their own home and improve their quality of life. The use of ICT-based assistive technology has potential to support people with cognitive impairment and dementia, but they can have difficulty in accessing multimedia formats because the interfaces are too complex, unfamiliar or confusing for them to use.

### inTouch

People with dementia have been able to hold successful telephone conversations and communicate across a video link, so researchers in the inTouch project proposed that a video link system could support a person with dementia to interact remotely with their relatives and friends. As people with dementia often have a decline in working memory, this makes new or even familiar technology hard to use. Technology provided for use by people with dementia must, researchers propose, be intuitive to use so that it requires no learning or recollection of previous use.

The inTouch video link project, which took place between January 2011 and June 2012, brought together researchers working in dementia, assistive technology, virtual communication and user-engagement to develop a video link system which enables

people with dementia to interact with friends and relations during virtual 'visits'. The project was funded by the EPSRC UK Research Council's Digital Economy Programme, under the Research in the Wild call.

Focus groups were held with people with dementia, carers of people with dementia and professionals who work in this field. Findings from this research confirmed that there was a real need for a video link service that was usable by people with dementia. The researchers then carried out 15 iterative design sessions at the Peggy Dodd Centre in Bath which provides day respite and activities for people with dementia. This used working mock-ups of possible video link designs to explore which would be the easiest to use and understand. A design using a touch screen with a traditional-looking telephone handset and minimal other features was found to work well.

Finally, a fully-functional prototype was installed in pairs of homes in the community, so that a person with dementia could contact a nearby relative. This research phase showed that the inTouch system has the potential for use in people's own homes, and that technical limitations on the system should be resolved by advances in internet network capability. It also showed that it is possible to design a video link system that can be understood and used by people with mild to moderate dementia.

The findings have been compiled and disseminated through a dedicated project website<sup>93</sup> to promote the learning, share the value of the design process and enhance inTouch's potential commercial impact.

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93 [InTouch website: link here.](#)



A participant using the InTouch video link /© BIME

### MyLife

The aim of the MyLife project, which took place between March 2011 and December 2012 with funding from the TSB ALIP programme, was to test and develop a service to support the social inclusion and independence of people with dementia. The team chose to base their development on currently available technologies, presented using a touch screen tablet computer. With assistance from a family member or carer, each MyLife tablet can be customised to the individual's preferred viewing format, allowing the individual to access a range of information, such as the day, date and time, daily and weekly appointments, news and weather, favourite music and photos.

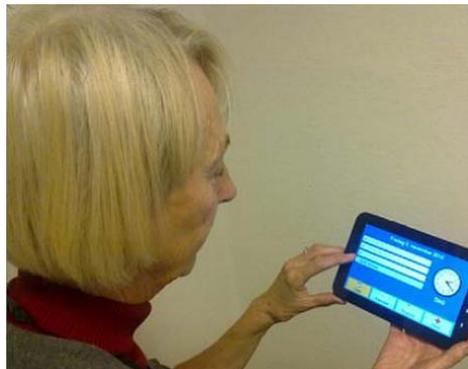
The project team included Trent Dementia Services, Housing 21 and Innovations in Dementia CIC in the UK, with partners in Norway and Germany. Researchers carried out a series of field trials and dissemination activities in the UK, Norway and Germany to test the acceptance, usability and usefulness of the MyLife system. The trials included participants with mild cognitive impairments and their carers and were carried out in their homes over an eight week period. Each trial allowed further software development and refinement of the tablet features.

Participants felt the MyLife tablet was clear, easy to understand and useful for some people, though researchers found that a proportion of participants would not use the tablet as it was unfamiliar technology. Some participants found the tablet too heavy to carry, but easier to use if it was placed in a docking station. They suggested that more music, news, weather and games functions should be included.

Participants in the UK were particularly concerned about the cost of an internet

connection. Carers suggested that spoken messages and sounds for reminders need to be included in the software and that there was a need to be able to gradually remove functions as dementia progresses and cognitive abilities decline. Researchers found that MyLife has a potential to be used in group settings as well as in people's own homes.

Researchers report that the outcomes of MyLife user trials for the individual with dementia were increased independence and wellbeing, a reduction in social isolation, increased participation in daily activities, stimulation of cognitive abilities and access to internet-enabled services. For carers, the outcome was a reduction in the stress caused by worry, and the need to respond to repeated questions and multiple phone calls. The first commercial release of the MyLife is planned for 2013.



Participants reviewing the MyLife tablet  
/© Mylifeproducts AS

## Effective communication flows

Speech difficulties can be associated with conditions such as cerebral palsy, a result of a progressive neurological condition such as motor neurone disease, acquired as a result of stroke, or through traumatic brain injury. The current approach is to support people with speech difficulties to use a voice-output communication aid (VOCA), but these tend to rely on the control of a switch or a keyboard for input and can be difficult and tiring to operate. Consequently, some VOCA users with speech difficulties prefer to attempt vocal speech. Similarly people who have an acquired hearing loss and who have been prescribed hearing aids, of whom there are 2 million people in the UK, find that getting used to wearing hearing aids is not always easy. Some of the difficulties that arise in adjusting to the aid result in people not using them or wearing them only occasionally. This means that vital communication services become inaccessible, creating a significant risk of social isolation for the individual. Projects reporting this year describe the initiatives underway to improve design and provide users with more support to use these assistive technologies.

### CHRONICLES

Many people with speech disabilities use VOCAs, but find great difficulty in engaging in spontaneous, interactive conversation. Currently VOCAs can express a range of functional needs and wants (e.g. 'I am thirsty'), but more complex conversations such as 'Did I tell you about the time I went to Spain?' or casual social chatting is poorly supported. Many VOCA users can consequently feel frustrated by their inability

to join in conversations and have difficulty in engaging with strangers who may struggle with their communication style.

The Chronicles project was led by the University of Dundee and funded by the EPSRC. The project, which took place between July 2011 and December 2012, harnessed existing technology to support adults with severe speech and physical impairment, to formulate, edit and tell their own individual narratives. The project team worked with the individual's support staff, their families and friends, and non-speaking adults played a central role in building requirements for the system and actively participating in co-developing its functions and design.

The researchers used 'natural language generation' software, which harnesses speech generation from elements stored in a computer program, to create stories from basic information that relates to time, place, people and activity. The non-speaking person can use images as a prompt to a narrative about when, where, who and what is in their story. From this information, it is possible to generate meaningful sentences. By choosing to add a positive or negative comment, the system might generate 'It was great', or 'I didn't like it'. The system further allows a user to embellish personal narratives during interactive conversation and to maintain access to these stories narratives in the future.

The result of the project is the Chronicles prototype software, which was evaluated by VOCA users. Those people testing the Chronicles software were able to tell a story, stop at various points in their narrative and provide embellishments or answer questions posed to them. The research team aim to make the software available during 2013.



Participants reviewing the Chronicles software /© Rolf Black

## VIVOCA2

The aim of the Vivoca2 project, which took place between June 2010 and May 2013, with funding from the NIHR Health Technology Devices (HTD) programme, was to produce a voice output communication aid which could support spoken communication for people with severe speech impairments, known as 'dysarthria'.

Vivoca2 builds on previous stages of the project which focused on developing and prototyping a device to prove the concept of a voice input - voice output communication aid (Vivoca). The Vivoca device will recognise some words of a user's impaired speech and 'translate' these into clear synthesised output speech which can be understood by the listener.

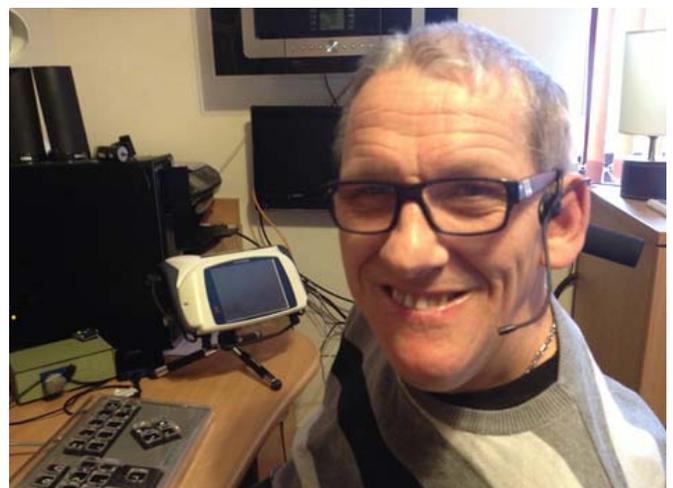
Participant testing of the Vivoca confirmed that people with dysarthria can make use of the device to produce intelligible synthesised speech output from dysarthric speech input. Experiments showed that the device can successfully generate 96% accuracy in speech recognition performance using a small vocabulary and a small amount of user training. However, trials also showed some real-life user difficulties with the performance and usability of the original prototype device. The Vivoca2 phase of the project aimed to address these limitations and to develop the prototype device to the point at which it could be adopted by industry. All phases of development have had a high level of involvement from potential users of the device.

Researchers led by the University of Sheffield and Barnsley Hospital, working with industry partners (Toby Churchill, Elpedium and Medipex) and with the participation of potential users, identified the key requirements for an improved device. User

interfaces were designed specifically to meet the communication support needs of people with dysarthria which the team found can be different from the needs of other communication aid users.

An enhanced Vivoca2 prototype device was developed and is being undergoing field trials by people with moderate to severe dysarthria.

A participant reviewing the Vivoca2 system /© University of Sheffield



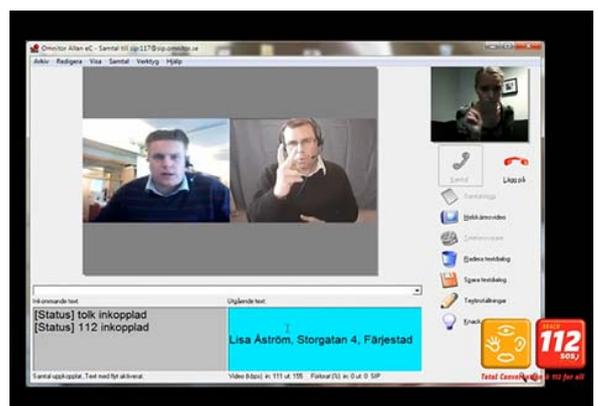
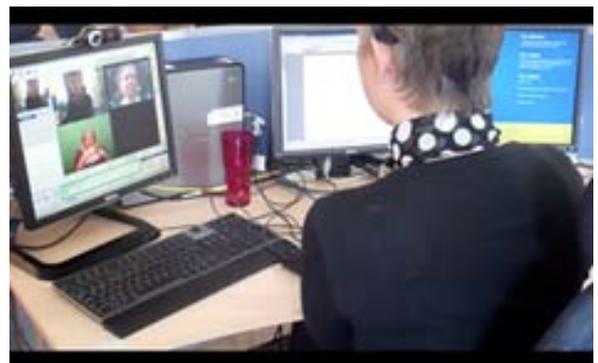
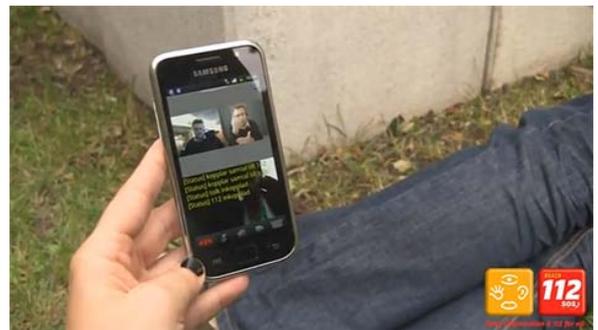
## REACH112

Until recently the 999 and 112 emergency numbers were not accessible to many people who could not make voice calls. The Reach112 Total Conversation project set out to remedy that situation and make telephone calls equally accessible to everyone.

Total Conversation is a set of European telecommunication standards which mandates video, voice and text (or any combination of them) in telephone calls over the internet. The Reach112 project, which took place between July 2009 and June 2012, has been an implementation in five countries of the Total Conversation system. Researchers led by the Centre for Deaf Studies, University of Bristol, and funded by the EU ICT Policy Support Programme, implemented the system to allow people to use sign language, lip-reading, facial expression and gesture; as well as text and voice.

Total Conversation has been successfully established in the UK by the development of the 'myFriend' service which works on smartphones, notebooks, tablets and desktop computers as well as videophones and text phones. Total Conversation was tested and proven on emergency number 112 which has been established to contact emergency services across Europe. There are now over 2,000 people who have registered to use the myFriend service, making over 6,000 calls each month. myFriend users can also talk to voice phone users through the myFriend relay service. This service is available 24 hours a day for text calls and is available during working hours for sign language relay. Researchers have also published a set of recommendations, a detailed Code of Practice and a blue print for future Total Conversation services.

Users and call centre staff testing the MyFriend service



## HEAR IT

The Hear It project, the first phase of which took place between January 2011 and January 2013, has investigated how to support people who have been prescribed hearing aids. Each year in England, 350,000 people get digital hearing aids for the first time, yet about 20% do not wear them and a further 30% only wear them occasionally. This is despite strong evidence that frequent use improves everyday listening and communication, participation in social activities and overall quality of life. The reason for this is that getting used to wearing hearing aids is not easy. Previous research has found that about half the information given to a new hearing aid user at their appointment is forgotten 6 weeks later. Researchers at the NIHR Nottingham Hearing Biomedical Research Unit proposed that some of the difficulties that result in the non-use of hearing aids could be addressed by providing hearing aid users with timely information on key issues,

With funding from the NIHR Research for Patient Benefit (RPB) programme, the project team have developed a series of seven short (five-ten minute) interactive video tutorials, which have been developed with extensive input from 35 hearing aid users. The videos provide essential information for successful hearing aid use and explain many of the difficulties people may have when using hearing aids, how to overcome them and where to obtain further help. Each self-contained tutorial includes testimonials, anecdotes and humour, and is structured with learning outcomes, multi-media (videos, photos, animations), and an interactive quiz to engage the audience and provide optimal

learning. The video tutorials can be played on a DVD, or accessed on the internet.<sup>94</sup>

Under the second phase of the project, the tutorials are being evaluated in a randomised controlled trial, due to be completed in July 2013, with participation by 170 first-time hearing aid users. Preliminary results suggest positive outcomes. Hearing aid users who received the videos report up to 40% improvement in information retention, better learning and higher use of hearing aids compared to the control group. Users reported the videos as highly useful (scoring nine out of ten on average) and over 90% of users watched all seven videos. Furthermore, the videos were watched on average two to three times and, in some cases, as many as eight times.

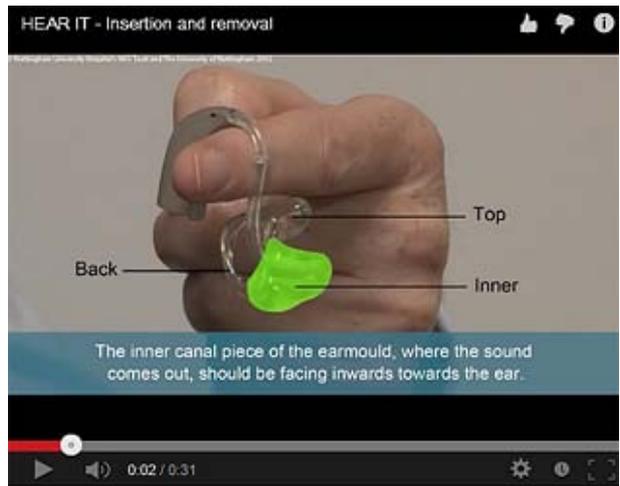
The team are in discussions with industrial partners to maximise the opportunities for distribution directly into NHS audiology services. Future research is planned to develop highly interactive video tutorials for mobile technologies (e.g. smartphones, tablet PCs, etc.) as well as interactive written guides for the 25% of first time users who are unable to access DVD or IT technology. The project team's long term aim is for these tutorials to be part of standard hearing healthcare within NHS audiology services.

The Hear-it team were awarded the British Academy of Audiology 'Team of the Year' for the video development in November 2012.<sup>95</sup>

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94 Hear-it videos: [link here](#).

95 British Academy of Audiology Team of the Year: [link here](#).



*If I had walked out of my hearing aid appointment without this DVD, I would have given up wearing my hearing aids by now. The advice on what to expect and how to adapt to the hearing aids has been invaluable.  
(Hearing aid user)*

Hear-it participants helping to co-design the video tutorials: screen grabs of the video tutorials developed by the project.



## Annex A: Complete listing of AT research and development activity 2012-13

### Glossary of acronyms for funders:

CSO	Chief Scientist Office
D4D HTC	Devices for Dignity Healthcare Technology Cooperative
EPSRC	Engineering and Physical Sciences Research Council
ESRC	Economic and Social Research Council
EU CIP	European Union Competitiveness and Innovation Framework Programme
EU AAL	European Union Ambient Assisted Living Joint Programme
EU Erasmus Mundus	European Union Erasmus Mundus
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 Marie Curie	European Union Marie Curie Programme
EU Northern Periphery	European Union Northern Periphery Programme
INTERREG IVA 2 Seas	Inter-Regional 2 Seas Programme
INTERREG IVB NWE	Inter-Regional North West Europe Programme
INTERREG IVC	Innovation and environment regions of Europe sharing solutions – financed by European Regional Development Fund
JISC	Joint Information Systems Committee
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
NDA	New Dynamics of Ageing programme. A collaboration between 5 UK Research Councils: ESRC, EPSRC, BBSRC (Biotechnology and Biological Sciences Research Council), MRC (Medical Research Council) and AHRC (Arts and Humanities Research Council)
NIHR	National Institute for Health Research
NIHR CLAHRC	Collaboration for Leadership in Applied Health Research and Care

Annex A: Complete listing of AT research and development activity 2012-13

NIHR EME	Efficacy and Mechanism Evaluation programme
NIHR HS&DR	Health Services and Delivery Research
NIHR HTA	Health Technology Assessment programme
NIHR HTD	Health Technology Devices programme
NIHR i4i	Invention for Innovation programme
NIHR PGAR	Programme Grants for Applied Research
NIHR RfPB	Research for Patient Benefit
NIHR PHR	Public Health Research
RCUK Digital Economy	Research Councils UK Digital Economy Programme
SFC	Scottish Funding Council
South Yorkshire	Collaboration for Leadership in Applied Health Research and Care
CLAHRC	
TSB	Technology Strategy Board
TSB ALIP	Assisted Living Innovation Platform
TSB ALIP dallas	Delivering Assisted Living Lifestyles at Scale Programme
TSB SBRI	Small Business Research Initiative
Welsh Government A4B	Academic Expertise for Business

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 available from FAST's publicly available database of assistive technology research and development at [www.fastuk.org](http://www.fastuk.org).

Project title Organisation(s) Contacts Funding	Project summary	Start and finish dates
<p><b>A Large-Scale Predictive Musculoskeletal Model to Simulate Human Walking</b></p> <p><b>Research lead:</b> School of Mechanical, Aerospace and Civil Engineering, University of Manchester</p> <p><b>Partners:</b> Chas A Blatchford and Sons Ltd, Orthotic Research and Locomotor Assessment Unit, Robert Jones &amp; Agnes Hunt Orthopaedic Hospital NHS Foundation Trust</p> <p><b>Contact:</b> 0161 306 9200</p> <p><b>Funder:</b> EPSRC</p> <p><b>Amount:</b> £99,995</p>	<p>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. Unlike previous studies which require a range of body measurements to describe what is happening, the software uses only information about walking speed and the distance travelled in a stride. Researchers will also conduct walking measurements on the same person used for the model's construction to validate its results. The project reports that work is continuing on schedule.</p> <p><a href="#">Link to more information on FAST website</a></p>	<p>26/03/2012 05/01/2014</p>
<p><b>A novel neurofeedback-based intervention to reduce neglect and improve function in stroke patients</b></p> <p><b>Research lead:</b> East Kent Hospitals University NHS Foundation Trust</p> <p><b>Contact:</b> 01227 766877</p> <p><b>Funder:</b> NIHR RfPB</p> <p><b>Amount:</b> £237,926</p>	<p>Around 20% of people experience 'neglect', or problems with spatial awareness following a stroke. In this condition the brain produces abnormal electrical waves which can be measured by electro-encephalography (EEG). Using a technique called EEG neurofeedback it is possible for people experiencing these spatial awareness problems to suppress and encourage abnormal and normal electrical brainwaves using visual presentation of EEG waves on a computer screen. Researchers will assess whether this online feedback helps people experiencing neglect to learn how to improve their spatial awareness. The project is recruiting participants for a trial in 2013.</p> <p><a href="#">Link to more information on FAST website</a></p>	<p>15/06/2010 14/06/2013</p>
<p><b>AAL-WELL: Ambient Assisted Living technologies for Wellness, Engagement and Long Life</b></p> <p><b>Research lead:</b> Centre for Assistive Technology and Digital Healthcare, University of Sheffield</p> <p><b>Contact:</b> 0114 222 5454</p> <p><b>Funder:</b> ESRC</p> <p><b>Amount:</b> £526,935</p>	<p>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. The project will support individuals to maintain and continue their current activities by anticipating and responding to their changing needs.</p> <p><a href="#">Link to more information on FAST website</a></p>	<p>01/02/2013 31/01/2016</p>

Annex A: Complete listing of AT research and development activity 2012-13

<b>Project title</b> <b>Organisation(s)</b> <b>Contacts</b> <b>Funding</b>	<b>Project summary</b>	<b>Start and finish dates</b>
<p><b>ABC - Adaptive Brain Computations Initial Training Network</b></p> <p><b>Research lead:</b> Cognitive Neuroimaging Lab, University of Birmingham</p> <p><b>Partners:</b> partners in Italy, Belgium, Germany, The Netherlands</p> <p><b>Contact:</b> 0121 414 4932</p> <p><b>Funder:</b> EU FP7</p> <p><b>Amount:</b> €3,805,430</p>	<p>People deal with the environments they live in using the brain's ability to adapt and change (brain plasticity). Traditionally, the study of brain plasticity has been divided into sensory, motor or decision-related areas. Using brain plasticity findings to improve brain repair approaches requires an understanding of the interactions between these areas. The project aims to have an impact on assistive technology, education and rehabilitation and expert recognition systems by encouraging European research capabilities in brain plasticity.</p> <p><a href="#">Link to more information on FAST website</a></p>	<p>01/06/2012 31/05/2016</p>
<p><b>ABCBIT - Advancing Binaural Cochlear Implant Technology</b></p> <p><b>Research lead:</b> UCL European Research and Development Office, University College London</p> <p><b>Contact:</b> 020 7679 8329</p> <p><b>Funder:</b> EU FP7</p> <p><b>Amount:</b> €4,000,000</p>	<p>Cochlear implants might be judged as the most successful sensory prosthetic devices developed to date, based on their ability to restore sensory and motor function (i.e. hearing and normal speech patterns) for people who are profoundly deaf. The project aims to develop the first generation of binaural (both ear) implants capable of exploiting the information arriving at each ear to provide accurate hearing in noisy environments ('cocktail party' listening).</p> <p><a href="#">Link to more information on FAST website</a></p>	<p>01/09/2012 31/08/2015</p>
<p><b>ACCOMPANY - Acceptable robotiCs COMPanions for AgeiNg Years</b></p> <p><b>Research lead:</b> School of Computer Science, University of Hertfordshire</p> <p><b>Partners:</b> University of Birmingham, partners in Italy, France, Netherlands, Germany</p> <p><b>Contact:</b> 01707 284000</p> <p><b>Funder:</b> EU FP7</p> <p><b>Amount:</b> €4,830,000</p>	<p>The aim of this project is to develop a robotic companion capable of providing a range of services to older people. The proposed system aims to provide physical, cognitive and social assistance. A state of the art service robot platform, Care-O-bot 3, will be used to assess user requirements and user acceptance of the robot. The first year of the project has focused on: formulating requirements and specifications for the robotic platform, the user interface, the activity monitoring function and the context aware software. During the second year this work will continue and will include consideration of ethics and how to achieve user acceptability of the robot. Evaluation will start towards the end of the second year.</p> <p><a href="#">Link to more information on FAST website</a></p>	<p>01/10/2011 30/09/2014</p>

<b>Project title</b> <b>Organisation(s)</b> <b>Contacts</b> <b>Funding</b>	<b>Project summary</b>	<b>Start and finish dates</b>
<p><b>Adaptive Technologies for Enhancing the Accessibility of Digital TV</b></p> <p><b>Research lead:</b> School of Computing, University of Dundee  <b>Contact:</b> 01382 385597  <b>Funder:</b> EPSRC, BBC Research  <b>Amount:</b> £85,052</p>	<p>This project has evaluated technologies to help make digital TV more accessible for disabled people. These include speech synthesis to turn on-screen text into speech, speech recognition to allow users to control the TV through speech commands, gesture recognition to allow control through hand, eye or head gestures, and software that will find and recommend interesting content for the viewer. The results are currently being written up and should be available in 2013.</p> <p><a href="#">Link to more information on FAST website</a></p>	<p>01/06/2009 31/12/2012</p>
<p><b>Advanced FES rehabilitation tool for upper limb therapy after stroke</b></p> <p><b>Research lead:</b> School of Computing, Science and Engineering, University of Salford  <b>Partners:</b> National Clinical FES Centre, Leeds Institute of Molecular Medicine, University of Leeds, Woodend Hospital, University of Aberystwyth, University of Salford  <b>Contact:</b> 0161 295 5986  <b>Funder:</b> NIHR i4i  <b>Amount:</b> £470,553</p>	<p>After having a stroke, many people cannot use their affected hand and arm, significantly impacting on their quality of life. This is made worse by the limited availability of physiotherapists. The aim of this project is to create a Functional Electrical Stimulation (FES) Rehab Tool for hand and arm therapy. Based on extensive user consultation, the project team has developed a prototype tool to guide users in the setting up of upper limb FES systems. The team report they have made good progress on developing the new stimulator system and establishing how it will work with an iPAM rehabilitation robot.</p> <p><a href="#">Link to more information on FAST website</a></p>	<p>01/09/2009 31/05/2013</p>
<p><b>AEGIS - open Accessibility Everywhere: Groundwork, Infrastructure, Standards</b></p> <p><b>Research lead:</b> Interactive Systems Research Group, Nottingham Trent University  <b>Partners:</b> RNIB, Cambridge University, ACE Centre, partners in Spain, Canada, Belgium, Czech Republic, Germany, Sweden, Greece, Romania  <b>Contact:</b> 0115 848 6019  <b>Funder:</b> EU FP7  <b>Amount:</b> €8,062,709</p>	<p>Being able to use Information Communication Technology (ICT) is now essential for many activities of daily life, such as online shopping, using a bank account and communicating with others. Few mainstream ICT applications currently take into account the different access needs of disabled people and 'accessibility' is often seen as an addition. The project has developed software applications, phone apps and mainstream product accessibility add-ones to support access to ICT-based activities. These applications are freely available to download from the project website.</p> <p><a href="#">Link to more information on FAST website</a></p>	<p>01/09/2008 28/08/2012</p>

Annex A: Complete listing of AT research and development activity 2012-13

<b>Project title</b> <b>Organisation(s)</b> <b>Contacts</b> <b>Funding</b>	<b>Project summary</b>	<b>Start and finish dates</b>
<p><b>AFOOT - Orthoses for people with stroke: which is the better ankle foot orthosis for people with stroke?</b></p> <p><b>Research lead:</b> Stroke &amp; Vascular Research Centre, School of Nursing, Midwifery and Social Work, University of Manchester  <b>Contact:</b> 0161 306 7614  <b>Funder:</b> NIHR RfPB  <b>Amount:</b> £249,313</p>	<p>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. Data collection involving AFO wearers is currently ongoing.</p> <p><a href="#">Link to more information on FAST website</a></p>	<p>01/01/2012 31/12/2014</p>
<p><b>A-FOOTPRINT - Ankle and foot orthotic personalisation via rapid manufacturing</b></p> <p><b>Research lead:</b> Institute for Applied Health Research, Glasgow Caledonian University  <b>Partners:</b> School of Mechanical and Systems Engineering, University of Newcastle, partners in the Netherlands, Ireland, Belgium, Latvia, Denmark, Spain  <b>Contact:</b> 0141 331 3457  <b>Funder:</b> EU FP7  <b>Amount:</b> €3,729,043</p>	<p>Disabling foot and ankle conditions affect approximately 200 million European citizens. Over 300 million Euros a year are spent treating such conditions with orthoses (external supports) and splints. The aim of this project is 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. A new Advanced Orthotic Design and Manufacture Centre has been built, which will serve as the project pilot factory, and a first batch of prototype products has been developed by the consortium.</p> <p><a href="#">Link to more information on FAST website</a></p>	<p>01/10/2009 30/09/2013</p>
<p><b>Ageing in place and the impact of emerging technologies on the lives of older people</b></p> <p><b>Research lead:</b> Institute of Health and Society, Newcastle University  <b>Contact:</b> 0191 222 7045  <b>Funder:</b> EPSRC  <b>Amount:</b> £83,114</p>	<p>There is an increasing need to assess the impact of technologies that support 'ageing in place'. The funding for this project supported a senior researcher to develop national and international links with experts in the design and development of emerging technologies for older people. The project was due to examine the role of new emerging and digital technologies in assisting older people to stay connected to their wider community.</p> <p><a href="#">Link to more information on FAST website</a></p>	<p>01/09/2011 30/11/2012</p>

<b>Project title</b> <b>Organisation(s)</b> <b>Contacts</b> <b>Funding</b>	<b>Project summary</b>	<b>Start and finish dates</b>
<p><b>AHEAD-EU - Advancing Higher Education Access for Disabled students in Europe</b></p> <p><b>Research lead:</b> International School for Communities, Rights &amp; Inclusion, University of Central Lancashire  <b>Partners:</b> partners in Germany, Sweden  <b>Contact:</b> 01772 892780  <b>Funder:</b> EU Erasmus Mundus  <b>Amount:</b> €242,988</p>	<p>The project aimed to reduce barriers to inclusion experienced by disabled students. A multidisciplinary review of disability issues in European Higher Education was due to identify the barriers which prevent disabled students from participating fully within higher education across Europe. The project website contains information about relevant legislation and initiatives across Europe. A blog has been set up to allow disabled students to make a contribution to the debate.</p> <p><a href="#">Link to more information on FAST website</a></p>	<p>01/06/2009 01/06/2012</p>
<p><b>AKTIVE - Advancing Knowledge of Telecare for Independence and Vitality in later life</b></p> <p><b>Research lead:</b> Centre for International Research on Care, Labour and Equalities, University of Leeds  <b>Partners:</b> Inventya Ltd, Oxford Institute of Population Ageing, Tunstall Group Ltd  <b>Contact:</b> 0113 343 5003  <b>Funder:</b> TSB ALIP  <b>Amount:</b> £1,039,611</p>	<p>The project seeks to find ways to support older people to live independently, to improve their quality of life and reduce the impact of long term conditions on healthcare spending. Researchers have undertaken a review of the literature and the market situation. Interviews have taken place with experts from academic, commissioning and social care teams in the fields of telecare, dementia and falls. Researchers have run focus groups with care workers and interviewed unpaid carers. A new device for falls has been developed.</p> <p><a href="#">Link to more information on FAST website</a></p>	<p>06/01/2011 31/05/2014</p>
<p><b>ALICE - Assistance for Better Mobility and Improved Cognition of Elderly Blind and Visually Impaired</b></p> <p><b>Research lead:</b> Granite 5  <b>Partners:</b> partners in Slovenia, Spain, France  <b>Contact:</b> 01223 208008  <b>Funder:</b> EU AAL  <b>Amount:</b> €1,107,169</p>	<p>People with impaired visual understanding (visual cognition) encounter problems interacting with surrounding objects and have difficulties with planning, orientation, communication and navigational skills. The objective of the ALICE project is to improve the quality of life of older people with impaired vision by providing a navigational assistant which will offer users a description based on information gathered from a range of sensors. The project will combine developments in cognitive sciences, psychology, computer vision, artificial intelligence and robot navigation.</p> <p><a href="#">Link to more information on FAST website</a></p>	<p>01/06/2012 30/11/2014</p>

Annex A: Complete listing of AT research and development activity 2012-13

<b>Project title</b> <b>Organisation(s)</b> <b>Contacts</b> <b>Funding</b>	<b>Project summary</b>	<b>Start and finish dates</b>
<p><b>AMPERE - Additional Modules for PAMELA to Enhance Research Efficiency</b></p> <p><b>Research lead:</b> Accessibility Research Group, University College London  <b>Contact:</b> 020 7679 7009  <b>Funder:</b> EPSRC  <b>Amount:</b> £2,140,430</p>	<p>The Pamela facility was developed to provide controlled conditions in which interactions between pedestrians and the pedestrian environment can be studied. The enhancements brought about by Ampere have enabled projects to use the facility that are exploring wheelchair biomechanics, falling and fear of falling in different surface conditions and lighting levels. Ampere has added 15 modules to the Pamela facility which has reduced the time taken to create major adjustments and reconfigurations from hours to minutes. This has resulted in an increased use of the facility by researchers from all over the world.</p> <p><a href="#">Link to more information on FAST website</a></p>	<p>01/10/2008 30/09/2013</p>
<p><b>ANAGRAPHS - Anaglyptic Refreshable Photo-Haptic Screen</b></p> <p><b>Research lead:</b> Hobarts Lasers Ltd  <b>Partners:</b> UK Materials Technology Research Institute Ltd, partners in Germany, Greece, Denmark.  <b>Contact:</b> 0333 900 8700  <b>Funder:</b> EU FP7  <b>Amount:</b> €1,499,225</p>	<p>The aim of the Anagraphs project is to help the education of blind and visually impaired children and to help adults compete in the workplace. The team aimed to manufacture an anaglyptic (tactile) display that could be connected to a personal computer or used in stand-alone mode as a Braille e-book reader. It should allow the Braille reading of any kind of textual or graphic information with 100% reliability. The proposal was that the system would operate by Braille dots activated electronically on a display. The first prototype has been manufactured and trials with users started in January 2013.</p> <p><a href="#">Link to more information on FAST website</a></p>	<p>01/01/2011 31/12/2012</p>
<p><b>AP SIS4all - Accessible Personalised Services In Public Digital Terminals for all</b></p> <p><b>Research lead:</b> John Gill Technology Ltd  <b>Partners:</b> AbilityNet, partners in Spain, Austria, France, Germany, Greece  <b>Contact:</b> 07590 982 732  <b>Funder:</b> EU CIP  <b>Amount:</b> €3,100,000</p>	<p>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 users' specific needs. The project aims to deploy the solution in 24 ticket vending machines in Germany and 65 ATMs in Spain. The project has gained insights during the re-design of the touchscreen interfaces and has developed suggestions for how to adapt existing ticket vending machines.</p> <p><a href="#">Link to more information on FAST website</a></p>	<p>01/04/2011 31/03/2014</p>

<b>Project title</b> <b>Organisation(s)</b> <b>Contacts</b> <b>Funding</b>	<b>Project summary</b>	<b>Start and finish dates</b>
<p><b>ARGUS - Assisting peRsonal GUIdance System for people with visual impairment</b></p> <p><b>Research lead:</b> The 425 Company  <b>Partners:</b> partners in Spain, Germany, Austria  <b>Contact:</b> 023 92 632425  <b>Funder:</b> EU FP7  <b>Amount:</b> €1,920,964</p>	<p>Visually impaired people need reliable navigation systems to support safe mobility. Satellite positioning and navigation technologies are available but lack accuracy and do not provide a suitable interface. The Argus project aims to use a satellite-based terminal, guiding people along pre-defined tracks using specifically designed acoustic and haptic (textured) signals. The project has identified the requirements and design of a system and a prototype was tested in 2012.</p> <p><a href="#">Link to more information on FAST website</a></p>	<p>01/10/2011 31/03/2014</p>
<p><b>Assessing and Suppressing Upper Limb Tremor to enable independence</b></p> <p><b>Research lead:</b> Dept of Mechanical Engineering, University of Bristol  <b>Partners:</b> Bristol General Hospital  <b>Contact:</b> 0117 928 7741  <b>Funder:</b> NIHR i4i  <b>Amount:</b> £426,238</p>	<p>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 (reaching and grasping) intact. A prototype orthosis incorporating an adjustable tremor suppression device has been developed and will be tested with people with tremor in 2013.</p> <p><a href="#">Link to more information on FAST website</a></p>	<p>01/08/2011 31/07/2014</p>
<p><b>ASSISTANT – Aiding SuStainable Independent Senior TrAvellers to Navigate in Towns.</b></p> <p><b>Research lead:</b> Transport &amp; Travel Research Ltd  <b>Partners:</b> partners in Spain, Finland, France, Norway, Austria  <b>Contact:</b> 01543 416416  <b>Funder:</b> EU AAL  <b>Amount:</b> €1,410,848</p>	<p>The Assistant project intends to maintain the mobility of older people in Europe, by helping them to travel safely and independently by public transport. The aim is that Assistant will be accessed using a home computer and a mobile phone and will provide relevant information, customised to the user's preference, using visual, audible and haptic cues. Assistant will show the user which vehicle to board, indicate the vehicle's arrival, and provide an alert when it is time to get off. The system will have the capacity for correction of any errors the user makes on a journey...</p> <p><a href="#">Link to more information on FAST website</a></p>	<p>01/06/2012 31/05/2015</p>

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<b>Project title</b> <b>Organisation(s)</b> <b>Contacts</b> <b>Funding</b>	<b>Project summary</b>	<b>Start and finish dates</b>
<p><b>ASTERICS - ASsistive TEchnology Rapid Integration and Construction Set</b></p> <p><b>Research lead:</b> Sensory Software International Limited  <b>Partners:</b> partners in Czech Republic, Austria, Poland, Spain, France, Cyprus  <b>Contact:</b> 01684 578868  <b>Funder:</b> EU FP7  <b>Amount:</b> €2,649,520</p>	<p>Disabled people often require specially adapted technological solutions in order to operate a computer or other ICT devices. Such solutions are often specific to a particular task or individual, and cannot easily be transported into other environments. The aim of this project is to provide a flexible and affordable toolkit which combines emerging sensor techniques like Brain Computer Interfaces with basic 'actuators', or switches. Software created by the project which will support the development of bespoke solutions for disabled people is now available as a free download from the project website.</p> <p><a href="#">Link to more information on FAST website</a></p>	<p>01/01/2010 31/12/2012</p>
<p><b>ASTUTE: Acute Stroke Telemedicine: Utility, Training and Evaluation</b></p> <p><b>Research lead:</b> Clinical Practice Research Unit, University of Central Lancashire  <b>Contact:</b> 01772 895136  <b>Funder:</b> NIHR PHR  <b>Amount:</b> £249,994</p>	<p>There are not enough stroke-specialist doctors in the NHS for one to be available 24 hours a day, 7 days a week in every hospital. Using telemedicine technology that allows pictures and/or brain scans from the local hospital to be sent to a stroke-specialist doctor at another hospital, the Astute project developed and tested a Standardised Telemedicine Toolkit (STT). The toolkit includes a training package, standardised assessments and a checklist to help doctors and nurses to use a telemedicine system. The toolkit is now available to download from the project website.</p> <p><a href="#">Link to more information on FAST website</a></p>	<p>31/03/2010 31/12/2012</p>
<p><b>ATHENE: Assistive Technologies for Healthy living in Elders: Needs assessment by Ethnography</b></p> <p><b>Research lead:</b> Centre for Health Sciences, Barts and The London School of Medicine and Dentistry  <b>Partners:</b> University of Manchester, Newham University NHS Trust, Tynetec Ltd, SEHTA  <b>Contact:</b> 020 7882 7326  <b>Funder:</b> TSB ALIP  <b>Amount:</b> £574,571</p>	<p>Telecare and telehealth are becoming increasingly important options to help support care at home for older people and those with long term conditions. Working with older people, the project team aims to devise capacity building programmes and guidelines in user-centred design aimed at industry and service providers. Study participants have been recruited and data is being analysed to understand the complex and diverse living experiences and care needs of older people.</p> <p><a href="#">Link to more information on FAST website</a></p>	<p>01/09/2011 31/08/2013</p>

<b>Project title</b> <b>Organisation(s)</b> <b>Contacts</b> <b>Funding</b>	<b>Project summary</b>	<b>Start and finish dates</b>
<p><b>ATIS4all: Assistive Technologies and Inclusive Solutions for All</b></p> <p><b>Research lead:</b> AbilityNet  <b>Partners:</b> Full Measure, Work Research Centre Ltd, partners in Spain, Czech Republic, Denmark, Austria, Greece, Italy  <b>Contact:</b> 01926 312 847  <b>Funder:</b> EU CIP  <b>Amount:</b> €590,000</p>	<p>Disabled and older people in Europe continue to be confronted with a number of barriers to using everyday ICT products and services. ATIS4all is a network which aims to provide information on assistive technology and inclusive ICT solutions and exchange knowledge across the sector. The project has established the 'Eastin 2.0' online portal that includes a search engine to identify appropriate technologies and a community that brings together the 'Marketplace' and researchers and commercial developers.</p> <p><a href="#">Link to more information on FAST website</a></p>	<p>01/01/2011 31/12/2013</p>
<p><b>ATRAS - Assistive Technologies for Rehabilitation of the Arm following Stroke: Development of an integrated service model incorporating innovative technology for rehabilitation of the upper limb following stroke</b></p> <p><b>Research lead:</b> National Clinical FES Centre  <b>Contact:</b> 01722 425138  <b>Funder:</b> NIHR HTD  <b>Amount:</b> £824,995</p>	<p>One problem experienced by stroke survivors may be an inability to control movement and function in one side of the body. The project aimed to investigate the use of different types of assistive technology being used to regain arm and hand movement in rehabilitation services. A systematic literature review was undertaken and the team gathered data on staffing levels and the treatment provided during the year post-stroke. It was discovered that few services met the national expected staffing levels and assistive technologies were not widely used. Researchers found from the literature review that it was not possible to run trials of assistive technology due. The researchers propose that a study of the natural recovery of the upper limb following stroke is required before assistive technology trials can be undertaken.</p> <p><a href="#">Link to more information on FAST website</a></p>	<p>01/01/2009 15/09/2012</p>
<p><b>ATTILA Trial - Assistive Technology and Telecare to maintain Independent Living At home for people with dementia</b></p> <p><b>Research lead:</b> Institute of Psychiatry, King's College London  <b>Contact:</b> 020 7848 1000  <b>Funder:</b> NIHR HTA  <b>Amount:</b> £1,801,834</p>	<p>There are approximately 700,000 people with dementia in the UK, many of whom will require nursing or a residential care when they can no longer live independently at home. Telecare appears to offer a way in which the home of a person with dementia can be made safer by reducing risks associated with memory and 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.</p> <p><a href="#">Link to more information on FAST website</a></p>	<p>01/01/2013 30/06/2018</p>

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<b>Project title</b> <b>Organisation(s)</b> <b>Contacts</b> <b>Funding</b>	<b>Project summary</b>	<b>Start and finish dates</b>
<p><b>Backhome - Brain-neural computer interfaces on track to home – Development of a practical generation of BNCI for independent home use</b></p> <p><b>Research lead:</b> Telehealth Solutions Ltd  <b>Partners:</b> The Cedar Foundation, partners in Spain and Austria  <b>Contact:</b> 01923 209860  <b>Funder:</b> EU FP7  <b>Amount:</b> €3,110,000</p>	<p>Brain-Neural Computer Interfaces (BNCI) have the potential to support disabled people to communicate, use the internet and use environmental controls. The aim of this project is to develop these systems into commercially viable assistive technologies and move from testing them with non-disabled people in laboratories to testing them with disabled people living at home. The focus of this project will be on making them easy to set up and use. The first prototype is currently in development.</p> <p><a href="#">Link to more information on FAST website</a></p>	<p>01/01/2012 30/06/2015</p>
<p><b>Biomechanical and sensory constraints of step and stair negotiation in old age</b></p> <p><b>Research lead:</b> Institute for Biomedical Research into Human Movement and Health, Manchester Metropolitan University  <b>Partners:</b> BRE Group  <b>Contact:</b> 0161 247 5593  <b>Funder:</b> NDA, ESRC  <b>Amount:</b> £376,000</p>	<p>Falls and the fear of falling are major factors affecting the mobility and quality of life for older people. Falls are more likely to occur when descending steps and stairs. The aim of this research was to understand how musculoskeletal and sensory functions affect the ability to take steps safely as people age. Participants, including those who have had falls, were involved in tests on a staircase with adjustable step-going and step-rise. Two papers are now in preparation: one correlating muscle strength data and performance; and one that analyses where people look when using stairs and how this changes with alterations in step dimension.</p> <p><a href="#">Link to more information on FAST website</a></p>	<p>01/09/2009 30/08/2012</p>
<p><b>Biomimetic, Self Tuning, Fully Adaptable Smart Lower Limb Prosthetics with Energy Recovery</b></p> <p><b>Research lead:</b> School of Mechanical Engineering, University of Leeds  <b>Contact:</b> 0113 34 32155  <b>Funder:</b> EPSRC  <b>Amount:</b> £618,676</p>	<p>Every year, thousands of people lose a lower limb. Current lower limb prostheses can be 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 limb will switch between generating and using energy, prolonging battery life.</p> <p><a href="#">Link to more information on FAST website</a></p>	<p>01/04/2013 31/03/2016</p>

<b>Project title</b> <b>Organisation(s)</b> <b>Contacts</b> <b>Funding</b>	<b>Project summary</b>	<b>Start and finish dates</b>
<p><b>BRAINABLE - Autonomy and social inclusion through mixed reality Brain-Computer Interfaces: Connecting the disabled to their physical and social world</b></p> <p><b>Research lead:</b> AbilityNet  <b>Partners:</b> partners in Spain, Austria, Portugal  <b>Contact:</b> 01926 312 847  <b>Funder:</b> EU FP7  <b>Amount:</b> €2,300,000</p>	<p>Disabled people who cannot control their hands and arms often have significant problems with computer equipment or environmental controls. Brain computer interfaces (BCI) offer a way to operate equipment by using brain waves. The project has developed a BrainAble BCI prototype that can adapt to the needs of users, even for those with high level needs. BrainAble can also be used with other assistive technology access methods and combined with BCI techniques.</p> <p><a href="#">Link to more information on FAST website</a></p>	<p>01/01/2010 31/12/2012</p>
<p><b>Brain-Computer Interface for Monitoring and Inducing Affective States</b></p> <p><b>Research lead:</b> School of Systems Engineering, Reading University  <b>Contact:</b> 0118 378 8617  <b>Funder:</b> EPSRC  <b>Amount:</b> £876,103</p>	<p>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. The project aims to advance the understanding of relationships between emotions, brain states and characteristics of music that can induce vivid emotions. Researchers propose that such an interface could be used for treatment of mood disorders such as depression.</p> <p><a href="#">Link to more information on FAST website</a></p>	<p>01/05/2012 01/05/2016</p>
<p><b>Bravehealth - Patient centric approach for an integrated, adaptive, context aware remote diagnosis and management of cardiovascular diseases</b></p> <p><b>Research lead:</b> School of Electronics and Computer Science, University of Southampton  <b>Partners:</b> University of Hull, partners in Italy, Finland, Poland, Portugal, Belgium, the Netherlands, China  <b>Contact:</b> 023 8059 5000  <b>Funder:</b> EU FP7  <b>Amount:</b> €6,999,546</p>	<p>People who have cardiovascular disease often require close monitoring to ensure their condition does not worsen. Keeping track of their pulse can help people recognise when their health is deteriorating so they can seek help. The project aims to develop a wearable sensor which can gather an individual's health data and provide this information to clinicians and 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 system specifically designed for the project.</p> <p><a href="#">Link to more information on FAST website</a></p>	<p>01/03/2010 28/02/2014</p>

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<b>Project title</b> <b>Organisation(s)</b> <b>Contacts</b> <b>Funding</b>	<b>Project summary</b>	<b>Start and finish dates</b>
<p><b>CACTUS – Cost effectiveness of computer aphasia treatment versus usual stimulation</b></p> <p><b>Research lead:</b> School of Health and Related Research, University of Sheffield</p> <p><b>Contact:</b> 0114 222 5454</p> <p><b>Funder:</b> NIHR RfPB, South Yorkshire CLAHRC</p> <p><b>Amount:</b> £179,945</p>	<p>Aphasia is a communication disorder, often caused by stroke, which can affect the ability to understand what is said, the ability to produce correct words and the ability to read and write. This pilot study evaluated computer therapy compared with the usual stimulation provided for people with aphasia to see if the software improved their use of language. The treatment group showed significant improvements in the percentage of words named correctly, along with improved quality of life scores. The study indicates that independently conducted computer therapy by the person with aphasia, supported by a volunteer, has potential to be clinically effective and a cost effective method of providing word finding therapy. A full randomised controlled trial now needs to be conducted to provide robust evidence of this effect.</p> <p><a href="#">Link to more information on FAST website</a></p>	<p>01/06/2009 31/05/2012</p>
<p><b>CARDIAC - Coordination action in R&amp;D in accessible and assistive ICT</b></p> <p><b>Research lead:</b> John Gill Technology Ltd</p> <p><b>Partners:</b> Partners in Switzerland, Cyprus, Spain, Italy, Germany, the Netherlands, Norway, Israel, Portugal, Australia</p> <p><b>Contact:</b> 07590 982 732</p> <p><b>Funder:</b> EU FP7</p> <p><b>Amount:</b> £499,991</p>	<p>The aim of this project was to create a research strategy highlighting research priorities that will secure e-accessibility. The research team has published several guides, a report on technology transfer for accessible ICT systems and an introduction to accessible user interfaces. A final project conference to agree priorities in future research took place in London in January 2013 from which findings will be available later in 2013.</p> <p><a href="#">Link to more information on FAST website</a></p>	<p>01/03/2010 28/02/2013</p>
<p><b>CARE@HOME - CARE services advancing the social interaction, health wellness and well-being of elderly people AT HOME</b></p> <p><b>Research lead:</b> HoIP CIC</p> <p><b>Partners:</b> Partners in The Netherlands, Romania, Luxembourg</p> <p><b>Contact:</b> 01794 500145</p> <p><b>Funder:</b> EU AAL</p> <p><b>Amount:</b> €2,033,585</p>	<p>Care@Home aims to provide wellness and social care services to the home of older people through Smart TV. The project will develop a software platform on which to run a number of telecare services to enable older people to live independently and have timely access to caregivers. 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 presenting subjective information such as the individual's mood.</p> <p><a href="#">Link to more information on FAST website</a></p>	<p>21/11/2011 20/11/2014</p>

<b>Project title</b> <b>Organisation(s)</b> <b>Contacts</b> <b>Funding</b>	<b>Project summary</b>	<b>Start and finish dates</b>
<p><b>Care in Business Knowledge Exchange Project</b></p> <p><b>Research lead:</b> Centre for Innovative Ageing, University of Swansea</p> <p><b>Partners:</b> University of Bangor, University of Glamorgan, Glyndwr University, Cardiff University</p> <p><b>Contact:</b> 01792 602186</p> <p><b>Funder:</b> Welsh Government A4B</p> <p><b>Amount:</b> £145,000</p>	<p>The project is bringing together academia, business, care-organisations, carers and older people in Wales to create a vision of care and explore how assistive living technologies and the ICT sector can be exploited innovatively to meet care needs. The project has developed a greater understanding of the gaps in research knowledge, the market potential for businesses and the aspirations expressed by carers and older people. Findings so far suggest there is a distinct need to fuel a consumer-led, rather than institution-led, market in Wales.</p> <p><a href="#">Link to more information on FAST website</a></p>	<p>01/04/2011 30/09/2012</p>
<p><b>Carer+ Ageing well in the community and at home</b></p> <p><b>Research lead:</b> King's Learning Institute</p> <p><b>Partners:</b> Arcola Research, partners in France, Austria, Belgium, Italy, Latvia, Romania, Sweden, Hungary</p> <p><b>Contact:</b> 0207 848 3905</p> <p><b>Funder:</b> EU ICT PSP</p> <p><b>Amount:</b> €158,342</p>	<p>Technology is increasingly being used to help older people continue to live independently at home and to provide a means to access services. The aim of this project is to develop the digital competence of care workers in order to improve the quality of life for older people. Older people will be engaged in the training process, both to equip them with technologies to support active ageing and as a way of fostering inter-generational learning. Activities will take place across Europe and a web portal will be developed to co-ordinate activities.</p> <p><a href="#">Link to more information on FAST website</a></p>	<p>01/04/2012 31/03/2015</p>
<p><b>CarGo - A new system for creating wheelchair access into family cars through vehicle interior scanning and the design of a six degree of freedom system carrying the wheelchair through a complex 3D path</b></p> <p><b>Research lead:</b> Constables Limited</p> <p><b>Partners:</b> UK Health and Environmental Research Institute, partners in Belgium, France, Spain</p> <p><b>Contact:</b> 0800 222 9000</p> <p><b>Funder:</b> EU FP7</p> <p><b>Amount:</b> €949,643</p>	<p>The project will develop the CarGo concept permitting greater numbers of wheelchair users to gain access to popular cars by developing a wheelchair and accompanying electrically powered lifting system, capable of lifting the user and wheelchair into a vehicle without external help. Many current products require permanent modification to the vehicle, or outside assistance to store the wheelchair elsewhere in the vehicle during transport. The project also aims to support European companies extend their market share in the face of competition from the US.</p> <p><a href="#">Link to more information on FAST website</a></p>	<p>01/12/2010 31/05/2013</p>

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<b>Project title</b> <b>Organisation(s)</b> <b>Contacts</b> <b>Funding</b>	<b>Project summary</b>	<b>Start and finish dates</b>
<p><b>CASA - Consortium for Assistive Solutions Adoption</b></p> <p><b>Research lead:</b> SEHTA  <b>Partners:</b> Scottish Centre for Telehealth and Telecare, Kent County Council, partners in Belgium, the Netherlands, Italy, Denmark, Poland, Spain, Sweden  <b>Contact:</b> 0787 670 3021  <b>Funder:</b> EU INTERREG IVC  <b>Amount:</b> €2,489,050</p>	<p>Increased pressure on health and social care services as a result of demographic changes has led to a growth in research into innovative, secure, wearable interactive health systems. The Casa network brings together 13 regions across Europe to develop joined-up services, policy and practice for the deployment of assistive living services. Partners have arranged study visits with policy experts and clinicians from the participating regions. The First Casa study meeting took place in 2012 with a focus on the use of smart ICT tools and services for social inclusion.</p> <p><a href="#">Link to more information on FAST website</a></p>	<p>01/01/2012 31/12/2014</p>
<p><b>CCE - Connected Care for Elderly persons suffering from dementia</b></p> <p><b>Research lead:</b> BRE Group  <b>Partners:</b> Hereward College, Centrihealth, Peeverell, partners in Netherlands, Germany, Hungary  <b>Contact:</b> 01923 664000  <b>Funder:</b> EU AAL  <b>Amount:</b> €1,500,000</p>	<p>Many older people develop long term conditions, including dementia, which impair their ability to continue to live independently. This European project has designed the 'MeMoTray', a concave tray connected to the internet and placed in the hallway. Using information gathered from sensors around the home the tray can be used as a reminder prompt. For example door sensors may indicate the person wishes to leave the house but if the RFID tagged house keys are still on the tray, a prompt will be given to the individual, or a carer can be sent an SMS text.</p> <p><a href="#">Link to more information on FAST website</a></p>	<p>01/01/2009 30/06/2012</p>
<p><b>CHRONICLES - Providing Access to Life Stories for Adults with Communication and Language Impairment</b></p> <p><b>Research lead:</b> School of Computing, University of Dundee  <b>Contact:</b> 01382 385597  <b>Funder:</b> EPSRC  <b>Amount:</b> £149,991</p>	<p>People living with neurological conditions such as cerebral palsy or stroke may have speech which is impaired and difficult to understand. Although many people in this group use voice output communication aids (VOCAs), they find great difficulty in engaging in interactive conversation. The project worked with severely disabled adults at a residential care centre in Scotland. The Chronicles software was developed in 2012. This allows the user to stop at various points in a story and provide embellishments or answer questions posed to them in a personal narrative without simply reciting a monologue.</p> <p><a href="#">Link to more information on FAST website</a></p>	<p>01/07/2011 31/12/2012</p>

<b>Project title</b> <b>Organisation(s)</b> <b>Contacts</b> <b>Funding</b>	<b>Project summary</b>	<b>Start and finish dates</b>
<p><b>CILMI: Computational Intelligence in Lifestyle Management Infrastructure</b></p> <p><b>Research lead:</b> School of Computing Science, Newcastle University  <b>Partners:</b> partners in Italy, Brazil  <b>Contact:</b> 0191 2227972  <b>Funder:</b> EU FP7  <b>Amount:</b> €205,200</p>	<p>The development of smart home environments and wearable, portable sensors offer people ways to manage their own health. The aim of this project is to examine factors in developing lifestyle management systems: data capture methodologies; data analysis requirements; and issues around trust and privacy. CILMI researchers are working on a system which will allow people to maintain their own personal health history and to obtain personalised, lifestyle-related advice. The project partners have organised exchange programs to exchange ideas and concepts.</p> <p><a href="#">Link to more information on FAST website</a></p>	<p>01/10/2010 31/01/2014</p>
<p><b>CLOUD4ALL: Cloud platforms Lead to Open and Universal access for people with Disabilities and for All</b></p> <p><b>Research lead:</b> OpenDirective LLP  <b>Partners:</b> textHELP Systems Ltd, partners in Greece, Canada, Germany, Spain, Italy, Switzerland, The Netherlands, Bulgaria  <b>Contact:</b> 01392 214300  <b>Funder:</b> EU FP7  <b>Amount:</b> €7,583,999</p>	<p>While technologies exist which will make computer systems more accessible to disabled people, these are often aimed at a small group of potential users, cannot easily be tailored to specific needs and can be expensive to develop. The project will build on commercially available cloud-based services to develop a Global Public Inclusive Infrastructure which can deliver accessibility where and when needed to match individual's specific requirements. In 2012 the project organised its second 'Hackathon' where development teams worked on making existing platforms, devices and services compatible with the Cloud4all/ GPII architecture.</p> <p><a href="#">Link to more information on FAST website</a></p>	<p>01/11/2011 31/10/2015</p>
<p><b>COBALT: Challenging Obstacles and Barriers to Assisted Living Technology</b></p> <p><b>Research lead:</b> School of Psychology &amp; Neuroscience, University of St Andrews  <b>Partners:</b> University of Reading, University of Sheffield, Age UK  <b>Contact:</b> 01334 462056  <b>Funder:</b> TSB ALIP  <b>Amount:</b> £521,000</p>	<p>The Cobalt project worked with older adults and health and social care staff to tackle barriers to adoption of assisted living technologies such as telecare. The project has developed a number of novel approaches for engaging with end-users to enable them to express their views about technology. Approaches include 'Show and Tell' sessions, and a 'five-minute challenge'. These engagement approaches allowed the research team to gain insights into the ways in which older adults adopt technology and current processes for delivering technology to them.</p> <p><a href="#">Link to more information on FAST website</a></p>	<p>01/09/2011 31/08/2013</p>

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<b>Project title</b> <b>Organisation(s)</b> <b>Contacts</b> <b>Funding</b>	<b>Project summary</b>	<b>Start and finish dates</b>
<p><b>COGWATCH - Cognitive rehabilitation of apraxia and action disorganisation syndrome</b></p> <p><b>Research lead:</b> BMT Group Ltd  <b>Partners:</b> University of Birmingham, Stroke Association, partners in Germany, Spain  <b>Contact:</b> 020 8943 5544  <b>Funder:</b> EU FP7  <b>Amount:</b> €3,600,000</p>	<p>People who have had a stroke may experience cognitive problems including apraxia, which causes uncoordinated movement and action disorganisation syndrome (AADS). AADS affects an individual's ability to undertake step by step tasks that require memory and sequencing. The aim of the project is to develop a Personal Healthcare System (PHS) to support people with apraxia, using intelligent tools and objects, portable and wearable devices as well as environmental sensor systems. Researchers are currently investigating the views of healthcare professionals and care givers.</p> <p><a href="#">Link to more information on FAST website</a></p>	<p>01/11/2011 31/10/2014</p>
<p><b>Collaborative Cross Modal Interfaces</b></p> <p><b>Research lead:</b> Interaction, Media and Communication Research Group, Queen Mary, University of London  <b>Contact:</b> 020 7882 5200  <b>Funder:</b> EPSRC  <b>Amount:</b> £230,927</p>	<p>The project aims to explore the use of audio, haptics (touch) and graphics to improve the accessibility of shared diagrams in the workplace. The challenge is to support collaboration where participants have access to different senses (sight, hearing and touch) referred to as 'cross-modal collaboration'. The project has developed an open source software tool (CCml Diagram Editor), which is available for download and use. The tool supports the construction and editing of diagrams using visual, auditory and haptic interfaces.</p> <p><a href="#">Link to more information on FAST website</a></p>	<p>09/08/2010 08/04/2012</p>
<p><b>CompanionAble - Integrated Cognitive Assistive &amp; Domestic Companion Robotic Systems for Ability and Security</b></p> <p><b>Research lead:</b> School of Systems Engineering, Reading University  <b>Partners:</b> partners in Germany, France, Spain, Austria, Belgium  <b>Contact:</b> 0118 378 8617  <b>Funder:</b> EU FP7  <b>Amount:</b> €7,799,997</p>	<p>This project aimed to combine robotics with ambient intelligent technologies to create an assistive environment to support care givers. A key activity was to provide cognitive stimulation and therapy for the people carers are supporting. The project has developed 'Hector' the companion robot, who provides care support, aide memoire services and can also detect and respond to falls by contacting carers and emergency services if needed. Trials of Hector completed in 2012 and were reported in the previous annual report in this series.</p> <p><a href="#">Link to more information on FAST website</a></p>	<p>01/01/2008 30/06/2012</p>

<b>Project title</b> <b>Organisation(s)</b> <b>Contacts</b> <b>Funding</b>	<b>Project summary</b>	<b>Start and finish dates</b>
<p><b>CO-MODAL - Consumer Models for Assisted Living</b></p> <p><b>Research lead:</b> Health Design &amp; Technology Institute, Coventry University  <b>Other partners:</b> Age UK, Grandparents Plus.  <b>Contact:</b> 024 7615 8000  <b>Funder:</b> TSB ALIP  <b>Amount:</b> £749,469</p>	<p>The project aims to support the development of a consumer market for assisted living technologies such as telecare for people aged 50-70 years through the development of new business models. Researchers have reviewed research literature and undertaken extensive consumer surveys to discover the views, needs, purchasing behaviour and preferences of consumers of assistive living products and services. Findings are available to download from the project website. A market analysis identified the assistive living products and services available on the market. Business modelling activity is currently underway.</p> <p><a href="#">Link to more information on FAST website</a></p>	<p>01/4/2011 31/3/2014</p>
<p><b>CORBYS - Cognitive Control Framework for Robotic Systems</b></p> <p><b>Research lead:</b> School of Computer Science, University of Hertfordshire  <b>Partners:</b> Reading University, partners in Germany, Slovenia, Belgium, Norway, Spain  <b>Contact:</b> 01707 284000  <b>Funder:</b> EU FP7  <b>Amount:</b> €8,755,265</p>	<p>The project will focus on robotic systems that have a symbiotic relationship with humans. The Corbys robotic framework will be used to support a robotic gait (walking) rehabilitation system. The 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 (BCI). The project members are developing the robotic system and have agreed a hierarchy of functions and controls for the robotic system.</p> <p><a href="#">Link to more information on FAST website</a></p>	<p>01/02/2011 31/01/2015</p>
<p><b>Creating artificial sensation by tactile sensing and innervations through nerve endings</b></p> <p><b>Research lead:</b> School of Design, Engineering and Computing, Bournemouth University  <b>Partners:</b> Salisbury District Hospital  <b>Contact:</b> 01202 524111  <b>Funder:</b> School of Design, Engineering and Computing, Bournemouth University  <b>Amount:</b> £40,200</p>	<p>People who have peripheral neuropathy as a result of diseases such as diabetes or after chemotherapy for cancer have reduced sensations in their fingers and limbs. This sensory loss can result in numbness, tremor, and problems with normal gait. Researchers have developed a composite electronic device to provide augmentative sensations, in which the sensing and stimulation elements are interfaced with the intelligent data processing unit. The device is light and transfers data wirelessly. In early 2013 this device was under trial with participants with neuropathy.</p> <p><a href="#">Link to more information on FAST website</a></p>	<p>01/10/2009 30/03/2013</p>

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<b>Project title</b> <b>Organisation(s)</b> <b>Contacts</b> <b>Funding</b>	<b>Project summary</b>	<b>Start and finish dates</b>
<p><b>CUPID - Closed-loop system for personalized and at-home rehabilitation of people with Parkinson's disease</b></p> <p><b>Research lead:</b> Oxford Computer Consultants  <b>Partners:</b> partners in Italy, Switzerland, Israel, Belgium, Spain  <b>Contact:</b> 01865 305200  <b>Funder:</b> EU FP7  Amount: €3,500,000</p>	<p>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. The project has undertaken user interviews and defined the requirements for the system. Clinical partners have designed the exercise programme and technical partners have developed prototype virtual reality games and telehealth infrastructure to support the remote supervision of the exercises.</p> <p><a href="#">Link to more information on FAST website</a></p>	<p>01/10/2011 30/09/2014</p>
<p><b>Customisation of cosmetic covers for artificial limbs</b></p> <p><b>Research lead:</b> Design, Manufacture and Engineering Management Dept, University of Strathclyde  <b>Partners:</b> Chas A Blatchford &amp; Sons Ltd, PACE Rehabilitation  <b>Contact:</b> 0141 548 2091  <b>Funder:</b> EPSRC  <b>Amount:</b> £189,616</p>	<p>Amputees cover their metal prosthetic limb with a specially designed 'cosmesis' made out of foam. The foam protects the prosthesis and improves aesthetic appearance but it often restricts functionality and degrades over time. The project will redesign the foam cosmesis, improving its appearance and enabling unhindered functionality and easier access to prosthetic components during fitting and maintenance. Researchers used a questionnaire to examine users' satisfaction with current products and future design priorities. A prototype has been trialled and a refined prototype is in development.</p> <p><a href="#">Link to more information on FAST website</a></p>	<p>20/09/2010 19/03/2013</p>
<p><b>DALi - Devices for Assisted Living</b></p> <p><b>Research lead:</b> Faculty of Life Sciences, University of Northumbria  <b>Partners:</b> partners in Italy, Spain, Greece, France, Austria  <b>Contact:</b> 0191 227 3571  <b>Funder:</b> EU FP7  <b>Amount:</b> €3,022,000</p>	<p>The aim of this project is to prolong people's independent mobility. Researchers plan to develop a mobility aid that can support navigation in crowded and unstructured spaces; a 'c-walker'. The project held a series of 'technology tea parties' to gather users' and service providers' views. When asked about the idea of a walker with navigation abilities there was general interest in the idea from potential users, but concern about the cost. These findings will shape the next stage of prototype development and evaluation.</p> <p><a href="#">Link to more information on FAST website</a></p>	<p>01/11/2011 31/10/2014</p>

<b>Project title</b> <b>Organisation(s)</b> <b>Contacts</b> <b>Funding</b>	<b>Project summary</b>	<b>Start and finish dates</b>
<p><b>DAP Connect - Toolkits for Assisted Living</b></p> <p><b>Research lead:</b> HoIP CIC  <b>Partners:</b> University of Westminster, LSE Enterprise Ltd, ADI Ltd, BRE Group, TSA, Docobo UK Ltd, Carers UK, FAST  <b>Contact:</b> 01794 500145  <b>Funder:</b> TSB ALIP  <b>Amount:</b> £1,752,098</p>	<p>Previous DAP projects have shown how inexpensive, consumer level assisted living services might support older and disabled people to living independently. Dap Connect partners have therefore modelled the supply chain that would enable at-scale delivery of integrated, interoperable AL services characterised by multiple hardware, software and service components, offered through multiple channels and relevant across consumer and statutory markets. Tools are being developed to help entrants to the market understand the benefits for all the stakeholders in the supply chain and to develop a robust business case.</p> <p><a href="#">Link to more information on FAST website</a></p>	<p>01/04/2011 30/09/2013</p>
<p><b>DECODER - Deployment of Brain-Computer Interfaces for the Detection of Consciousness in Non-Responsive Patients</b></p> <p><b>Research lead:</b> MRC Cognition and Brain Sciences Unit  <b>Partners:</b> Italy, Austria, The Netherlands, Belgium, Germany, France  <b>Contact:</b> 01223 355294  <b>Funder:</b> EU FP7  <b>Amount:</b> €2,799,921</p>	<p>Each year a large number of people are diagnosed with a disorder of consciousness or a disorder leading to motor impairment. In some cases the level of impairment can be severe and people may display only a minimal level of consciousness. There are two key issues in supporting such patients: ensuring that a diagnosis of a minimally responsive state is accurate and providing some way for people to communicate. The project developed an improved method of diagnosis and a prototype which allows people to communicate with healthcare professionals and their family members.</p> <p><a href="#">Link to more information on FAST website</a></p>	<p>01/02/2010 01/02/2013</p>
<p><b>Deep architectures for statistical speech synthesis</b></p> <p><b>Research lead:</b> Centre for Speech Technology Research, University of Edinburgh  <b>Contact:</b> 0131 650 4434  <b>Funder:</b> EPSRC  <b>Amount:</b> £741,163</p>	<p>Complexity and cost are significant barriers to commercialisation for many interesting technologies that meet the needs of small numbers of disabled people. This is the case for communication aids for people with speech problems due to degenerative conditions such as Motor Neurone Disease (MND). 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.</p> <p><a href="#">Link to more information on FAST website</a></p>	<p>01/11/2011 31/10/2016</p>

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<b>Project title</b> <b>Organisation(s)</b> <b>Contacts</b> <b>Funding</b>	<b>Project summary</b>	<b>Start and finish dates</b>
<p><b>DEPIC - Design Patterns for Inclusive Collaboration</b></p> <p><b>Research lead:</b> Interaction, Media and Communication Research Group, Queen Mary, University of London  <b>Contact:</b> 020 7882 5200  <b>Funder:</b> EPSRC  <b>Amount:</b> £807,691</p>	<p>There is a lack of research that has examined how people combine and ‘map’ information from one sense to another, particularly for individuals with sensory impairments. The project aims to support people to use combinations of senses to interact with others. The need to map one sense to another can arise because of a sensory impairment, or due to the technology they are using. The research team have run a workshop for visually impaired musicians and audio production specialists to explore design ideas for accessible tools that would assist visually impaired users when collaborating with sighted colleagues.</p> <p><a href="#">Link to more information on FAST website</a></p>	<p>01/07/2012 31/10/2015</p>
<p><b>Development, evaluation and implementation of a computer-based self-management programme for people with type 2 diabetes</b></p> <p><b>Research lead:</b> School of Life &amp; Medical Science, University College London  <b>Contact:</b> 020 7679 2000  <b>Funder:</b> NIHR PGAR  <b>Amount:</b> £1,963,027</p>	<p>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 but only a minority report receiving such support. The aim of this project is to develop a computer-based self-management programme (SMP). The SMP will be linked with the person's GP electronic healthcare record so individuals can share the results of any self-monitoring with their health professionals. HeLP-Diabetes is being beta-tested and piloted prior to an individually randomised controlled trial in primary care starting in March 2013.</p> <p><a href="#">Link to more information on FAST website</a></p>	<p>01/03/2011 29/02/2016</p>
<p><b>Development and evaluation of SMS-based monitoring and management service for people with bipolar disorder</b></p> <p><b>Research lead:</b> Department of Psychiatry, Oxford Neuroscience, University of Oxford  <b>Contact:</b> 01865 280528  <b>Funder:</b> NIHR PGAR  <b>Amount:</b> £1,606,946</p>	<p>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 using online or text messaging. Trials are ongoing, with over 200 participants involved in the project.</p> <p><a href="#">Link to more information on FAST website</a></p>	<p>01/12/2009 30/11/2013</p>

<b>Project title</b> <b>Organisation(s)</b> <b>Contacts</b> <b>Funding</b>	<b>Project summary</b>	<b>Start and finish dates</b>
<p><b>Development and pilot evaluation of a web-supported programme of Constraint Induced Therapy following stroke (LifeCIT)</b></p> <p><b>Research lead:</b> Faculty of Health Sciences, University of Southampton  <b>Contact:</b> 023 8059 7979  <b>Funder:</b> NIHR RfPB  <b>Amount:</b> £249,634</p>	<p>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'. CIT involves wearing a mitt 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 programme to support people who have had a stroke to carry out CIT at home with optional online therapist support. Working with people with severe and moderate effects of stroke the research team have developed the LifeCIT website, and Phase 2 of the study, a pilot randomised controlled trial, started in 2012.</p> <p><a href="#">Link to more information on FAST website</a></p>	<p>01/03/2011 01/03/2014</p>
<p><b>Development of a Fully Flushable Sustainable Ostomy Pouch (SUSOSTOMY2)</b></p> <p><b>Research lead:</b> Faculty of Engineering, University of Leeds  <b>Contact:</b> 0113 343 2080  <b>Funder:</b> NIHR i4i  <b>Amount:</b> £297,752</p>	<p>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.</p> <p><a href="#">Link to more information on FAST website</a></p>	<p>03/05/2011 02/05/2013</p>
<p><b>DIABSMART - Development of a new generation of DIABetic footwear using an integrated approach and SMART materials</b></p> <p><b>Research lead:</b> Clinical Biomechanics Team, Faculty of Health Sciences, Staffordshire University  <b>Partners:</b> partners in Germany, Spain, India  <b>Contact:</b> 01782 295853  <b>Funder:</b> EU Marie Curie  <b>Amount:</b> €809,238</p>	<p>People with diabetes may have considerable problems with footwear, which can cause ulcers and eventually lead to amputation. Better fitting diabetic footwear would significantly reduce the risk of limb loss. The project aims to generate, transfer and exchange clinical, academic and production knowledge between the partners to create a new generation of diabetic footwear through a newly developed assessment system. Protocols for the assessment process have been developed and the clinical trials are underway.</p> <p><a href="#">Link to more information on FAST website</a></p>	<p>01/11/2011 31/10/2015</p>

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<p><b>DiSArM - Digital Speech Recovery from Articulator Movement</b></p> <p><b>Research lead:</b> Dept of Engineering, University of Hull  <b>Partners:</b> University of Sheffield  <b>Contact:</b> 01482 465891  <b>Funder:</b> NIHR i4i  <b>Amount:</b> £612,094</p>	<p>People whose voice box must be removed as a result of 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. Researchers are designing a demonstrator system and developing software applications that will reconstruct speech from recognition of individual words.</p> <p><a href="#">Link to more information on FAST website</a></p>	<p>01/10/2011 30/09/2014</p>
<p><b>Does repeated vestibular stimulation induce lasting recovery from hemi-spatial neglect?</b></p> <p><b>Research lead:</b> School of Psychology, University of Kent  <b>Partners:</b> East Kent Hospitals University NHS Foundation Trust  <b>Contact:</b> 01227 824775  <b>Funder:</b> MRC  <b>Amount:</b> £313,752</p>	<p>Hemi-spatial neglect is an attention disorder that commonly arises after someone has had a stroke and which means an individual behaves as if one half of their visual world is missing. Whilst not blind, people with this condition commonly have difficulty with everyday tasks as they may see only half of what is in front of them. The aim of this project is to evaluate the use of tiny electrical currents passed through the scalp as a means of improving attention levels in people who experience this problem. Researchers are assessing whether it is possible to develop a system that people could use themselves. The study will test the procedure on 60 stroke survivors with hemi-spatial neglect.</p> <p><a href="#">Link to more information on FAST website</a></p>	<p>01/04/2011 31/03/2013</p>
<p><b>DOSSy - Digital Outdoor And Safety System</b></p> <p><b>Research lead:</b> Augmentra Ltd  <b>Partners:</b> Partners in Switzerland, Austria, Germany  <b>Contact:</b> 01223 421356  <b>Funder:</b> EU AAL  <b>Amount:</b> €1,568,577</p>	<p>Outdoor activities contribute largely to the health and wellbeing of older people and improve their quality of life. The project will develop an app, for use on selected outdoor-suitable mobile devices, which will provide a hiking guide with route information and a basic safety system which constantly checks the surrounding conditions (weather, daylight) to alert the user to risky situations.</p> <p><a href="#">Link to more information on FAST website</a></p>	<p>01/08/2012 31/07/2014</p>

<b>Project title</b> <b>Organisation(s)</b> <b>Contacts</b> <b>Funding</b>	<b>Project summary</b>	<b>Start and finish dates</b>
<p><b>eACCESS+</b></p> <p><b>Research lead:</b> Human-Computer Interaction Research Group, University of York</p> <p><b>Partners:</b> IN2, School of Computing, University of Dundee, partners in France, Germany, The Netherlands, Greece, Spain, Norway, Denmark, Italy, Austria, Slovenia</p> <p><b>Contact:</b> 01904 432722</p> <p><b>Funder:</b> EU CIP</p> <p><b>Amount:</b> €740,000</p>	<p>There is now a widening gap between the potential of mainstream and assistive technologies that support access to ICT and e-accessibility implementation. The project is focusing on web accessibility and accessible self-service terminals. The project has helped launch the Vodafone Foundation Smart Accessibility Awards to promote the development of IT applications designed to improve the lives of disabled and older people and a student competition in coding for open source assistive technology and e-Accessibility solutions.</p> <p><a href="#">Link to more information on FAST website</a></p>	<p>01/09/2010 31/08/2013</p>
<p><b>eCAALYX - enhanced Complete Ambient Assisted Living Experiment</b></p> <p><b>Research lead:</b> Faculty of Health, Education and Society, University of Plymouth</p> <p><b>Partners:</b> Spain, Germany, Portugal, Ireland</p> <p><b>Contact:</b> 01752 585858</p> <p><b>Funder:</b> EU AAL</p> <p><b>Amount:</b> €4,000,000</p>	<p>The aim of this project is to provide systems to monitor the health of older people with multiple chronic conditions, both at home and on the move, in order to improve their quality of life. The project has developed body sensors worn in a vest and a smartphone app which can remotely monitor body movement (lying down, standing, sitting or walking) and take physiological measurements of heartbeat and body temperature.</p> <p><a href="#">Link to more information on FAST website</a></p>	<p>01/06/2009 01/05/2012</p>
<p><b>Effects of night positioning on sleep, postural deformity and pain in children and young people with cerebral palsy - an exploratory study</b></p> <p><b>Research lead:</b> Chailey Heritage Clinical Services</p> <p><b>Contact:</b> 01825 722112</p> <p><b>Funder:</b> NIHR RfPB</p> <p><b>Funding Amount:</b> £246,031</p>	<p>Children and young people with cerebral palsy may experience discomfort because of poor posture and go on to develop deformities in their limbs. Sleep systems which are used at night are widely used to ensure an individual is positioned as comfortably as possible 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. Researchers are currently recruiting participants across England for the study.</p> <p><a href="#">Link to more information on FAST website</a></p>	<p>01/11/2011 30/11/2014</p>

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<p><b>ELReN - Engineering for Life Research Network</b></p> <p><b>Research lead:</b> Material and Engineering Research Institute, Sheffield Hallam University  <b>Contact:</b> 0114 225 3500  <b>Funder:</b> EPSRC  <b>Amount:</b> £701,561</p>	<p>The network created multidisciplinary teams centred on: materials and engineering, art and design, sport and exercise science, biomedical, communication and computing. ELReN encouraged cross disciplinary research within Sheffield Hallam university related to rehabilitation and assisted living. Projects within the network have looked at technology to encourage social engagement for people with autism; virtual reality as a way of encouraging social activity for older people; and analysed reasons for the low take-up of assistive technologies.</p> <p><a href="#">Link to more information on FAST website</a></p>	<p>09/09/2009 01/09/2012</p>
<p><b>ENACT - Exploiting social Networks to Augment Cognitive behavioural Therapy</b></p> <p><b>Research lead:</b> Lincoln Social Computing Research Centre  <b>Partners:</b> University of Sussex, University of Loughborough, University of Lincoln  <b>Contact:</b> 01522 882000  <b>Funder:</b> EPSRC  <b>Amount:</b> £463,840</p>	<p>This project investigated the hypothesis that computerised Cognitive Behavioural Therapy (CCBT) programmes which mimic online social media would be more effective than CCBT programmes that mimic traditional one-to-one therapy. Feedback from potential users indicated that they mistrusted online sources of information and would need transparency in the source of information. Healthcare professionals also wanted to promote the use of reputable sources but were unsure how to do this. The proposed service will create “safe spaces” where users can undertake therapy and engage with each other in the knowledge that any disclosures they make will be as secure as in a therapeutic environment. The project team are collecting data for publication in 2013.</p> <p><a href="#">Link to more information on FAST website</a></p>	<p>01/10/2010 31/03/2013</p>

<b>Project title</b> <b>Organisation(s)</b> <b>Contacts</b> <b>Funding</b>	<b>Project summary</b>	<b>Start and finish dates</b>
<p><b>envisage: Promoting physical independence by involving users in rehabilitation through dynamic visualisations of movement data</b></p> <p><b>Research lead:</b> Bioengineering Unit, University of Strathclyde  <b>Partners:</b> Glasgow Caledonian University, Glasgow School of Art, University of Southampton, University of Glasgow  <b>Contact:</b> 0141 548 3032  <b>Funder:</b> LLHW  <b>Amount:</b> £1,300,000</p>	<p>As the proportion of older people living with long term conditions increases, there will be an increasing need for rehabilitation services. 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 without intensive support. The method is sufficiently accurate for clinicians and scientists, while presenting information in a non-technical way to the individual undergoing rehabilitation. After a phase of laboratory work, over the course of 2012 recruitment was undertaken of participants with a range of impairments including those using ankle foot orthoses after having had a stroke.</p> <p><a href="#">Link to more information on FAST website</a></p>	<p>05/01/2010 04/10/2013</p>
<p><b>eStockings - New generation smart compression stockings with integrated ICT for superior customized performance</b></p> <p><b>Research lead:</b> Nonwovens Innovation and Research Institute (NIRI)  <b>Partners:</b> Lindsay Leg Club Foundation, partners in Denmark, Finland, Switzerland  <b>Contact:</b> 0113 343 3790  <b>Funder:</b> EU AAL  <b>Amount:</b> €1,165,280</p>	<p>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.</p> <p><a href="#">Link to more information on FAST website</a></p>	<p>02/01/2012 31/01/2015</p>
<p><b>ETNA - European Thematic Network on Assistive Information Technologies</b></p> <p><b>Research lead:</b> John Gill Technology Ltd  <b>Partners:</b> ACE Centre, Disabled Living Foundation, Nottingham Trent University, partners in Italy, Germany, Denmark, Austria, Spain, France, Slovakia, Sweden, The Netherlands, Finland, Belgium, Greece  <b>Contact:</b> 07590 982 732  <b>Funder:</b> EU CIP  <b>Amount:</b> €690,000</p>	<p>Etna will work for three years to establish a web portal of ICT-based assistive technology products, accessibility solutions and related services. The network involves 23 institutions in 13 countries. The project will facilitate access to repositories of freeware, open source software products and tools for developers of assistive solutions. The portal will be based on previous work by the European Assistive Technology Information Network (Eastin) project and will take advantage of existing repositories and other Internet resources. Outputs from the project can be downloaded from the Etna website.</p> <p><a href="#">Link to more information on FAST website</a></p>	<p>01/01/2011 31/12/2013</p>

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<b>Project title</b> <b>Organisation(s)</b> <b>Contacts</b> <b>Funding</b>	<b>Project summary</b>	<b>Start and finish dates</b>
<p><b>Exploring Human Hand Capabilities into Multifingered Robot Manipulation</b></p> <p><b>Research lead:</b> School of Creative Technologies, University of Portsmouth  <b>Contact:</b> 023 9284 5461  <b>Funder:</b> EPSRC  <b>Amount:</b> £284,222</p>	<p>Service robots have the potential to support disabled or older person with tasks they cannot do for themselves. However, the manipulation systems of robotic hands are hardcoded to handle specific objects in specific ways. The project aims to study human hands to understand how robotic hands can manipulate objects with the same degree of skill and delicacy. The project has found that programming multi-fingered artificial hands to solve manipulation tasks remains complex because of the unpredictability of human hand interaction when manipulating everyday objects.</p> <p><a href="#">Link to more information on FAST website</a></p>	<p>15/03/2010 14/09/2013</p>
<p><b>Facial Gestures for Accessing Assistive Technologies</b></p> <p><b>Research lead:</b> School of Engineering and Digital Arts, University of Kent  <b>Partners:</b> East Kent Hospitals University NHS Foundation Trust  <b>Contact:</b> 01227 823246  <b>Funder:</b> East Kent Hospitals University NHS Foundation Trust  <b>Amount:</b> £96,000</p>	<p>People who have sustained injury to the central nervous system as a result of a brain injury, stroke, motor neurone disease, cerebral palsy or multiple sclerosis may have limited or no movement of their hands and arms. This can make it difficult to operate assistive technology for accessing computers. The project will develop new pattern recognition and computer vision technologies, which build on those currently used for head and eye tracking with webcams, to improve computer access.</p> <p><a href="#">Link to more information on FAST website</a></p>	<p>01/06/2011 01/05/2014</p>
<p><b>FARSEEING - FAIl Repository for the design of Smart and sELf-adaptive Environments prolonging INdependent livinG</b></p> <p><b>Research lead:</b> School of Nursing, Midwifery and Social Work, University of Manchester  <b>Other partners:</b> partners in Italy, the Netherlands, Germany, Switzerland, Norway, France  <b>Contact:</b> 0161 306 7614  <b>Funder:</b> EU FP7  <b>Amount:</b> €3,489,000</p>	<p>Telecare and smart ICT applications offer opportunities to support older people in their own homes. The project aims to provide support for health promotion and falls prevention and to undertake product development. The project will undertake long-term analysis of behavioural and physiological data collected from older people using smartphones, wearable and environmental sensors. Farseeing aims to build the world's largest falls information repository. The project has developed a 'taxonomy of technologies' to enable them to analyse currently available ICT applications and systems.</p> <p><a href="#">Link to more information on FAST website</a></p>	<p>01/01/2012 31/12/2014</p>

<b>Project title</b> <b>Organisation(s)</b> <b>Contacts</b> <b>Funding</b>	<b>Project summary</b>	<b>Start and finish dates</b>
<p><b>Feasibility study and pilot trial of computerised cognitive behaviour therapy for depression in adolescents</b></p> <p><b>Research lead:</b> Limetrees Child, Adolescent and Family Unit, York  <b>Contact:</b> 01904 726610  <b>Funder:</b> NIHR RfPB  <b>Amount:</b> £247,936</p>	<p>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 have recruited 62 adolescents with low mood to the trial with an aim to recruit another 96 participants.</p> <p><a href="#">Link to more information on FAST website</a></p>	<p>01/06/2011 31/05/2014</p>
<p><b>FIRST - Flexible Interactive Reading Support Tool</b></p> <p><b>Research lead:</b> Research Group in Computational Linguistics, University of Wolverhampton  <b>Partners:</b> iWeb Technologies Ltd, Central and North West London NHS Foundation Trust, partners in Belgium, Bulgaria, Spain  <b>Contact:</b> 01902 321 630  <b>Funder:</b> EU FP7  <b>Amount:</b> €2,008,754</p>	<p>People with autism spectrum disorders (ASD) can have problems when reading. This can include difficulty understanding complex instructions, problems interpreting metaphorical meanings, being confused by uncommon words, figures of speech, and being unsettled by the imprecision that arises naturally in communication. 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 project is developing a tool called 'Open Book' for trial in 2013.</p> <p><a href="#">Link to more information on FAST website</a></p>	<p>01/10/2011 30/09/2014</p>
<p><b>Flushable Sustainable Devices for Active Continence Management (SUSOROL)</b></p> <p><b>Research lead:</b> Faculty of Engineering, University of Leeds  <b>Contact:</b> 0113 343 2080  <b>Funder:</b> NIHR i4i  <b>Amount:</b> £346,569</p>	<p>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. The most common problems are the need to empty the bladder frequently and at short notice. 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.</p> <p><a href="#">Link to more information on FAST website</a></p>	<p>12/09/2011 12/09/2013</p>

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<b>Project title</b> <b>Organisation(s)</b> <b>Contacts</b> <b>Funding</b>	<b>Project summary</b>	<b>Start and finish dates</b>
<p><b>Free Traveller</b></p> <p><b>Research lead:</b> Loughborough Design School, Loughborough University  <b>Partners:</b>  <b>Contact:</b> 01509 222652  <b>Funder:</b> Loughborough University  <b>Amount:</b> £36,000</p>	<p>The aim of this PhD research project was to understand how different forms of information affect the usability of a mashup (combinations of different information ‘mashed together’ on a website). The website gave navigational information to wheelchair users and combined information from amateur volunteers and from professionals. 101 wheelchair users, who visited a pilot website, experienced the mashups and filled out a survey. The study highlighted some limitations in the perceived value of volunteer information used in this way, although most participants were happy to use information provided by amateur volunteers.</p> <p><a href="#">Link to more information on FAST website</a></p>	<p>01/01/2010 01/07/2012</p>
<p><b>Glideabout commode with lifting seat</b></p> <p><b>Research lead:</b> BIME  <b>Contact:</b> 01225 824103  <b>Funder:</b> Bath NHS Trust  <b>Amount:</b> £11,000</p>	<p>The action of rising from a commode can be a difficult and unsafe as people get older. The solution is often to provide a standing aid or hoist, coupled with assistance from a carer. A market search by the BIME team found no current commode that could support the independent move from sitting to standing. The commode is designed for those with limited or inconsistent mobility, who can maintain some stability in standing but have difficulty in rising from a seated position. A new product is due to be made commercially available in 2013.</p> <p><a href="#">Link to more information on FAST website</a></p>	<p>01/01/2011 31/12/2012</p>
<p><b>GOAL - Growing Older, stAying mobiLe: The transport needs of an ageing society</b></p> <p><b>Research lead:</b> Transport Research Group, University of Southampton  <b>Partners:</b> partners in Italy, Spain, Germany, Austria  <b>Contact:</b> 023 8059 2192  <b>Funder:</b> EU FP7  <b>Amount:</b> €933,935</p>	<p>The project will profile the physical and mental characteristics of older people and use these profiles to predict the requirements of future populations of older people. These profiles will set out older people’s requirements while driving, using public transport, walking and cycling and the relevant information needed before and during travel. Several workshops have been run involving older adults and a report on their attitudes to transport has been published by the project.</p> <p><a href="#">Link to more information on FAST website</a></p>	<p>01/09/2011 30/09/2013</p>

Project title Organisation(s) Contacts Funding	Project summary	Start and finish dates
<p><b>GoFar - Going Outdoors: Falls, Ageing and Resilience</b></p> <p><b>Research lead:</b> SURFACE, Salford University  <b>Partners:</b> University of Southampton, Bournemouth University, University of Toronto, Age UK, Heriot-Watt University, Swansea University, Glasgow Caledonian University, Edinburgh College of Art  <b>Contact:</b> 0161 295 4600  <b>Funder:</b> LLHW  <b>Amount:</b> £310,403</p>	<p>The project brings 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 falls risks 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.</p> <p><a href="#">Link to more information on FAST website</a></p>	<p>01/01/2012 31/05/2013</p>
<p><b>GoldUI: European AAL Project for Adaptive embedded human interfaces designed for older people</b></p> <p><b>Research lead:</b> XIM Ltd  <b>Partners:</b> Partners in Spain, Italy.  <b>Contact:</b> 01727 884830  <b>Funder:</b> EU AAL  <b>Amount:</b> €807,656</p>	<p>The project aims to improve user interfaces for ICT applications for older. GoldUI will develop and maintain a cloud-based secure user profile which is intended to be maintained by a trusted carer. The profile will indicate the user's language, eyesight, hearing, mobility and memory capabilities and the consequent formatting preferences for presentation of information.</p> <p><a href="#">Link to more information on FAST website</a></p>	<p>18/07/2011 17/07/2013</p>
<p><b>Go-myLife</b></p> <p><b>Research lead:</b> The 451 Group  <b>Partners:</b> IS Communications Ltd, partners in Spain, Greece, Poland  <b>Contact:</b> 020 7299 7765  <b>Funder:</b> EU AAL  <b>Amount:</b> €1,500,000</p>	<p>The aim of this project was to develop a simple computer interface, customised to the needs of older people, which could be used to access social media including Facebook and Twitter. The project developed a prototype of the product that has been internally tested, both on PC and via mobile phone. There is no information on whether this product will be made publicly available.</p> <p><a href="#">Link to more information on FAST website</a></p>	<p>01/07/2010 31/12/2012</p>

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<b>Project title</b> <b>Organisation(s)</b> <b>Contacts</b> <b>Funding</b>	<b>Project summary</b>	<b>Start and finish dates</b>
<p><b>GUIDE - Gentle User Interfaces for Disabled and Elderly Citizens</b></p> <p><b>Research lead:</b> Dept of Engineering, University of Cambridge</p> <p><b>Partners:</b> partners in Germany, Portugal, France</p> <p><b>Contact:</b> 01223 332600</p> <p><b>Funder:</b> EU FP7</p> <p><b>Amount:</b> €3,399,910</p>	<p>The aim of this project was to develop a toolbox of adaptive user interfaces which support older users using TV set-top boxes. The project has developed the Guide user simulator to help designers in visualising, understanding and measuring the effect of age and impairment on their designs. Researchers have also published findings on making digital TV more accessible to disabled people and on the creation of a methodology for categorising user impairment.</p> <p><a href="#">Link to more information on FAST website</a></p>	<p>01/02/2010 31/01/2013</p>
<p><b>GUIDE - Efficacy of an assistive technology for cognition to scaffold performance and learning of activities of daily living in people with acquired brain injury</b></p> <p><b>Research lead:</b> Dept of Psychology, University of Stirling</p> <p><b>Contact:</b> 01786 467640</p> <p><b>Other partners:</b> Brain Injury Rehabilitation Trust, LSE</p> <p><b>Funder:</b> CSO</p> <p><b>Amount:</b> £198,623</p>	<p>Many people with brain injury, dementia or mental health difficulties may be unable to do everyday tasks like getting dressed because their cognitive impairments leave them unable to plan and complete the necessary stages in the process. This project has produced a software tool to help people with cognitive impairments to plan and carry out everyday tasks. Protocols for undertaking laundry and morning routine tasks have been developed, and researchers are now beginning a randomised controlled trial of these protocols. To date they have recruited 6 participants and the aim is to recruit and work with a total of 40 people by the end of summer 2013.</p> <p><a href="#">Link to more information on FAST website</a></p>	<p>01/10/2010 31/10/2013</p>
<p><b>HAPTIMAP - Haptic, Audio and Visual Interfaces for Maps and Location Based Services</b></p> <p><b>Research lead:</b> School of Electronics, Electrical Engineering and Computer Science, Queen's University Belfast</p> <p><b>Partners:</b> University of Glasgow, partners in Sweden, Spain, Germany, Finland, the Netherlands</p> <p><b>Contact:</b> 028 9097 4669</p> <p><b>Funder:</b> EU FP7</p> <p><b>Amount:</b> €6,670,000</p>	<p>Advances in GPS technologies have meant an increase in the number of computerised maps and location-based services available. The aim of the project was to make this geographic information and location based services more accessible for all users, with a particular focus on non-visual interaction methods like touch and hearing, to access information. The project developed the Joined app which is available for free at the App Store for iPhone and for Android phones. A competition was run for developers to produce more apps based on Joined.</p> <p><a href="#">Link to more information on FAST website</a></p>	<p>01/09/2008 30/08/2012</p>

<b>Project title</b> <b>Organisation(s)</b> <b>Contacts</b> <b>Funding</b>	<b>Project summary</b>	<b>Start and finish dates</b>
<b>Head-Up</b>  <b>Research lead:</b> Sheffield Institute for Translational Neuroscience <b>Partners:</b> Sheffield Hallam University, D4D Health Technology Cooperative <b>Contact:</b> 0114 222 2230 <b>Funder:</b> NIHR i4i <b>Amount:</b> £402,000	<p>Many people with Motor Neurone Disease (MND) develop weak neck muscles leading to pain and restricted movement and problems with swallowing, breathing and communication. Using a neck collar for support would alleviate these problems, but the designs currently available are of limited use because they restrict movement. The project will develop a neck collar that supports the head whilst allowing movement.</p> <p><a href="#">Link to more information on FAST website</a></p>	01/04/2012 31/07/2014
<b>HEAR IT - Evaluation of interactive videos for enhancing benefit for new hearing aid users</b>  <b>Research lead:</b> National Biomedical Research Unit in Hearing, University of Nottingham <b>Contact:</b> 0115 823 2600 <b>Funder:</b> NIHR RfPB <b>Amount:</b> £235,269	<p>There are currently 9 million people in the UK who have a permanent hearing loss. Of the 2 million people with hearing aids, about one-quarter (0.6m) do not wear them. Getting used to wearing a hearing aid is not easy and this results in many people abandoning their hearing aids or wearing them only occasionally. The project has developed a series of 10 short interactive video tutorials to provide extra information to help people get used to their hearing aids and to wear them more often.</p> <p><a href="#">Link to more information on FAST website</a></p>	10/01/2011 09/01/2013
<b>HEARTCYCLE - Compliance and effectiveness in HF and CHD closed-loop management</b>  <b>Research lead:</b> Postgraduate Medical Institute, University of Hull <b>Contact:</b> 01482 346311 <b>Other partners:</b> partners in Greece, Finland, Switzerland, Germany, Portugal, Spain, Netherlands, Italy, Finland, China <b>Funder:</b> EU FP7 <b>Amount:</b> €2,199,000	<p>The consortium is developing systems for monitoring people with heart conditions at home and supporting them to manage their condition. This includes developing clinical algorithms embedded into telehealth equipment to allow the passing of data from the individual to the clinician and providing a response back to the individual. A vest with embedded sensors to gather data has been designed so it can be put on easily by older people with limited dexterity.</p> <p><a href="#">Link to more information on FAST website</a></p>	03/01/2008 29/08/2012

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<b>Project title</b> <b>Organisation(s)</b> <b>Contacts</b> <b>Funding</b>	<b>Project summary</b>	<b>Start and finish dates</b>
<p><b>HELP4MOOD - A Computational Distributed System to Support the Treatment of Patients with Major Depression</b></p> <p><b>Research lead:</b> School of Informatics, The University of Edinburgh  <b>Partners:</b> partners in Spain, Romania, Italy  <b>Contact:</b> 0131 651 5661  <b>Funder:</b> EU FP7  <b>Amount:</b> €2,819,993</p>	<p>People with severe depression have been shown to benefit from treatments such as computerised cognitive behavioural therapy (CCBT). Help4Mood aims to develop a system which monitors the individual's recovery at home and send key information to the therapist who is co-ordinating treatment. The output of the project will be a research prototype that includes a personal monitoring system, an interactive virtual agent and a decision support module which controls the operation of Help4Mood. The prototype system has now been evaluated in a small trial to provide data for CE marking and approval as a medical device, as a step towards commercialisation.</p> <p><a href="#">Link to more information on FAST website</a></p>	<p>01/01/2011 31/12/2013</p>
<p><b>Helping Older Drivers continue driving safer for longer</b></p> <p><b>Research lead:</b> School of Civil Engineering and Geosciences, University of Newcastle  <b>Contact:</b> 0191 222 6323  <b>Funder:</b> EPSRC  <b>Amount:</b> £10,081</p>	<p>The research project aims to explore what problems older people experience with the ability to continue driving safely as they get older and to identify the technologies that could potentially assist them to continue driving. The project will run proof of concept trials and research the social and economic consequences of ceasing to drive.</p> <p><a href="#">Link to more information on FAST website</a></p>	<p>01/01/2013 30/06/2014</p>
<p><b>HOPES - Help and social interaction for elderly On a multimedia Platform with E-Social best practices</b></p> <p><b>Research lead:</b> Microsoft UK  <b>Partners:</b> partners in France, Germany, Italy  <b>Contact:</b> 0844 800 2400  <b>Funder:</b> EU AAL  <b>Amount:</b> €2,607,085</p>	<p>The aim of this project was to provide innovative ICT-based social media services to improve older people's health, quality of life and feeling of social inclusion. Testing of the Hopes pilot platform indicates there are benefits for older people and their carers by creating or recreating social links online. The web-based platform was developed with the aim of encouraging older people and those unfamiliar with social networking sites to feel confident to add content as well as make use of a range of content including videos, messaging and social networking services. Pilot testing of the web site was undertaken in 2012-13 and provided to the test communities in four languages: French, Italian, German, and English.</p> <p><a href="#">Link to more information on FAST website</a></p>	<p>01/09/2010 31/03/2013</p>

Project title Organisation(s) Contacts Funding	Project summary	Start and finish dates
<p><b>Horizon - Digital Economy Hub at the University of Nottingham</b></p> <p><b>Research lead:</b> School of Computer Science and Information Technology, University of Nottingham</p> <p><b>Partners:</b> UK companies in media, transport and technology sectors, and local authorities</p> <p><b>Contact:</b> 0115 951 4254</p> <p><b>Funder:</b> RCUK Digital Economy</p> <p><b>Amount:</b> £13,102,938</p>	<p>The EPSRC is funding three 'digital hubs' which will examine how new technologies can be used to enhance quality of life for everyone. Horizon is a five-year programme of research into the scientific challenges involved in the widespread adoption of computing, involving researchers from a wide range of disciplines. Research projects in the assistive technology field include work on digital inclusion and on future transport needs.</p> <p><a href="#">Link to more information on FAST website</a></p>	<p>01/10/2009 30/09/2014</p>
<p><b>HOST - smart technologies for self-service to seniors in social housing</b></p> <p><b>Research lead:</b> Nottingham Community Housing Association</p> <p><b>Partners:</b> partners in France, Italy, Spain</p> <p><b>Contact:</b> 0800 013 8555</p> <p><b>Funder:</b> EU AAL</p> <p><b>Amount:</b> €2,290,680</p>	<p>In today's digital society people access an increasing number of online products and services but this tends to exclude some older people. The project will promote knowledge and awareness of digital skills among older people living in social housing. The project will also develop ICT home infrastructure and create the Host website to enable people to access digital services. The project has defined users' requirements and established guiding principles about ethics, privacy and security. Trials in each partner country are underway.</p> <p><a href="#">Link to more information on FAST website</a></p>	<p>01/05/2011 30/10/2013</p>
<p><b>i2Web - Inclusive Future-Internet Web Services</b></p> <p><b>Research lead:</b> Human-Computer Interaction Research Group, University of York</p> <p><b>Partners:</b> FAST, Public-i Group Ltd, partners in Germany, Italy, Slovenia, Ireland</p> <p><b>Contact:</b> 01904 432722</p> <p><b>Funder:</b> EU FP7</p> <p><b>Amount:</b> €1,895,750</p>	<p>The project aims 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 how users can access these applications, the project team have studied the strategies used by existing advanced web users who have a range of impairments, and based their guidance on this expertise. User testing has been undertaken in York, Ireland and London involving older people, blind and partially sighted participants. Findings will be published in 2013.</p> <p><a href="#">Link to more information on FAST website</a></p>	<p>01/11/2010 30/04/2013</p>

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<b>Project title</b> <b>Organisation(s)</b> <b>Contacts</b> <b>Funding</b>	<b>Project summary</b>	<b>Start and finish dates</b>
<p><b>ICARENET - Intelligent Context-Aware Systems for Healthcare, Wellness, and Assisted Living</b></p> <p><b>Research lead:</b> Faculty of Engineering, Imperial College London</p> <p><b>Partners:</b> Lancaster University, partners in Germany, Israel, Netherlands, Switzerland, Denmark, Finland</p> <p><b>Contact:</b> 020 7594 8773</p> <p><b>Funder:</b> EU FP7</p> <p><b>Amount:</b> €5,000,000</p>	<p>Context-aware sensor systems, both body-worn and in the home, have the potential to build up a picture of a person's activities and to provide assistance with everyday tasks. The project will create an interdisciplinary 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 training events across Europe for researchers in human-computer interaction and for experts in the fields of management, privacy and security and those in IP management and innovation.</p> <p><a href="#">Link to more information on FAST website</a></p>	<p>01/01/2011 31/12/2014</p>
<p><b>If Only Project</b></p> <p><b>Research lead:</b> Bath Research and Development Design Service, University of Bath</p> <p><b>Contact:</b> 01225 386575</p> <p><b>Funder:</b> EPSRC</p> <p><b>Amount:</b> Not disclosed</p>	<p>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 generated by users have demonstrated the problems they encounter when using domestic products. The project used these videos to inspire a design competition, with potential solutions contributed by over 20 universities.</p> <p><a href="#">Link to more information on FAST website</a></p>	<p>01/01/2011 10/05/2013</p>
<p><b>i-focus</b></p> <p><b>Research lead:</b> Advanced Digital Institute (ADI) Ltd</p> <p><b>Sub-contractors:</b> Microsoft Ltd, Tynetec Ltd, Tunstall Healthcare UK Ltd, The Alloy, KPMG LLP, The FutureWell, Healthcare Gateway Ltd, Thinkpublic Ltd, British Gas Ltd, HDTI, Age UK, FAST</p> <p><b>Contact:</b> 01274 535220</p> <p><b>Funder:</b> TSB ALIP <i>dallas</i>, NIHR, Scottish Government</p> <p><b>Amount:</b> Not disclosed</p>	<p>The i-focus consortium will deliver three work streams to develop an at-scale market for assisted living services. One work stream is focused on working with the dallas community to develop standardised approaches to interoperability. The team have identified priority challenges and requirements and solutions, and the profile documents are available to download from the i-focus website. A second work stream will develop a sector-led organisation, provisionally named i3i, to adopt standardised, shared approaches to tackle market barriers. The third work stream, Warm Neighbourhoods, piloted with British Gas, will trial a consumer service to support family networks to gain reassurance of an individual's independence at home. This work stream has finished a round of user evaluation which was reported as positive, with many participants requesting continued use of the system.</p> <p><a href="#">Link to more information on FAST website</a></p>	<p>01/06/2012 31/05/2015</p>

<b>Project title</b> <b>Organisation(s)</b> <b>Contacts</b> <b>Funding</b>	<b>Project summary</b>	<b>Start and finish dates</b>
<p><b>ILEARNRW - Integrated Intelligent Learning Environment for Reading and Writing</b></p> <p><b>Research lead:</b> Dolphin Computer Access  <b>Partners:</b> University of Birmingham, partners in Greece, Malta, Romania  <b>Contact:</b> 01905 754 577  <b>Funder:</b> EU ICT PSP  <b>Amount:</b> €2,326,600</p>	<p>Dyslexia affects between 5-10% of the population, impacting on the ability to read and comprehend written text and, for some people, creating a problem with spelling, termed dysorthographia. The project will develop learning software to support children with dyslexia and/ or dysorthographia. The ILearnRW system will store unique profiles for each individual and support learning and teaching strategies. The project will evaluate the success of the ILearnRW system through field testing in the UK and Greece.</p> <p><a href="#">Link to more information on FAST website</a></p>	<p>01/10/2012 30/09/2015</p>
<p><b>inCASA - integrated network for Completely Assisted Senior citizen's Autonomy</b></p> <p><b>Research lead:</b> Chorleywood Health Centre  <b>Partners:</b> Brunel University, partners in Denmark, France, Germany, Greece, Italy, Spain, Sweden  <b>Contact:</b> 01923 287 100  <b>Funder:</b> EU CIP  <b>Amount:</b> €2,140,000</p>	<p>In order to be able to raise a telecare or telehealth alert when changes in behaviour occur, which may indicate more support or intervention is required, it is necessary to build up a profile of the typical habits of the individual. inCasa developed a system to do so, based on a modular platform which connects with telecare and telehealth sensors using industry standards. This allows the integration of devices and software from different suppliers to create a flexible system.</p> <p><a href="#">Link to more information on FAST website</a></p>	<p>01/04/2010 30/09/2012</p>
<p><b>INDEPENDENT - Coordinated eCare</b></p> <p><b>Research lead:</b> Tunstall Group Ltd  <b>Partners:</b> Work Research Centre Ltd, Milton Keynes Council, University of Hull, partners in six EU countries  <b>Contact:</b> 01977 661234  <b>Funder:</b> EU CIP  <b>Amount:</b> €2,630,000</p>	<p>Many telecare and telehealth services are designed to fit the needs and objectives of the health and care services that deploy them. This constrains their potential. This project is piloting a telehealthcare service that will support communication between formal and informal carers and deliver a broad range of digital services. Project pilots are in the evaluation phase and the project has been extended by five months to ensure effective evaluation.</p> <p><a href="#">Link to more information on FAST website</a></p>	<p>01/01/2010 31/05/2013</p>

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<b>Project title</b> <b>Organisation(s)</b> <b>Contacts</b> <b>Funding</b>	<b>Project summary</b>	<b>Start and finish dates</b>
<p><b>Innovation in supporting people at risk of falling</b>  <b>Research lead:</b> Faculty of Health and Life Sciences, Coventry University  <b>Contact:</b> 024 7679 5959  <b>Funder:</b> NHS West Midlands Innovation Fund  <b>Amount:</b> £75,000</p>	<p>Fall detectors can provide an early alert to a fall which can ensure a timely and appropriate response, but their use appears to be problematic. The project has reviewed the existing literature on falls detection and conducted a market review of fall detection products. Focus groups with telehealthcare service providers and older people were also conducted to find out reasons for use or non-use of current falls detectors. Further funding has been received and the project has now been extended for a second phase of work.</p> <p><a href="#">Link to more information on FAST website</a></p>	<p>01/01/2011 30/04/2013</p>
<p><b>inTouch - A video link system to improve social inclusion for people with dementia</b></p> <p><b>Research lead:</b> BIME Ltd.  <b>Partners:</b> Research Institute for the Care of Older People, University of Bath  <b>Contact:</b> 01225 824103  <b>Funder:</b> EPSRC  <b>Amount:</b> £190,044</p>	<p>Online video conferencing technology is widely available at low cost and some people with dementia can hold successful telephone and video conversations. A barrier which prevents people with dementia using this technology is their diminishing working memory, which progressively reduces their ability to initiate familiar tasks and learn new tasks. The inTouch project has brought together experts in dementia, assistive technology, virtual communication and user-engagement to develop a video link system to enable people with dementia to learn to use the system and to interact with relatives during virtual 'visits'.</p> <p><a href="#">Link to more information on FAST website</a></p>	<p>01/01/2011 30/06/2012</p>
<p><b>Investigating strategies for environmental learning in typical and atypical development</b></p> <p><b>Research lead:</b> Institute of Education, University of London  <b>Contact:</b> 020 7612 6000  <b>Funder:</b> ESRC, Williams Syndrome Foundation  <b>Amount:</b> £406,714</p>	<p>The ability to know where you are in an environment and to learn a route is a crucial aspect of development. Individuals with learning disabilities such as Down syndrome and Williams syndrome find it difficult to learn routes. The project will identify the difficulties experienced by people with learning disabilities in navigating their way around and aims to find ways to overcome them, using a computerised virtual reality environment of towns and mazes with landmarks.</p> <p><a href="#">Link to more information on FAST website</a></p>	<p>01/04/2010 30/09/2013</p>

<b>Project title</b> <b>Organisation(s)</b> <b>Contacts</b> <b>Funding</b>	<b>Project summary</b>	<b>Start and finish dates</b>
<p><b>Investigation to improve lower-limb amputee prosthesis fit through the design of an intelligent socket</b></p> <p><b>Research lead:</b> School of Design, Engineering and Computing, Bournemouth University  <b>Partners:</b> Chas A Blatchford and Sons Ltd  <b>Contact:</b> 01202 524111  <b>Funder:</b> EPSRC  <b>Amount:</b> £86,000</p>	<p>Fitting a lower limb prosthesis so that it remains comfortable is challenging and depends on achieving a good fit between the socket and the remaining 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.</p> <p><a href="#">Link to more information on FAST website</a></p>	<p>01/10/2010 31/03/2014</p>
<p><b>I-stay@home - ICT Solutions for an Ageing society</b></p> <p><b>Research lead:</b> Habinteg Housing Association  <b>Partners:</b> partners in Germany, the Netherlands, France, Belgium  <b>Contact:</b> 020 7822 8700  <b>Funder:</b> INTERREG IVB NWE  <b>Amount:</b> €2,662,631</p>	<p>The project has reviewed a range of ICT solutions that might help older people to live independently. This project is seeking to understand the perspective of social housing tenants and during 2012 the partners interviewed 185 older and disabled tenants in the UK, France, Belgium, Germany and the Netherlands. The results will inform the rest of the project and were presented at the Home Sweet Home seminar in January 2013. A detailed report will be published in the second half of 2013.</p> <p><a href="#">Link to more information on FAST website</a></p>	<p>17/01/2011 30/09/2015</p>
<p><b>ITTS - Implementing Transnational Telemedicine Solutions</b></p> <p><b>Research lead:</b> Centre for Rural Health, University of Aberdeen  <b>Partners:</b> European Centre for Connected Health, partners in Norway, Finland, Sweden  <b>Contact:</b> 01463 255892  <b>Funder:</b> EU Northern Periphery  <b>Amount:</b> €1,990,000</p>	<p>People living in northern periphery of Europe find it difficult to access health services due to travel difficulties and harsh weather. The Itts project is investigating whether eHealth and advanced ICT solutions can offer a cost efficient and innovative way to provide health services to these areas. The project is now moving from detailed business planning for the ten demonstrator projects towards real-life use: equipment is being purchased; the research team are engaging with citizens to get their views of the developments; and evaluations are taking place.</p> <p><a href="#">Link to more information on FAST website</a></p>	<p>01/09/2011 31/12/2013</p>

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<b>Project title</b> <b>Organisation(s)</b> <b>Contacts</b> <b>Funding</b>	<b>Project summary</b>	<b>Start and finish dates</b>
<p><b>JADE - Joining innovative Approaches for the integration and Development of transnational knowledge of clusters policies related to independence of Elderly</b></p> <p><b>Research lead:</b> SEHTA  <b>Partners:</b> partners in Italy, France, Finland, Turkey  <b>Contact:</b> 0787 670 3021  <b>Funder:</b> EU FP7  <b>Amount:</b> €2,819,904</p>	<p>The project will develop and promote a Common Research Agenda and Joint Action Plan for independent living services and telecare applications as a way of meeting the needs of a healthy ageing population. Analysis has highlighted overall strengths, gaps in provision, expertise, areas for mentoring and further research areas. The project held its 6th workshop in London in December 2012. The aim of the workshop was to develop policy recommendations that could be implemented across the regions.</p> <p><a href="#">Link to more information on FAST website</a></p>	<p>01/02/2011 31/01/2014</p>
<p><b>Kinetic User Interfaces and Multiuser 3D Virtual Worlds for Older People</b></p> <p><b>Research lead:</b> School of Engineering and Digital Arts, University of Kent  <b>Contact:</b> 01227 823246  <b>Funder:</b> EPSRC  <b>Amount:</b> £97,397</p>	<p>In recent years, there has been an emergence of computer user interfaces using gestures, speech, and brain waves. Kinetic User Interfaces (KUI) allow users to interact with the computer through body motions, e.g. Microsoft Xbox Kinect and Nintendo Wii. Such relatively natural ways to interact with technologies may make it easier to learn new applications, thus lowering the barrier to engagement. The project will investigate how KUI can be used to design innovative 3D virtual worlds which are accessible to older people.</p> <p><a href="#">Link to more information on FAST website</a></p>	<p>01/04/2012 30/11/2013</p>
<p><b>Kingkraft Shower Chair</b></p> <p><b>Research lead:</b> Kingkraft Ltd  <b>Contact:</b> 0114 2690697  <b>Funder:</b> NIHR i4i  <b>Amount:</b> £97,479</p>	<p>Kingkraft is a major manufacturer of baths for disabled people but they offer only one shower chair and there are few alternatives on the market. When developing the shower chair the company focused on two target markets: the independent paraplegic user and dependent users. A shower toilet chair has been designed and prototypes have been produced for testing.</p> <p><a href="#">Link to more information on FAST website</a></p>	<p>01/08/2010 31/07/2013</p>

<b>Project title</b> <b>Organisation(s)</b> <b>Contacts</b> <b>Funding</b>	<b>Project summary</b>	<b>Start and finish dates</b>
<p><b>Knowledge based engineering applied to the creation of custom moulded special seats to meet the clinical, functional and social needs of severely disabled patients</b></p> <p><b>Research lead:</b> Faculty of Advanced Technology, University of Glamorgan</p> <p><b>Partners:</b> Cardiff and Vale University Local Health Board</p> <p><b>Contact:</b> 08456 434 030</p> <p><b>Funder:</b> EPSRC</p> <p><b>Amount:</b> £85,000</p>	<p>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 aim of this project is to develop an expert system which will integrate special seating and wheelchair system design into a single modelling application. The application will guide the operator through the different stages of special seat manufacture and give insights into how to improve the seat design. A system capturing client body shape has been developed and analysis has showed that results are comparable to clinicians undertaking clinical assessments.</p> <p><a href="#">Link to more information on FAST website</a></p>	<p>30/09/2009 30/05/2013</p>
<p><b>KT-EQUAL - Putting ageing and disability research into practice</b></p> <p><b>Research lead:</b> School of Health and Related Research, University of Sheffield</p> <p><b>Partners:</b> University of Cambridge, University of Bath, Edinburgh College of Art, University of Salford, University of Loughborough, Reading University</p> <p><b>Contact:</b> 0114 222 5454</p> <p><b>Funder:</b> EPSRC</p> <p><b>Amount:</b> £1,873,015</p>	<p>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 each other and with older people to promote innovative knowledge transfer. The network has organised a number of public events, including workshops on age friendly cities, AT and stroke rehabilitation, digital engagement, nutrition and ethical issues.</p> <p><a href="#">Link to more information on FAST website</a></p>	<p>01/06/2009 04/07/2013</p>
<p><b>Limbs Alive - Use of computer games to provide motivating, child centred therapy to improve bimanual skills for children with hemiplegic cerebral palsy</b></p> <p><b>Research lead:</b> Limbs Alive Ltd</p> <p><b>Contact:</b> 0191 282 3198</p> <p><b>Funder:</b> NIHR RfPB</p> <p><b>Amount:</b> £248,198</p>	<p>Strokes are commonly associated with older adults, but birth is also a time of high risk for stroke. Babies who experience stroke can grow up to experience difficulty using one side of their body (hemiplegia). As a result they underuse their weak hand and so their brain does not learn to control two-handed activities. The research team has previously designed computer games requiring two-handed control which can be used to encourage use of a weaker arm. The aim of this project is to find out if children will play these games regularly and if this leads to increased skill in two-handed activities of everyday life.</p> <p><a href="#">Link to more information on FAST website</a></p>	<p>01/01/2011 31/12/2013</p>

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<b>Project title</b> <b>Organisation(s)</b> <b>Contacts</b> <b>Funding</b>	<b>Project summary</b>	<b>Start and finish dates</b>
<p><b>LIREC - Living with Robots and intErative Companions</b></p> <p><b>Research lead:</b> Dept of Computer Science, Queen Mary, University of London  <b>Partners:</b> University of Hertfordshire, Heriot-Watt University, partners in Germany, Hungary, Poland, Sweden, Portugal, Belgium  <b>Contact:</b> 020 7882 5200  <b>Funder:</b> EU FP7  <b>Amount:</b> €8,200,000</p>	<p>Research into robotic companions indicates that they will not be used if the interaction is sporadic and task oriented. The aim of this project was to create interactive, emotionally intelligent, robot companions who can interact with humans for extended periods of time. The project has developed a number of apps, including Little Mozart, to support people to learn music and MyFriend, an emotionally responsive robot system that can play chess using an electronic chessboard.</p> <p><a href="#">Link to more information on FAST website</a></p>	<p>01/03/2008 31/08/2012</p>
<p><b>Living It Up Scotland (LiU)</b></p> <p><b>Research lead:</b> NHS24  <b>Sub-contractors:</b> Scottish Enterprise, Highlands &amp; Islands Enterprise, NHS Forth Valley &amp; Social Work Partnership, NHS Highland, NHS Lothian, NHS Moray CHSCP, Carers Scotland, Glasgow School of Art, Long Term Conditions Alliance Scotland, Ernst &amp; Young, Looking Local (Kirklees Council), O2 Health, Vodafone Ltd, Maverick TV, Philips Electronics UK Ltd, STV Group Plc, Andago, Sitekit Health Ltd, Atos, Illumina Digital, Intersystems IT Ltd, Intrelate  <b>Funder:</b> TSB ALIP dallas, NIHR, Scottish Government  <b>Amount:</b> Not disclosed</p>	<p>Living It Up (LiU) is one of four communities funded with the aim of delivering assisted living services at scale. Based in Scotland, LiU plan to release the capacity of disabled and older people and formal and informal carers by developing a market place for services and supporting communities to adopt innovative health and care products. Services that will be developed through a trusted marketplace will include 'Hidden Talents', an app to support people to identify and use their hidden talents for the benefit of themselves and their communities. By encouraging individuals to share their skills, LIU aims to build confidence and community engagement. Development work for the pilot applications and the 'marketplace' is underway.</p> <p><a href="#">Link to more information on the FAST website.</a></p>	<p>01/06/2012 31/05/2015</p>
<p><b>Low Power Body Worn Antenna Systems</b></p> <p><b>Research lead:</b> School of Engineering and Digital Arts, University of Kent  <b>Partners:</b> University of Sheffield  <b>Contact:</b> 01227 823246  <b>Funder:</b> EPSRC  <b>Amount:</b> £488,378</p>	<p>The project will investigate new techniques for integrating antenna systems and screens into clothing for telehealth applications. The project team has worked on a range of devices, including buttons similar to those worn on jeans, which could be used to transmit data wirelessly. The research has developed new computer simulations of the wireless fields around test subjects wearing antennas. The project is currently undertaking work to calculate the wireless signals needed for body worn wireless devices in order to keep power requirement as low as possible.</p> <p><a href="#">Link to more information on FAST website</a></p>	<p>01/10/2009 31/03/2013</p>

<b>Project title</b> <b>Organisation(s)</b> <b>Contacts</b> <b>Funding</b>	<b>Project summary</b>	<b>Start and finish dates</b>
<p><b>MALT - overcoming barriers to Mainstreaming Assisted Living Technologies</b></p> <p><b>Research lead:</b> School of Health and Related Research, University of Sheffield</p> <p><b>Partners:</b> Leeds University Business School</p> <p><b>Contact:</b> 0114 222 5454</p> <p><b>Funder:</b> TSB ALIP</p> <p><b>Amount:</b> £1,710,000</p>	<p>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 work is focused on telehealth services for people with chronic heart failure and chronic obstructive pulmonary disease. Data collection is complete in two areas, a draft financial model has been developed, a draft user acceptance questionnaire has been created, reviews of existing research on user acceptance of telehealth services have been undertaken and the project's advisory Industry Panel has met three times.</p> <p><a href="#">Link to more information on FAST website</a></p>	<p>01/06/2011 31/05/2014</p>
<p><b>Manipulating the appearance of steps and stairs to make them safer for older people to negotiate</b></p> <p><b>Research lead:</b> Bradford School of Optometry and Vision Science, University of Bradford</p> <p><b>Contact:</b> 01274 236296</p> <p><b>Funder:</b> NIHR PHR</p> <p><b>Amount:</b> £195,687</p>	<p>About a third of people over 65 fall at least once a year and this has major implications on their mortality, morbidity 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 will work with a group of older people to test a range of different step highlighters.</p> <p><a href="#">Link to more information on FAST website</a></p>	<p>01/05/2012 30/04/2014</p>
<p><b>MATCH - Mobilising Advanced Technologies for Care at Home</b></p> <p><b>Research lead:</b> Dept of Computing Science and Mathematics, University of Stirling</p> <p><b>Partners:</b> University of Dundee, University of Glasgow, University of Edinburgh</p> <p><b>Contact:</b> 01786 467423</p> <p><b>Funder:</b> SFC</p> <p><b>Amount:</b> £1,274,324</p>	<p>The aim of this project was to create a Scottish membership organisation and centre of excellence for telecare, that will provide a laboratory and demo centre, identify good practice, provide guidance and training and develop technology and innovation partnerships. Researchers have created a flexible design for a system made up of diverse components that can easily work with each other. The design includes networks inside and outside the home, rules for how the home care system should react to different situations, automatic speech recognition and speech synthesis, and the use of touch, gesture and audio techniques for collecting information.</p> <p><a href="#">Link to more information on FAST website</a></p>	<p>01/11/2005 31/10/2012</p>

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<b>Project title</b> <b>Organisation(s)</b> <b>Contacts</b> <b>Funding</b>	<b>Project summary</b>	<b>Start and finish dates</b>
<p><b>MATSIQEL - Models for Ageing and Technological Solutions for Improving and Enhancing the Quality of Life</b></p> <p><b>Research lead:</b> School of Computing, Engineering and Information Sciences, University of Northumbria</p> <p><b>Partners:</b> partners in Bulgaria, Germany</p> <p><b>Contact:</b> 0191 243 7379</p> <p><b>Funder:</b> EU FP7</p> <p><b>Amount:</b> €189,000</p>	<p>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. Researchers are also looking at how to develop technological solutions such as telecare and online recreational games, which could help improve quality of life in later life.</p> <p><a href="#">Link to more information on FAST website</a></p>	<p>20/01/2011 19/01/2014</p>
<p><b>More Independent (Mi) (formerly FeelGood Factory)</b></p> <p><b>Research lead:</b> Liverpool PCT</p> <p><b>Sub-contractors:</b> The Riverside Group, Liverpool Personal Service Society, HFT, Liverpool Community Health NHS Trust, Philips Electronic UK Ltd, Tunstall Healthcare UK Ltd, North Mersey Health Informatics Service, Liverpool Vision, Rescon Ltd, Shropshire County Council, National Museums Liverpool, People to People Shropshire CIC, Liverpool City Council</p> <p><b>Funder:</b> TSB ALIP <i>dallas</i>, NIHR, Scottish Government</p> <p><b>Amount:</b> Not disclosed</p>	<p>The Mi project aims to encourage individuals to take ownership of their own health and social care from an early age and to manage wellbeing in later life, preventing long term hospital admission through better planning. The programme will work with communities to redesign and develop life enhancing technologies and services to empower individuals and support older adults to live the life they want. To address the need to develop consumer level services that are appealing and affordable to people living on a low income, the consortium are looking at a range of innovative ways to develop the market. 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.</p> <p><a href="#">Link to more information on FAST website</a></p>	<p>01/06/2012 31/05/2015</p>
<p><b>MobileSage – Situated Adaptive Guidance for the Mobile Elderly</b></p> <p><b>Research lead:</b> Smart Environments Research Group, School of Computing and Mathematics, University of Ulster</p> <p><b>Partners:</b> partners in Norway, Spain</p> <p><b>Contact:</b> 028903 68918</p> <p><b>Funder:</b> EU AAL</p> <p><b>Amount:</b> €1,242,822</p>	<p>Older people now look for useful, user-friendly and personalised ICT services that add value to their life. The project will provide older people with context-sensitive, personalised and location-sensitive tools in the form of personalised instruction and guidance, which should allow them to carry out and solve everyday tasks and problems.</p> <p><a href="#">Link to more information on FAST website</a></p>	<p>07/07/2011 06/01/2014</p>

<b>Project title</b> <b>Organisation(s)</b> <b>Contacts</b> <b>Funding</b>	<b>Project summary</b>	<b>Start and finish dates</b>
<p><b>MOBISERV - An Integrated Intelligent Home Environment for the Provision of Health, Nutrition and Mobility Services to the Elderly</b></p> <p><b>Research lead:</b> Bristol Technology Institute, University of West of England</p> <p><b>Partners:</b> partners in Greece, France, Finland, Netherlands, Italy, Switzerland</p> <p><b>Contact:</b> 0117 965 6261</p> <p><b>Funder:</b> EU FP7</p> <p><b>Amount:</b> €2,750,000</p>	<p>The MOBISERV platform aims to develop an intelligent autonomous robot to support older people to live independently. User evaluation work was undertaken in 2012 and findings led to developments in the next version of the system including: an updated system architecture; improved capability to support eating, drinking and emotion recognition; redesign of the wearable health support unit, including capability to support real-time fall detection; and improved design of the (informal) carer interface and other hardware components.</p> <p><a href="#">Link to more information on FAST website</a></p>	<p>01/12/2009 31/08/2013</p>
<p><b>Monitoring of Upper Limb Rehabilitation and Recovery after Stroke Through Gaming</b></p> <p><b>Research lead:</b> Limbs Alive Ltd</p> <p><b>Contact:</b> 0191 282 3198</p> <p><b>Funder:</b> Health Innovation Challenge Fund</p> <p><b>Amount:</b> £1,500,000</p>	<p>To support arm and hand rehabilitation following stroke, this project aims to explore the use of video-games as the basis for therapy. Using software and techniques from the gaming industry, researchers have previously produced a game called 'Circus Challenge', which requires users to exercise motor skills. In this project the researchers aim to use information on individual's performance to provide online feedback to them and their therapist.</p> <p><a href="#">Link to more information on FAST website</a></p>	<p>01/06/2012 31/05/2014</p>
<p><b>MOST- Model for Optimising Scaleable Telehealthcare</b></p> <p><b>Research lead:</b> Tunstall Group Ltd</p> <p><b>Partners:</b> NHS North Yorkshire and York, Ernst &amp; Young, Nuffield Trust</p> <p><b>Contact:</b> 01977 661234</p> <p><b>Funder:</b> TSB ALIP</p> <p><b>Amount:</b> £940,375</p>	<p>The aim of this project is identify economic and business models for at-scale delivery of telehealth. Partners are developing guidelines, financial models and technology to support care pathway, service re-design and technology integration. Working with primary care and residential care sites in Yorkshire, the project aims to identify and evaluate current large scale deployments.</p> <p><a href="#">Link to more information on FAST website</a></p>	<p>01/01/2011 01/04/2013</p>

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<b>Project title</b> <b>Organisation(s)</b> <b>Contacts</b> <b>Funding</b>	<b>Project summary</b>	<b>Start and finish dates</b>
<p><b>MultiMemoHome - Multimodal Reminders Within the Home</b></p> <p><b>Research lead:</b> Dept of Computing Science, University of Glasgow  <b>Partners:</b> University of Edinburgh, Queen Margaret University  <b>Contact:</b> 0141 330 8430  <b>Funder:</b> EPSRC  <b>Amount:</b> £778,528</p>	<p>The project has looked at different ways in which the alerts generated by home care systems can be communicated to users. The project developed several concepts, including: an address book', supplemented with photos and audio recordings; 'Tell Me About Labels' which link notes to recorded messages and a related pillbox which provides reminders about pills and when they should be taken; and a calendar. Project researchers worked with older people to trial the concepts. The most popular concept was the calendar, with 80% of the participants who said they would find it 'very useful'. The Tell Me About labels were also popular in trials.</p> <p><a href="#">Link to more information on FAST website</a></p>	<p>01/09/2009 28/02/2013</p>
<p><b>MyDocStore</b></p> <p><b>Research lead:</b> iANSYST Ltd  <b>Partners:</b> University of Southampton  <b>Contact:</b> 01223 420101  <b>Funder:</b> TSB SBRI  <b>Amount:</b> £170,000</p>	<p>MyDocStore seeks to address the difficulty for those with print impairments of getting accessible, readable documents when they want, where they want it, in the format they prefer. The aim is to develop a web portal to enable users to upload and download files on practically any device, configure their conversion settings and monitor conversion progress. This will be entirely cloud based so that it can be used from any web-enabled device and will enable documents to be automatically converted and transferred between devices. A commercial service is due to be launched in 2013.</p> <p><a href="#">Link to more information on FAST website</a></p>	<p>01/04/2011 31/12/2012</p>
<p><b>MyLife - multimedia technology to support independence for and participation by people with dementia</b></p> <p><b>Research lead:</b> Trent Dementia Services Development Centre  <b>Partners:</b> Innovations in Dementia CIC, Housing 21, partners in Norway, Germany  <b>Contact:</b> 0116 257 5017  <b>Funder:</b> TSB, EU AAL  <b>Amount:</b> £620,335</p>	<p>The aim of this project was to test and develop a digital interface which has been specifically developed for people with dementia. MyLife uses currently available technologies and brings them together using a simple, customisable touchscreen interface. Users can access information about the day, date and time, daily and weekly appointments, news and weather, favourite music and photos. Trials have been taking place in 2012 and the first commercial release of the Mylife technology is planned for 2013.</p> <p><a href="#">Link to more information on FAST website</a></p>	<p>01/03/2011 31/12/2012</p>

<b>Project title</b> <b>Organisation(s)</b> <b>Contacts</b> <b>Funding</b>	<b>Project summary</b>	<b>Start and finish dates</b>
<p><b>MyUI: mainstreaming accessibility through synergistic user modelling and adaptability</b></p> <p><b>Research lead:</b> Human Factors Research Group with Nottingham University Business School  <b>Partners:</b> Clevercherry.com, Birminghambition, Birmingham City Council, partners in Germany, Netherlands, Spain, Hungary  <b>Contact:</b> 0115 9514040  <b>Funder:</b> EU FP7  <b>Amount:</b> €2,400,000</p>	<p>Developers identify a number of barriers to making mainstream ICT products more accessible. To demonstrate how to tackle these barriers, the project has developed a prototype system which has been tested in user studies with older people. The prototype consists of an adaptive user interface for Smart TV, including an email application, a weather application and a number of games which were designed to detect changes in users' behaviour that could indicate they were experiencing problems. The system has been developed so that the user interface can be adapted to support changing accessibility needs.</p> <p><a href="#">Link to more information on FAST website</a></p>	<p>01/02/2010 31/10/2012</p>
<p><b>Natural Speech Technology (NST)</b></p> <p><b>Research lead:</b> Centre for Speech Technology Research, University of Edinburgh  <b>Partners:</b> University of Sheffield, University of Cambridge  <b>Contact:</b> 0131 650 4434  <b>Funder:</b> EPSRC  <b>Amount:</b> £6,236,104</p>	<p>Speech recognition technology has the potential to provide an easy way to access PCs and other equipment. However, current speech recognition systems struggle when more than one person is speaking or in noisy environments. The goal of this long-term development project is to research ways to create improved speech recognition software which can understand complex speech and mimic language. A project meeting was held in July 2012 to exchange knowledge on voice banking and reconstruction, live voice cloning, examples of BBC data processing and audio transcription.</p> <p><a href="#">Link to more information on FAST website</a></p>	<p>01/05/2011 30/04/2016</p>
<p><b>Neck Safe - Head Articulation Control System</b></p> <p><b>Research lead:</b> BIME  <b>Contact:</b> 01225 824103  <b>Funder:</b> NIHR i4i  <b>Amount:</b> £424,635</p>	<p>Current methods of stabilising an individual's neck after a suspected spinal injury do not provide adequate safety and comfort for them. Around 440,000 people in the UK each year require head and neck immobilisation by ambulance services following trauma. This usually involves fitting a disposable semi-rigid cervical collar, known as a neck brace. The team have developed a new design of collar which is undergoing laboratory testing and evaluation by paramedic teams. Applications for disabled people are being considered.</p> <p><a href="#">Link to more information on FAST website</a></p>	<p>01/02/2011 01/06/2013</p>

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<b>Project title</b> <b>Organisation(s)</b> <b>Contacts</b> <b>Funding</b>	<b>Project summary</b>	<b>Start and finish dates</b>
<p><b>Open-architecture telehealth platform for COPD</b></p> <p><b>Research lead:</b> Dept of Engineering Science, University of Oxford  <b>Contact:</b> 01865 273000  <b>Funder:</b> Health Innovation Challenge Fund  <b>Amount:</b> Not disclosed</p>	<p>The project aims to develop an easy-to-use mobile phone based system which will support people with Chronic Obstructive Pulmonary Disorder (COPD) to monitor their condition. Researchers propose that this will lead to improved self-management of the condition and a higher quality of life for these individuals, with a reduction in the number of severe exacerbations which require an unplanned and costly hospital admission.</p> <p><a href="#">Link to more information on FAST website</a></p>	<p>01/06/2012 31/05/2015</p>
<p><b>Optimal feedback control of a neuromotor interface</b></p> <p><b>Research lead:</b> Institute of Neuroscience, University of Newcastle  <b>Contact:</b> 0191 222 6648  <b>Funder:</b> MRC, Leverholme Trust  <b>Amount:</b> £457,235</p>	<p>The emerging field of neuromotor prosthetics aims to restore function to people who are paralysed by using a brain-computer interface to control computers, wheelchairs and other external devices. The project used these non-invasive techniques to study the operation of neuromotor interfaces working with non-disabled participants. Project findings suggest that combining brain-computer interfaces with electrical stimulation of affected parts of the body to promote movement can have therapeutic benefits to device users.</p> <p><a href="#">Link to more information on FAST website</a></p>	<p>01/10/2009 30/09/2012</p>
<p><b>OPTIMI - Online Predictive Tools for Intervention in Mental Illness</b></p> <p><b>Research lead:</b> Bristol Neuroscience Dept, University of Bristol  <b>Partners:</b> partners in Spain, China, Switzerland, Italy  <b>Contact:</b> 0117 92 88293  <b>Funder:</b> EU FP7  <b>Amount:</b> €3,760,598</p>	<p>Mental health care represents over a third of the cost of health care to all EU nations. In many cases people's behaviours change as they start to become unwell. The project has developed tools to identify the onset of an illness by monitoring poor coping behaviour. The system will gather and process data on an individual's behaviour patterns over a sustained period to identify changes in trends using advanced neural network technologies. The project has investigated the role of sleep disturbances, cortisol levels, physical activity, and brain wave patterns, as indicators of mental health.</p> <p><a href="#">Link to more information on FAST website</a></p>	<p>01/01/2010 31/12/2012</p>

<b>Project title</b> <b>Organisation(s)</b> <b>Contacts</b> <b>Funding</b>	<b>Project summary</b>	<b>Start and finish dates</b>
<p><b>OTCH - Occupational Therapy in Care Homes</b></p> <p><b>Research lead:</b> Primary Care Clinical Sciences, University of Birmingham  <b>Contact:</b> 0121 414 6764  <b>Funder:</b> NIHR HTA  <b>Amount:</b> £1,930,486</p>	<p>A quarter of people who are admitted to hospital with a stroke are discharged to a care home. Others are admitted directly from home to a care home after a stroke. The project will evaluate the effect of a course of therapy (repetitive training of activities of daily living, provision of assistive technology and minor home adaptations and staff training) for people living in a care home with a history of stroke or transient ischaemic attack (TIA). A network of therapists has been formed to share training and good practice.</p> <p><a href="#">Link to more information on FAST website</a></p>	<p>01/09/2009 30/08/2014</p>
<p><b>Pain rehabilitation - E/Motion-based automated coaching</b></p> <p><b>Research lead:</b> University College London Interaction Centre  <b>Partners:</b> University of Leicester, Imperial College London  <b>Contact:</b> 020 7679 0686  <b>Funder:</b> EPSRC  <b>Amount:</b> £1,504,100</p>	<p>Assistive technology has not been exploited to support services to help people manage pain largely because of the complex emotional issues involved. Researchers aim to develop methods for automatically recognising audiovisual clues related to pain, along with patterns of behaviour typical of lower back pain. The project has developed prototype software, that can be used on multiple devices, to support and motivate people who experience back pain while they are doing physical exercise.</p> <p><a href="#">Link to more information on FAST website</a></p>	<p>01/05/2010 30/04/2014</p>
<p><b>PAL - Personal and social communication services for health and lifestyle monitoring</b></p> <p><b>Research lead:</b> HW Communications Ltd  <b>Partners:</b> University of Essex, Cambridge University Computer Lab, mac Ltd and Thales UK.  <b>Contact:</b> 01524 888604  <b>Funder:</b> TSB ALIP, EPSRC  <b>Amount:</b> £804,252</p>	<p>The aim of this project was to investigate the development of a future system able to provide seamless and continuous communication support. Researchers examined how to take data from a range of sources, including sensors, phones, internet and environmental control systems, to locate the details which are significant and present that information to the user in a way which they find meaningful. Researchers developed the 'Air' app for Android mobile phones. This allows health data measurement to be combined with environmental data, such as weather and external noise, and a log of device usage and connection signal strength. This allows a complete picture of an individuals' activities and lifestyle to be recorded and used to supplement services that employ location aware services.</p> <p><a href="#">Link to more information on FAST website</a></p>	<p>01/07/2009 30/06/2012</p>

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<b>Project title</b> <b>Organisation(s)</b> <b>Contacts</b> <b>Funding</b>	<b>Project summary</b>	<b>Start and finish dates</b>
<p><b>PEACEanywhere - PErsonAl Care Environments anywhere at anytime</b></p> <p><b>Research lead:</b> Docobo UK Ltd  <b>Partners:</b> Southampton City PCT, HW Communications Ltd, Age UK, Hywel Dda Local Health Board, Carmarthenshire Division, Guidance Monitoring Ltd; Glenside Manor Healthcare Services Limited  <b>Contact:</b> 01372 459866  <b>Funder:</b> TSB ALIP  <b>Amount:</b> £2,428,909</p>	<p>The project has expanded the previous Peace project to enable the care environment beyond the home to be extended to support people when mobile. The project has developed a prototype handheld colour terminal based on Docobo's Doc@home technology. This is a telehealth hub designed for use by older people who are unfamiliar with ICT technologies. In addition to supporting mobile communication via the device, activity on the project has extended the features available on the device to include community services such as meal delivery or handyman repairs.</p> <p><a href="#">Link to more information on FAST website</a></p>	<p>01/10/2009 31/12/2012</p>
<p><b>Perceiving speech in single and multi-talker babble in normal and impaired hearing</b></p> <p><b>Research lead:</b> Speech Hearing and Phonetic Sciences, University College London  <b>Contact:</b> 020 7679 2000  <b>Funder:</b> MRC  <b>Amount:</b> £409,000</p>	<p>The project aims to more fully understand how people with normal hearing manage to understand speech against a background of other talkers and why people with hearing impairment do not. The project will develop new ideas for hearing aids that will enable hearing-impaired people to more enjoy large, noisy gatherings and events.</p> <p><a href="#">Link to more information on FAST website</a></p>	<p>01/04/2011 31/05/2014</p>
<p><b>Portrait System for Care Staff of People with Dementia</b></p> <p><b>Research lead:</b> School of Computing &amp; Communications, Lancaster University  <b>Partners:</b> University of Dundee  <b>Contact:</b> 01524 510311  <b>Funder:</b> EPSRC  <b>Amount:</b> £10,027</p>	<p>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 facilitating conversations between care staff and the person with dementia. The Portrait system provides an easy to use and quick means of getting information about the lives of residents before they entered the care home.</p> <p><a href="#">Link to more information on FAST website</a></p>	<p>01/04/2012 30/04/2013</p>

<b>Project title</b> <b>Organisation(s)</b> <b>Contacts</b> <b>Funding</b>	<b>Project summary</b>	<b>Start and finish dates</b>
<p><b>Project Hydra</b></p> <p><b>Research lead:</b> Acute Technology Ltd</p> <p><b>Partners:</b> Chorleywood Health Centre, Brunel University, Innova Partnerships</p> <p><b>Contact:</b> 07977 577 627</p> <p><b>Funder:</b> TSB ALIP, EPSRC</p> <p><b>Amount:</b> £2,300,000</p>	<p>Project Hydra demonstrated that the smart meter communications infrastructure can be used to transfer telecare and telehealth data out of the home in a cost-effective and secure manner. The research team undertook small scale trials where participants' weight and daily blood pressure readings was sent from a home monitor via a zigbee wireless connection to the smart meter in their house and then out of the home to a central server. Researchers propose that the trial has shown that it is possible to use smart metering systems for healthcare applications.</p> <p><a href="#">Link to more information on FAST website</a></p>	<p>01/09/2009 01/05/2012</p>
<p><b>Randomised controlled trial of continuous positive airway pressure treatment in older people with obstructive sleep apnoea hypopnoea syndrome</b></p> <p><b>Research lead:</b> Faculty of Medicine, Imperial College</p> <p><b>Partners:</b> UKCRC Oxford Respiratory Trials Unit, The Royal Infirmary of Edinburgh, University of York, MRC Clinical Trials Unit</p> <p><b>Contact:</b> 020 7594 9826</p> <p><b>Funder:</b> NIHR HTA</p> <p><b>Amount:</b> £1,507,799</p>	<p>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. This 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 are participating in the study, with data being collected over a 6-12 month period. The first stage of data analysis has begun.</p> <p><a href="#">Link to more information on FAST website</a></p>	<p>01/08/2009 30/06/2013</p>
<p><b>REACH112 - REsponding to All Citizens needing Help</b></p> <p><b>Research lead:</b> Centre for Deaf Studies, University of Bristol</p> <p><b>Partners:</b> AuPix, Action on Hearing Loss and 22 partners in Italy, Belgium, Finland, France, Greece, Spain, Sweden, Netherlands</p> <p><b>Contact:</b> 0117 9546900</p> <p><b>Funder:</b> EU ICT PSP</p> <p><b>Amount:</b> €4,400,000</p>	<p>The free European emergency number 112 was not accessible to some disabled people when first introduced. The solution was to add video and real-time text to the calls forming 'Total Conversation' so that integration with voice telephony was achieved, allowing sign language, lip-reading, facial expression and gesture to be used. Total Conversation in the UK has been implemented through the myFriend software which was developed by the project. 1,700 people have registered to use myFriend (and a further 400 using the text version of the software) and thousands more are connecting via TCphone with over 6,000 calls each month.</p> <p><a href="#">Link to more information on FAST website</a></p>	<p>01/07/2009 01/06/2012</p>

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<b>Project title</b> <b>Organisation(s)</b> <b>Contacts</b> <b>Funding</b>	<b>Project summary</b>	<b>Start and finish dates</b>
<p><b>REACTION - REmote ACcessibility to diabetes management and Therapy In Operational healthcare Networks</b></p> <p><b>Research lead:</b> Department of Information Systems and Computing, Brunel University  <b>Partners:</b> Chorleywood Health Centre, 16 organisations in Spain, Sweden, Denmark, Germany, Greece, Hungary, Austria, Belgium, Switzerland  <b>Contact:</b> 01895 203397  <b>Funder:</b> EU FP7  <b>Amount:</b> €11,000,000</p>	<p>People with diabetes need to manage their blood sugar levels carefully to avoid further complications. The Reaction monitoring system will be used in diabetes clinics in hospitals and in people's own homes. The system will use electronic plasters ('e-patches') which will gather data on individual's glucose levels. When used at home, personalised feedback will be provided about the impact of lifestyle changes with data for both groups analysed by health professionals. The project will publish online demonstrators of features of the Reaction platform on the project's website.</p> <p><a href="#">Link to more information on FAST website</a></p>	<p>01/03/2010 28/02/2014</p>
<p><b>REALISE - REfining And Learning from online tools for Internet Shared Enterprise</b></p> <p><b>Research lead:</b> School of Electronics and Computer Science, University of Southampton  <b>Partners:</b> Devices for Dignity HTC, OSS Watch, Full Measure  <b>Contact:</b> 023 8059 5000  <b>Funder:</b> JISC, D4D HTC  <b>Amount:</b> £100,000</p>	<p>Equal access to the internet through reasonable adjustments for disabled people is a legal requirement for employment and public services including health and education. The project determined that a community approach was more appropriate for open innovation than a formal broker and an online open community platform has been initiated. One application that has been developed is the ATbar, a toolbar that can be added to any website allowing text to be read out loud and enabling webpage forms to be spell checked.</p> <p><a href="#">Link to more information on FAST website</a></p>	<p>28/06/2010 27/06/2012</p>
<p><b>RECALL - Location Based Services - Reconnecting Excluded Communities and Lifelong Learning</b></p> <p><b>Research lead:</b> Interactive Systems Research Group, Nottingham Trent University  <b>Partners:</b> Greenhat Interactive Ltd, BID Services, partners in Bulgaria, Romania, Greece  <b>Contact:</b> 0115 848 6019  <b>Funder:</b> EU LLP(Grundtvig)  <b>Amount:</b> Not disclosed</p>	<p>People with learning disabilities sometimes have problems in planning and undertaking independent travel on public transport. This project assessed a range of mobile-phone based services and applications designed to help with route finding. The results suggested that commercially available software applications were too complex for the intended users to learn easily and that devices were not physically robust enough. The project has developed a PC and mobile phone app for independent navigation which can be freely downloaded from the project website.</p> <p><a href="#">Link to more information on FAST website</a></p>	<p>01/11/2009 30/10/2012</p>

Project title Organisation(s) Contacts Funding	Project summary	Start and finish dates
<p><b>Recent developments in lower-limb prostheses: To gain full advantage of improved mechanical function are sensorimotor control features necessary?</b></p> <p><b>Research lead:</b> School of Engineering, Design and Technology, University of Bradford  <b>Partners:</b> University Hospital of South Manchester  <b>Contact:</b> 01274 233721  <b>Funder:</b> EPSRC  <b>Amount:</b> £102,238</p>	<p>Sensory feedback from the ankle and foot are known to play a major role in controlling standing and walking. This means that individuals who have one or both of their lower limbs amputated have to learn to use other sensory inputs in order to walk using a prosthetic limb. Using a series of laboratory tests the project is investigating what sensory feedback is used by people with amputations when negotiating obstacles. The aim is to improve the design and functionality of prosthetic limbs. Data collection and analysis is complete and the project team are writing up the study's latest findings for publication. Early findings from the study were reported at four conferences in 2011 and 2012.</p> <p><a href="#">Link to more information on FAST website</a></p>	<p>01/02/2010 10/10/2012</p>
<p><b>REEACT - the Randomised Evaluation of the Effectiveness and Acceptability of Computerised Therapy trial</b></p> <p><b>Research lead:</b> Dept of Health Sciences, University of York  <b>Contact:</b> 01904 321344  <b>Funder:</b> NIHR HTA  <b>Amount:</b> £1,621,924</p>	<p>The project aims to evaluate computerised cognitive behavioural therapy (CBT) for people with depression. The project will randomly allocate 600 participants to receive either usual GP care alone, usual GP care plus a commercial CBT online package, or usual GP care plus a free-to-use online package. Researchers are recruiting users to try out two online packages: one that is free-to-use (MoodGYM) and a commercial product which incurs a cost (Beating the Blues - BtB).</p> <p><a href="#">Link to more information on FAST website</a></p>	<p>01/05/2009 01/01/2015</p>
<p><b>RELEASE - Rehabilitative Elegant Locomotion with Exoskeleton and Active Support for Exercise</b></p> <p><b>Research lead:</b> Civil and Environmental Engineering, University College London  <b>Contact:</b> 020 7679 7224  <b>Funder:</b> EPSRC  <b>Amount:</b> £101,763</p>	<p>Recent years have seen a number of experimental projects to develop an exoskeleton, an external 'framework' with a power source which can be used by someone with limited mobility. However, these tend to be rather clunky, heavy and difficult to use. The aim of this project was to develop an exoskeleton which is invisible to casual observers yet effective. The project examined materials which can change their stiffness according to the strength of a magnetic field in order to see if this might provide the basis for a motor-less exoskeleton. Release is a feasibility project and project members have received funding to support continuing work.</p> <p><a href="#">Link to more information on FAST website</a></p>	<p>01/09/2011 31/03/2013</p>

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<b>Project title</b> <b>Organisation(s)</b> <b>Contacts</b> <b>Funding</b>	<b>Project summary</b>	<b>Start and finish dates</b>
<p><b>Research into the 'lived experience' of sight loss in older age</b></p> <p><b>Research lead:</b> School of Social Policy, Sociology and Social Research, University of Kent  <b>Contact:</b> 01227 823072  <b>Funder:</b> University of Kent, Thomas Pocklington Trust  <b>Amount:</b> Not disclosed</p>	<p>The project aims to understand the lives of older people who are experiencing sight loss. Participants will be asked about how they experience changes in mobility and movement, how they adapt their appearance through clothing and self-care and what adjustments they make in their relationships and social interactions during sight loss. The project will also examine the impact of using a white mobility cane on people's sense of self and social dynamics.</p> <p><a href="#">Link to more information on FAST website</a></p>	<p>01/09/2011 30/08/2016</p>
<p><b>Restoration of Reach and Grasp in Stroke Patients using Electrical Stimulation and Haptic Feedback</b></p> <p><b>Research lead:</b> School of Electronics and Computer Science, University of Southampton  <b>Contact:</b> 023 8059 5000  <b>Funder:</b> EPSRC  <b>Amount:</b> £464,231</p>	<p>People who have had a stroke need to practice specific exercises in order to re-learn lost skills and use the feedback on their performance to improve their movement patterns. Damaged muscles can be made to work by using Functional Electrical Stimulation (FES) on the nerves leading to them, which works best if the person is attempting a purposeful movement. The project has developed a prototype home-based FES system and 25 people have been recruited to participate in clinical trials.</p> <p><a href="#">Link to more information on FAST website</a></p>	<p>01/03/2011 28/02/2014</p>
<p><b>REWIRE - Rehabilitative Wayout In Responsive home Environments</b></p> <p><b>Research lead:</b> Dept of Engineering Science, University of Oxford  <b>Contact:</b> 01865 273000  <b>Funder:</b> EU FP7  <b>Amount:</b> €2,730,000</p>	<p>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 aims to develop and test a virtual reality based rehabilitation platform which will encourage people to continue intensive rehabilitation at home while being remotely monitoring by staff at their hospital. The project has developed some self-adaptive games to support rehabilitation at home.</p> <p><a href="#">Link to more information on FAST website</a></p>	<p>01/10/2011 30/09/2014</p>

<b>Project title</b> <b>Organisation(s)</b> <b>Contacts</b> <b>Funding</b>	<b>Project summary</b>	<b>Start and finish dates</b>
<p><b>RICHARD - Regional ICT based Clusters for Healthcare Applications and R&amp;D Integration</b></p> <p><b>Research lead:</b> Centre for Health and Social Care Research, Sheffield Hallam University  <b>Partners:</b> ADI Ltd, partners in Italy, Sweden, Poland  <b>Contact:</b> 0114 225 5854  <b>Funder:</b> EU FP7  <b>Amount:</b> €2,749,999</p>	<p>Many research projects and small scale deployments have been undertaken to support people with long term conditions through the use of telehealth. The project is focused on 'regional healthcare systems' where the strategies are developed and decisions are taken. The aim is to develop a centralised approach to innovation and research, with the aim of introducing new technologies at scale into healthcare systems across Europe. The project has collaborated with the CLAHRC for South Yorkshire to launch the 'Ready, Steady, Go' telehealth Toolkit.</p> <p><a href="#">Link to more information on FAST website</a></p>	<p>01/09/2010 31/08/2013</p>
<p><b>Robobrace in Education</b></p> <p><b>Research lead:</b> RNIB  <b>Partners:</b> partners in Denmark, Hungary, Cyprus, Italy, Ireland  <b>Contact:</b> 01432 265725  <b>Funder:</b> EU LLP  <b>Amount:</b> €140,000</p>	<p>RoboBraille is a free email and web service capable of converting electronic documents into a range of high quality, alternative formats for people with a vision impairment: including Braille, mp3 and Daisy, with full text and audio presentation in a range of languages. The project is analysing RoboBraille's impact in education for students and teachers. It aims to raise awareness of the technology and improve and extend services.</p> <p><a href="#">Link to more information on FAST website</a></p>	<p>01/11/2011 31/10/2013</p>
<p><b>ROBOT-ERA - Advanced robotic systems and intelligent environments for the ageing population</b></p> <p><b>Research lead:</b> School of Computing and Mathematics, University of Plymouth  <b>Partners:</b> partners in Italy, Germany, Sweden  <b>Contact:</b> 01752 584584  <b>Funder:</b> EU FP7  <b>Amount:</b> €8,459,081</p>	<p>The project aims to implement a range of existing robotic services integrated into intelligent environments to provide assistance to older people in home and outdoor environments. A range of barriers to deployment will be studied. More than 160 potential users of Robot-Era services, older people and caregivers from Italy, Germany and Sweden, were involved in focus groups and creative workshops to identify which robotic services Robot-Era should develop.</p> <p><a href="#">Link to more information on FAST website</a></p>	<p>01/12/2011 30/11/2014</p>

Annex A: Complete listing of AT research and development activity 2012-13

<b>Project title</b> <b>Organisation(s)</b> <b>Contacts</b> <b>Funding</b>	<b>Project summary</b>	<b>Start and finish dates</b>
<p><b>RTF - Regional Telemedicine Forum</b></p> <p><b>Research lead:</b> Scottish Centre for Telehealth and Telecare  <b>Partners:</b> partners in Denmark, Italy, Spain, Norway, Estonia, Poland  <b>Contact:</b> 01224 285680  <b>Funder:</b> EU INTERREG IVC  <b>Amount:</b> €1,359,723</p>	<p>The project's goals included producing telehealth policy recommendations, based on analysis of telehealth barriers and enablers at clinical, strategy, and market level. The aim was to encourage innovation in the way care is delivered, improve the efficiency of healthcare systems, and support small businesses to access the market. The project has published documents online identifying how telehealth can support services for people with a variety of conditions and using different service models.</p> <p><a href="#">Link to more information on FAST website</a></p>	<p>01/01/2010 31/12/2012</p>
<p><b>Rural Digital Economy Research Hub</b></p> <p><b>Research lead:</b> Dept of Geography &amp; Environment, University of Aberdeen  <b>Contact:</b> 01224 273856  <b>Funder:</b> RCUK Digital Economy  <b>Amount:</b> £12,360,027</p>	<p>The digital economy is having a major impact on all aspects of daily life and the EPSRC is funding three 'digital hubs' which will examine how new technologies can be used to enhance quality of life for everyone. The research hub is working on a range of technologies to enhance interactions between older people in rural communities and their health and social care systems. The project is developing sensor systems, mobile devices, location based services, and software models to support coordination between services and to intelligently manage information flow.</p> <p><a href="#">Link to more information on FAST website</a></p>	<p>01/10/2009 30/09/2014</p>
<p><b>SafeMove - Safe mobility of elderly in the vicinity of their home and on journeys</b></p> <p><b>Research lead:</b> e-Learning Studios  <b>Partners:</b> partners in Germany, Austria, Switzerland, Israel.  <b>Contact:</b> 024 7652 5550  <b>Funder:</b> EU AAL  <b>Amount:</b> €1,160,221</p>	<p>Older people may become reluctant to travel due to physical impairment, orientation problems and feelings of insecurity or reduced confidence in their ability to cope with tasks which they previously found easy. Daily activities such as buying tickets for public transport, taking money from the bank, going to the post office or even selecting products and paying for shopping have become more complex. The project aims to increase the mobility of older people both at home and when travelling.</p> <p><a href="#">Link to more information on FAST website</a></p>	<p>01/07/2012 30/06/2015</p>

<b>Project title</b> <b>Organisation(s)</b> <b>Contacts</b> <b>Funding</b>	<b>Project summary</b>	<b>Start and finish dates</b>
<p><b>SALT - designing Scaleable Assistive Living Technologies and services for independent healthy living and sustainable market development in the mixed digital economy</b></p> <p><b>Research lead:</b> Newcastle University Business School  <b>Partners:</b> Years Ahead, Critical Data Limited, Docobo UK Ltd, RTC North Ltd, Cybermoor Services Ltd, Age UK, ADL Smartcare Limited, Limbs Alive Ltd, Intrahealth Ltd  <b>Contact:</b> 0191 243 0770  <b>Funder:</b> TSB ALIP, ESRC  <b>Amount:</b> £2,000,000</p>	<p>The objective of the project is to design new business models for large-scale assisted living services. This addresses the current challenge where the market for telecare and telehealth has not developed. The project aims to understand the factors that promote or inhibit people from making use of such technologies. Project partners representing a range of academic disciplines, industry and 3<sup>rd</sup> sector organisations will work together to create a 'synthesis' approach that builds a novel business model. Literature reviews have been undertaken to identify relevant business models, and user surveys and focus groups have been held to understand the barriers to adoption by individuals.</p> <p><a href="#">Link to more information on FAST website</a></p>	<p>01/02/2011 31/01/2014</p>
<p><b>SCRIPT - Supervised Care &amp; Rehabilitation Involving Personal Tele-robotics</b></p> <p><b>Research lead:</b> School of Computer Science, University of Hertfordshire  <b>Partners:</b> University of Sheffield, R U Robots Ltd, partners in Netherlands, Italy, Germany  <b>Contact:</b> 01707 284000  <b>Funder:</b> EU FP7  <b>Amount:</b> €3,311,961</p>	<p>The project aims to use robotic technology to encourage intensive use of rehabilitation exercises for people who have had a stroke. The research will focus on hand and wrist exercises as this is under-researched and regaining hand and wrist function is critically important to regain independence. A prototype system has been developed and tested. The system adapts the exercise to the individuals' needs and allows the therapist to remotely monitor activity through a web portal. Results of this testing are resulting in design changes for the next version of the system.</p> <p><a href="#">Link to more information on FAST website</a></p>	<p>01/11/2011 31/10/2014</p>
<p><b>SeniorEngage</b></p> <p><b>Research lead:</b> Microlink PC  <b>Partners:</b> partners in Spain, Austria, Hungary, Finland  <b>Contact:</b> 0808 1180 485  <b>Funder:</b> EU AAL  <b>Amount:</b> €723,685</p>	<p>The aim of the project was to provide an online network, so that retired people could continue to feel useful and improve feelings of self-worth, helping reduce isolation and encourage active engagement in community regardless of physical health. The project has produced reports identifying the support older people require to participate in an online platform. The online network is not currently available.</p> <p><a href="#">Link to more information on FAST website</a></p>	<p>01/12/2010 01/12/2012</p>

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<p><b>SENSE-PARK - Supporting and Empowering Parkinson patients in their home environment using a Novel Sensory information system that monitors daily-life-relevant parameters of PARKinson disease</b></p> <p><b>Research lead:</b> Cure Parkinson's Trust  <b>Partners:</b> partners in Germany, Portugal, Norway  <b>Contact:</b> 07789 842 372  <b>Funder:</b> EU FP7  <b>Amount:</b> €288,557</p>	<p>The symptoms of Parkinson's Disease are treated as they arise, with 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 condition. Researchers used a survey to obtain information about the current use of technologies by people with Parkinsons and their attitude to new technologies. The project has developed a set of requirements for the monitoring system and the concept for the design of the wrist sensor.</p> <p><a href="#">Link to more information on FAST website</a></p>	<p>01/10/2011 30/09/2014</p>
<p><b>SHARE-IT - School-Home Research Environment through Intelligent Technologies</b></p> <p><b>Research lead:</b> Institute of Education, University of London  <b>Partners:</b> Birkbeck College, University of Birmingham  <b>Contact:</b> 020 7612 6000  <b>Funder:</b> EPSRC  <b>Amount:</b> £241,599</p>	<p>Children with autistic spectrum conditions have poor communication skills and difficulty in performing tasks that require social interaction, such as imitation, turn-taking and collaborative (joint) actions. The project will investigate how different body worn and mobile devices can be used individually and together to create a scalable, intelligent, learning environment for children with autism spectrum conditions The aim is to facilitate continuity of support for children across school, home and other relevant environments.</p> <p><a href="#">Link to more information on FAST website</a></p>	<p>01/01/2013 30/06/2014</p>
<p><b>SiDE - Social inclusion through the Digital Economy</b></p> <p><b>Research lead:</b> School of Computing Science, Newcastle University  <b>Partners:</b> University of Dundee  <b>Contact:</b> 0191 2227972  <b>Funder:</b> EPSRC  <b>Amount:</b> £12,632,447</p>	<p>SiDE aims to tackle social exclusion by making it easier for people to access the life-changing benefits offered by digital technologies. Research is focusing on four activities where digital technologies can deliver major social benefits: Connected Home and Community, Accessibility, Inclusive Transport and the Creative Industries. Devices under development include: an indoor navigation system for people with low vision and mobility needs; and a system designed to support people with Parkinsons who experience problems with initiation of swallowing by providing them with an unobtrusive prompt.</p> <p><a href="#">Link to more information on FAST website</a></p>	<p>01/10/2009 30/09/2014</p>

<b>Project title</b> <b>Organisation(s)</b> <b>Contacts</b> <b>Funding</b>	<b>Project summary</b>	<b>Start and finish dates</b>
<p><b>SilverGame</b></p> <p><b>Research lead:</b> Golden-Oldies Charitable Trust</p> <p><b>Partners:</b> partners in Austria, Finland, Germany</p> <p><b>Contact:</b> 01761 470006</p> <p><b>Funder:</b> EU AAL</p> <p><b>Amount:</b> €1,862,012</p>	<p>The project aimed to develop stimulating online game-based multimedia applications to encourage older people to form social connections online. The SilverGame prototype includes three interactive modules: a virtual song club, a multimedia driving simulator for cognitive training of traffic situations and a sensor-based dance and fitness training application. The research team propose that these applications allow users to communicate and interact easily with other users via video-conferencing. The prototype was demonstrated at an academic conference but is not available publicly.</p> <p><a href="#">Link to more information on FAST website</a></p>	<p>01/05/2010 01/07/2012</p>
<p><b>SIMPLE4ALL - Speech synthesis that improves through adaptive learning</b></p> <p><b>Research lead:</b> Edinburgh Research and Innovation, University of Edinburgh</p> <p><b>Partners:</b> partners in Finland, Romania, Spain</p> <p><b>Contact:</b> 0131 650 9090</p> <p><b>Funder:</b> EU FP7</p> <p><b>Amount:</b> €3,100,000</p>	<p>For people who use voice output communication aids, the synthetic voice used by the device has a significant impact on the individual. Researchers propose that, in order to be accepted by users, the synthetic voice must be natural and appropriate for the application. Using the same voice for every application, such as dialogue, speech translation, games, communication aids, SMS-to-speech conversion, and e-learning, is not acceptable to users. The project will create speech synthesis technology that learns about the application environment with little or no supervision.</p> <p><a href="#">Link to more information on FAST website</a></p>	<p>01/11/2011 31/10/2014</p>
<p><b>SOFTCARE - unobtrusive plug and play kit for chronic condition monitoring based on customised behaviour recognition</b></p> <p><b>Research lead:</b> HealthSystems Group Limited</p> <p><b>Partners:</b> partners in Austria, Finland, Spain</p> <p><b>Contact:</b> 01932 352011</p> <p><b>Funder:</b> EU AAL</p> <p><b>Amount:</b> €649,834</p>	<p>The aim of this project was to develop and test a monitoring system for older people which would allow carers and users to get real-time alarms to potentially dangerous situations, with alerts about long-term trends. The intention was that the user wears a small bracelet and places one static node in each room of their home. The system included an additional key fob device to extend the system's capabilities outside the home. The system was trialled in sheltered housing and in private homes. No information is available on potential commercialisation of the system or components following project end.</p> <p><a href="#">Link to more information on FAST website</a></p>	<p>01/11/2009 31/10/2012</p>

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<p><b>SRS - Multi-Role Shadow Robotic System for Independent Living</b></p> <p><b>Research lead:</b> Manufacturing Engineering Centre, Cardiff University  <b>Partners:</b> University of Bedfordshire, partners in Spain, Austria, Italy, Germany, Bulgaria  <b>Contact:</b> 029 2087 4641  <b>Funder:</b> EU FP7  <b>Amount:</b> €3,650,000</p>	<p>The project focused on the development of remotely-controlled, semi-autonomous robotic solutions to support older people at home. Researchers tested a prototype robot for providing emergency help, fetching and carrying items in response to the individual's needs and instructions and allowing family member to have an overview of the home to ensure all was well. A trial was undertaken in 2012 to identify technical problems when operating the robot in a real home environment and to gain feedback from older users on their perception of the robot in their home.</p> <p><a href="#">Link to more information on FAST website</a></p>	<p>01/02/2010 31/01/2013</p>
<p><b>SSHOES - Special SHOES Movement</b></p> <p><b>Research lead:</b> School of Health Sciences, University of Salford, 11 partners in Spain, Italy, Slovenia, Germany  <b>Contact:</b> 0161 295 2275  <b>Funder:</b> EU FP7  <b>Amount:</b> €4,874,025</p>	<p>People with foot problems, such as those caused by diabetes, frequently require customised footwear which is designed to alleviate pressure points and provide appropriate support. This project aims to devise methodologies and manufacturing systems for the production of orthotic footwear and insoles which are adapted to the requirements of individuals. The project has produced specific recommendations for the design of rocker shoes for pressure relief.</p> <p><a href="#">Link to more information on FAST website</a></p>	<p>01/07/2009 30/06/2012</p>
<p><b>Stories at the Dentist</b></p> <p><b>Research lead:</b> School of Computing, University of Dundee  <b>Contact:</b> 01382 385597  <b>Funder:</b> EPSRC  <b>Amount:</b> £293,221</p>	<p>One challenge facing people with learning disability is anxiety when visiting the dentist. The individual may become defensive and exhibit challenging behaviour when the dentist attempts treatment. As a result, the procedure may have to be abandoned or the person sedated. Sedation carries increased risks, a longer recovery time and increases the cost of the procedure to the NHS. Abandoning treatment impacts on the individual's oral health and well-being. 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 and enable them to be more involved in decision making.</p> <p><a href="#">Link to more information on FAST website</a></p>	<p>01/01/2013 30/06/2014</p>

<b>Project title</b> <b>Organisation(s)</b> <b>Contacts</b> <b>Funding</b>	<b>Project summary</b>	<b>Start and finish dates</b>
<p><b>Strokeback - telemedicine system empowering stroke patients to fight back</b></p> <p><b>Research lead:</b> School of Electronics and Computer Science, University of Southampton  <b>Partners:</b> Research for Science and Technology Ltd, partners in Germany, Greece, Hungary  <b>Contact:</b> 023 8059 5000  <b>Funder:</b> EU FP7  <b>Amount:</b> €3,030,978</p>	<p>People who survive a stroke typically need intensive rehabilitation in order to regain lost functionality. There is a need to find alternative, more cost effective approaches to delivering rehabilitation and support to people who have had a stroke. The aim of this project is to develop an automated remote rehabilitation system so that people who have had a stroke and their carers can carry out rehabilitation therapy effectively at home. Researchers will use a combination of state-of-the-art monitoring devices to form a wireless body area network which monitors information about the person who has had the stroke and tracks their progress.</p> <p><a href="#">Link to more information on FAST website</a></p>	<p>01/10/2011 30/09/2014</p>
<p><b>Study into the effectiveness of a postural care education program for parents and teachers who are responsible for the postural care needs of disabled children at home and school</b></p> <p><b>Research lead:</b> Child Health Offices, East Kent Hospitals University NHS Foundation Trust  <b>Partners:</b> University of Kent  <b>Contact:</b> 01227 782469  <b>Funder:</b> NIHR RfPB  <b>Amount:</b> £241,930</p>	<p>Physically disabled children need to maintain good posture using seating support or walking frames. This can reduce the risk of deformities and health problems and enable children to participate in activities at school and at home. However equipment is expensive and postural care is complex. The project intends to help parents and staff in mainstream schools to understand the issues. The project has recruited a group of therapists to provide support for teachers and parents in postural care at home and school.</p> <p><a href="#">Link to more information on FAST website</a></p>	<p>01/07/2011 31/08/2013</p>
<p><b>SWIFT Cast Trial - Neural and biomechanical correlates of response to the use of an ankle-foot cast provided to improve walking early after stroke</b></p> <p><b>Research lead:</b> School of Allied Health Professions, University of East Anglia  <b>Partners:</b> Norfolk and Norwich University Hospital NHS Foundation Trust, University of Strathclyde, University of Cambridge  <b>Contact:</b> 01603 456161  <b>Funder:</b> NIHR EME  <b>Amount:</b> £926,967</p>	<p>Weakness of the leg and foot is common after a stroke and can have a substantial impact on people's everyday lives. A common problem limiting an individual's ability to practice walking is when the affected foot cannot be held in the correct position in relation to the lower leg. Different approaches will be evaluated with participants grouped into those who will receive the splint (called a soft-scotch ankle-foot cast) or those with no extra intervention. Participants' walking speed and ability to walk independently will be measured to evaluate the impact of the splint. The trial is ongoing with 53 participants recruited so far.</p> <p><a href="#">Link to more information on FAST website</a></p>	<p>18/10/2010 17/10/2013</p>

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<p><b>SYSIASS: Autonomous and Intelligent Healthcare System (SYStème Intelligent et Autonome d'aide aux Soins de Santé)</b></p> <p><b>Research lead:</b> School of Computer Science and Electronic Engineering, University of Essex</p> <p><b>Partners:</b> University of Kent, East Kent Hospitals University NHS Foundation Trust, partners in France</p> <p><b>Contact:</b> 01206 872770</p> <p><b>Funder:</b> INTERREG IVA 2 Seas</p> <p><b>Amount:</b> €1,233,040</p>	<p>Many 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. EMG signals from sensors placed on the user's forehead and eye gaze tracking information from a camera fixed in front of the wheelchair were used to guide non-disabled participants in their wheelchair around a trial site consisting of models of doorways, corridors, turning corners and docking places. The prototype system detected obstacles and indicated their direction using visual feedback and could slow or stop the chair in case of unforeseen obstacles.</p> <p><a href="#">Link to more information on FAST website</a></p>	<p>01/12/2010 31/12/2013</p>
<p><b>TACT3: Tackling Ageing Continence through Theory Tools and Technology</b></p> <p><b>Research lead:</b> Institute of Bioengineering, Brunel University</p> <p><b>Partners:</b> University of West of England, Sheffield Hallam University, University of Manchester, Helen Hamlyn Research Centre</p> <p><b>Contact:</b> 01895 274000</p> <p><b>Funder:</b> NDA, ESRC</p> <p><b>Amount:</b> £1,278,470</p>	<p>The project aimed to reduce the impact of continence difficulties for older people by raising awareness of treatment services, improving toilet provision for older people and by providing effective assistive technology. The project developed two devices for people who use continence pads: smart underwear that alerts the wearer to a pad leak before wetness spreads to outer clothing and a key ring containing a sensor which changes colour in response to low levels of ammonia alerting the wearer to any developing odour.</p> <p><a href="#">Link to more information on FAST website</a></p>	<p>01/11/2008 30/04/2012</p>
<p><b>TeleSCoPE - Telehealth Services Code of Practice for Europe</b></p> <p><b>Research lead:</b> Health Design &amp; Technology Institute, Coventry University</p> <p><b>Partners:</b> Telecare Services Association, 13 partners in Belgium, Bulgaria, Hungary, Italy, Ireland, Slovenia</p> <p><b>Contact:</b> 024 7615 8000</p> <p><b>Funder:</b> EU Health Programme</p> <p><b>Amount:</b> £576,910</p>	<p>The project is developing a European Code of Practice for Telehealth Services. The Code will cover a range of technologies including mobile apps, interactive television and worn, carried and (potentially) implanted sensor devices. A draft code was released in April 2012. A further consultation draft has been released in spring 2013. By the end of the project a framework will be in place to ensure the future development of the Code and its readiness for adoption in different member states.</p> <p><a href="#">Link to more information on FAST website</a></p>	<p>01/08/2010 30/06/2013</p>

Project title Organisation(s) Contacts Funding	Project summary	Start and finish dates
<p><b>telescot - Telemetric supported self-monitoring of long-term conditions</b></p> <p><b>Research lead:</b> Centre for Population Health Sciences, University of Edinburgh  <b>Partners:</b> Napier University, Wellcome Trust Clinical Research Facility, Scottish Primary Care Research Network, Edinburgh Clinical Trials Unit, Primary Care Research Network South East, Chest Heart &amp; Stroke Scotland  <b>Contact:</b> 0131 650 3220  <b>Funder:</b> CSO  <b>Amount:</b> £1,400,000</p>	<p>For people who live in rural areas, telehealth may offer significant health benefits. There has been little evaluation of such services to date. The aim of the project was to investigate whether the impact of telehealth on rural communities in Scotland. Project trials took place with participants with hypertension, COPD, diabetes and stroke. Trials showed that service users were enthusiastic about self-monitoring and early findings suggest significant reductions in blood pressure in the hypertension group. Other findings suggest that while participants highly value the service, it has not impacted on either the number or length of admissions to hospital with COPD. The telescot Diabetes trial is ongoing and results will be available in summer 2013.</p> <p><a href="#">Link to more information on FAST website</a></p>	<p>01/04/2008 31/01/2013</p>
<p><b>The Heels Trial - Evaluation of lightweight fibreglass heel casts in the management of ulcers of the heel in diabetes</b></p> <p><b>Research lead:</b> Nottingham Clinical Trials Unit, Nottingham University Hospitals NHS Trust  <b>Contact:</b> 0115 8844919  <b>Funder:</b> NIHR HTA  <b>Amount:</b> £1,358,852</p>	<p>About 15% of all people with diabetes get foot ulcers. Ulcers of the heel may be particularly painful and can take up to three times as long to heal than ulcers elsewhere on the foot. There are currently no treatments which have been shown to improve healing and pain with ulcers on the foot. Lightweight fibreglass heel casts, or 'heel cups', are thin enough to fit inside usual footwear and in some people there is anecdotal evidence it has encouraged an improvement in the rate of healing and reduced the pain. The project will test fibreglass heel casts with groups of participants with diabetes who will be reviewed for ulcer healing and pain every two weeks for 24 weeks.</p> <p><a href="#">Link to more information on FAST website</a></p>	<p>01/02/2011 31/01/2016</p>
<p><b>TMM - The MobilityMotivator</b></p> <p><b>Research lead:</b> Inventya Ltd  <b>Partners:</b> Partners in Germany, France, Luxemburg, Switzerland, Belgium  <b>Contact:</b> 0845 055 9844  <b>Funder:</b> EU AAL  <b>Amount:</b> €2,072,406</p>	<p>The Mobility Motivator solution aims to support older people by assessing their range of motion and cognitive skills. The system will use video-conferencing games to promote physical interaction and will support monitoring of the individual's performance. The challenges within the gaming environment can be used to promote physical activity and as indicators of progress over time.</p> <p><a href="#">Link to more information on FAST website</a></p>	<p>01/06/2012 31/05/2015</p>

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<p><b>TOBI - Tools for brain-computer interaction</b></p> <p><b>Research lead:</b> Multimodal Interaction Group, University of Glasgow</p> <p><b>Partners:</b> partners in France, Germany, Austria, Italy, Switzerland</p> <p><b>Contact:</b> 0141 330 4256</p> <p><b>Funder:</b> EU FP7</p> <p><b>Amount:</b> €9,000,000</p>	<p>The Tobi project aims to develop practical technology for brain-computer interaction (BCI) which, combined with other assistive technologies, can improve the quality of life of disabled people. There were three outputs from the project. Braintree, which uses electrodes attached to a cap worn by the individual to transmit brain signals, uses residual muscular activity to allow the individual to control a cursor for texting and surfing the Internet. Robotino is a robot with video, audio and obstacle sensors that can be controlled by the brain-cap, which researchers propose can allow users to take a virtual walk. The third output, Regeneration, combines use of the cap with electrical stimulation to allow users some control of paralysed limbs.</p> <p><a href="#">Link to more information on FAST website</a></p>	<p>01/11/2008 31/10/2012</p>
<p><b>TOPS - Technologies to support older people at home: maximising personal and social interaction</b></p> <p><b>Research lead:</b> Centre for Rural Health, University of Aberdeen</p> <p><b>Partners:</b> Institute of Rural Health, University of the Highlands and Islands, Newcastle University, University of Dundee</p> <p><b>Contact:</b> 01463 255892</p> <p><b>Funder:</b> RCUK Digital Economy</p> <p><b>Amount:</b> £152,500</p>	<p>The aim of the project is to support older people in rural areas living with chronic pain. It aims to do this by providing support and advice on the exercise and activities they can do or the correct way they should be sitting to help their condition. Researchers aim to design an interface which is easy to use and which takes into account the mobility and cognition problems caused by chronic pain. The project team has undertaken a survey of older adults with chronic pain and set up focus groups to explore views about assistive technologies.</p> <p><a href="#">Link to more information on FAST website</a></p>	<p>01/01/2011 31/12/2013</p>
<p><b>TRACY - TRansport needs for an Ageing soCiety</b></p> <p><b>Research lead:</b> School of Geography, Earth and Environmental Sciences, University of Plymouth</p> <p><b>Partners:</b> partners in Spain, Norway</p> <p><b>Contact:</b> 01752 584584</p> <p><b>Funder:</b> EU FP7</p> <p><b>Amount:</b> €511,178</p>	<p>Addressing the needs of older people in developing future transport strategies in Europe is recognised as an important issue. The project has published reviews of: demographic trends in ageing and transport; research literature concerning transport, mobility and older people; and EU-wide and national level policies and programmes in each country to address the transport and mobility needs of older people. A conference to disseminate findings is planned for autumn 2013.</p> <p><a href="#">Link to more information on FAST website</a></p>	<p>01/10/2011 30/09/2013</p>

<b>Project title</b> <b>Organisation(s)</b> <b>Contacts</b> <b>Funding</b>	<b>Project summary</b>	<b>Start and finish dates</b>
<p><b>TREM-END - Development of a wrist orthotic device for tremor suppression through biomechanical loading by means of a novel rotary actuator</b></p> <p><b>Research lead:</b> UK Materials Technology Research Institute Ltd  <b>Partners:</b> partners in Spain, France, Italy  <b>Contact:</b> 01664 501501  <b>Funder:</b> EU FP7  <b>Amount:</b> €1,124,433</p>	<p>In the EU more than 4.25m people aged 40 and over are affected by Essential Tremor (ET), a progressive neurological condition where a tremor of the arms and hand occurs during intentional movements. The project aimed to develop a wrist worn, cost-effective commercial orthosis for tremor suppression for people resistant to conventional treatments. 12 participants are due to test the orthosis for one month, and of this group 7 have completed the trial phase. Researchers report that 6 people expressed a wish to keep the orthosis because they felt more secure while using it. Findings will be reported in 2013.</p> <p><a href="#">Link to more information on FAST website</a></p>	<p>01/01/2011 31/03/2013</p>
<p><b>TRUMP: A Trusted Mobile Platform for the Self-Management of Chronic Illness in Rural Areas</b></p> <p><b>Research lead:</b> College of Physical Sciences, University of Aberdeen  <b>Partners:</b> University of Newcastle, Northumbria University, University of Dundee  <b>Contact:</b> 01224 272295  <b>Funder:</b> EPSRC  <b>Amount:</b> £1,684,861</p>	<p>Services supporting people with chronic diseases face particular challenges in rural areas. This issue is 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. It will simultaneously consider the needs of rural areas of India and the UK and look at two common chronic conditions, diabetes and depression. These conditions will be used as exemplars for the development of the project's telehealth platform.</p> <p><a href="#">Link to more information on FAST website</a></p>	<p>01/01/2012 31/12/2014</p>
<p><b>TWIST - Trial of Wii STroke</b></p> <p><b>Research lead:</b> Royal Cornwall Hospitals NHS Trust  <b>Contact:</b> 01872 250000  <b>Funder:</b> NIHR RfPB  <b>Amount:</b> £249,794</p>	<p>People who have had a stroke often go on to experience weakness in their hand or arm. Undertaking regular physiotherapy exercises can help improve function. However, some people have only limited access to appropriate therapy, while others may find it hard to maintain motivation for rehabilitation once they are back at home. The study will recruit 240 people who have weakness in their affected arm, who will exercise with the Wii for six weeks, in addition to their usual rehabilitation. Qualitative interviews with 18 participants have been completed with a further 101 participants due to take part in the study. Recruitment continues until May 2013.</p> <p><a href="#">Link to more information on FAST website</a></p>	<p>01/01/2011 29/12/2013</p>

Annex A: Complete listing of AT research and development activity 2012-13

<b>Project title</b> <b>Organisation(s)</b> <b>Contacts</b> <b>Funding</b>	<b>Project summary</b>	<b>Start and finish dates</b>
<p><b>Ultrax: Real-time tongue tracking for speech therapy using ultrasound</b></p> <p><b>Research lead:</b> Centre for Speech Technology Research, University of Edinburgh  <b>Partners:</b> Queen Margaret University  <b>Contact:</b> 0131 650 4434  <b>Funder:</b> EPSRC  <b>Amount:</b> £586,154</p>	<p>Speech Sound Disorders (SSDs) are the most common communication impairment in childhood, affecting 6.5% of all UK children. The project will develop technology (Ultrax) to turn ultrasound into a tongue imaging device specifically designed to provide real-time visual feedback of tongue movements. People with SSDs will be able to see the movements of their own tongues and use this information to modify their speech. The project has recorded a set of ultrasound data working with trial participants and the project team has begun to receive feedback from initial trials of speech therapy sessions using Ultrax.</p> <p><a href="#">Link to more information on FAST website</a></p>	<p>01/02/2011 31/01/2014</p>
<p><b>USEFIL - Unobtrusive Smart Environments For Independent Living</b></p> <p><b>Research lead:</b> Institute of Digital Healthcare, Warwick University  <b>Partners:</b> partners in Germany, Finland, Israel, Greece, The Netherlands  <b>Contact:</b> 02476 151341  <b>Funder:</b> EU FP7  <b>Amount:</b> €4,630,000</p>	<p>The aim of this project is to develop affordable and unobtrusive home monitoring and web communication solutions. Researchers plan to use low cost 'off the shelf' technology which will not require retro-fitting in the home and will be almost invisible once installed. The project is producing the individual modules that will form the USEFIL system and then will be trialling the system with target groups.</p> <p><a href="#">Link to more information on FAST website</a></p>	<p>01/11/2011 31/10/2014</p>
<p><b>Use of enhanced neural response imaging to get better cochlear implant fitting for children and adults</b></p> <p><b>Research lead:</b> Sensory &amp; Perceptual Systems, Aston University  <b>Contact:</b> 0121 204 4119  <b>Funder:</b> EPSRC  <b>Amount:</b> £386,588</p>	<p>People with severe hearing loss can be helped to hear again using a cochlear implant. Good speech perception with cochlear implants depends on effective fitting by an audiologist. The fitting is usually based on perceptual measurements that require verbal feedback from the individual. When verbal feedback is not possible, audiologists have to rely on automated measures of electrical compound action potential (ECAP) which are based on the electrical response from all the nerve fibres that can be recorded by cochlear implants. The project will more successfully measure the ECAP threshold in people.</p> <p><a href="#">Link to more information on FAST website</a></p>	<p>01/09/2009 31/08/2013</p>

<b>Project title</b> <b>Organisation(s)</b> <b>Contacts</b> <b>Funding</b>	<b>Project summary</b>	<b>Start and finish dates</b>
<p><b>User centred independent living: the freedom to roam</b></p> <p><b>Research lead:</b> CELS Business group  <b>Partners:</b> Trackaphone Ltd, University of Northumbria, Northern Rock Foundation, Quality of Life Partnership, ADI Ltd, Looking Local  <b>Contact:</b> 0191 227 3571  <b>Funder:</b> TSB ALIP  <b>Amount:</b> £293,116</p>	<p>Telecare services can support older and disabled people to live independently at home. There are fewer services for people who might need assistance when mobile. The project aimed to develop an affordable mobile travel service for the mass market. The project team used a tablet computer to prototype a range of services aimed at providing older adults with information to maintaining their independence. Services include access to bus timetables, GP appointment services and finding local services. The device also allows the individual to be tracked to find out where they are when the device is switched on.</p> <p><a href="#">Link to more information on FAST website</a></p>	<p>01/10/2009 30/11/2012</p>
<p><b>Utilising multi-modal bio-digital technologies to assess the cognitive abilities of children with severe physical and neurological impairment</b></p> <p><b>Research lead:</b> School of Computer Science, University of Hertfordshire  <b>Contact:</b> 01707 284000  <b>Funder:</b> EPSRC  <b>Amount:</b> £87,059</p>	<p>The capabilities of children with severe physical and neurological impairments may not be able to be assessed by conventional tests of ability, which has implications for their educational provision. The project will investigate the use of two bio-digital input methods - electro-encephalography (EEG) from the brain, and eye tracking (ET) to provide information on a child's electrical brain potentials and point of gaze. Researchers will develop software to integrate the two data streams to provide an accurate indicator of the on-screen stimulus the child is selecting. Researchers have findings that need to be explored in further applications and are reviewing the potential of future collaborations.</p> <p><a href="#">Link to more information on FAST website</a></p>	<p>01/10/2010 31/03/2014</p>
<p><b>VenUS IV (Venous leg Ulcer Study IV): A randomised controlled trial of compression hosiery versus compression bandaging in the treatment of venous leg ulcers</b></p> <p><b>Research lead:</b> Dept of Health Sciences, University of York  <b>Contact:</b> 01904 321344  <b>Funder:</b> NIHR HTA  <b>Amount:</b> £1,034,551</p>	<p>Venous leg ulcers are common chronic wounds that are painful and reduce quality of life. The project undertook a randomised controlled trial comparing 4 layer compression bandaging (4LB) with standard compression hosiery and assessed how long an ulcer takes to heal. The project identified the benefits of different bandages, including that compression increases ulcer healing rates compared with no compression. Some further data is required to fully understand the relative benefits of all the approaches.</p> <p><a href="#">Link to more information on FAST website</a></p>	<p>01/05/2009 30/11/2012</p>

Annex A: Complete listing of AT research and development activity 2012-13

<b>Project title</b> <b>Organisation(s)</b> <b>Contacts</b> <b>Funding</b>	<b>Project summary</b>	<b>Start and finish dates</b>
<p><b>VERITAS: Virtual and augmented Environments and Realistic user Interactions To achieve embedded Accessibility designS</b></p> <p><b>Research lead:</b> Department of Information Systems and Computing, Brunel University  <b>Partners:</b> University of Newcastle, 34 partners in Germany, Greece, Italy, Spain, France, Belgium, Bulgaria, Czech Republic, Switzerland  <b>Contact:</b> 01895 203397  <b>Funder:</b> EU FP7  <b>Amount:</b> €8,000,000</p>	<p>There is a need for a more consistent approach to ensure all products meet basic accessibility requirements. This project aims to develop, validate and assess tools for built-in accessibility support at all stages of ICT and non-ICT product development, including specification, design, development and testing. The project team has organised at series of user conferences throughout Europe to demonstrate accessibility engineering using computer models, simulation and virtual reality. Project partners have taken a series of measurements of participants undertaking routine task: walking, operating a computer, using a joystick and reaching for objects. The data received has been used to develop the Veritas platform, which creates virtual reality models of human activity.</p> <p><a href="#">Link to more information on FAST website</a></p>	<p>01/01/2010 31/12/2013</p>
<p><b>VET4VIP - Vocational English training for visually impaired people</b></p> <p><b>Research lead:</b> Royal National College for the Blind  <b>Partners:</b> partners in Germany, Netherlands, Ireland, Italy  <b>Contact:</b> 01432 265725  <b>Funder:</b> EU LLP (Leonardo da Vinci)  <b>Amount:</b> €529,779</p>	<p>The project is devising guidance for language teachers on how to use and create teaching materials for students with visual impairment using suitable assistive technologies. It is also developing computer-based training on Business English designed for blind and visually impaired adult learners. The funding period ended in June 2012 but there is ongoing Vet4vip training for language teachers at partner centres in Italy, Germany and Netherlands.</p> <p><a href="#">Link to more information on FAST website</a></p>	<p>01/12/2009 01/06/2012</p>
<p><b>VICON : Virtual User Concept for Supporting Inclusive Design of Consumer Products and User Interfaces</b></p> <p><b>Research lead:</b> Action on Hearing Loss  <b>Partners:</b> partners in Germany, Turkey, Sweden  <b>Contact:</b> 0808 808 0123  <b>Funder:</b> EU FP7  <b>Amount:</b> €2,399,956</p>	<p>To support product designers to consider the needs of disabled customers, the Vicon project aimed to develop a library of virtual users with varying degrees of vision, hearing and dexterity impairment. The aim is that the virtual users can be used to inform product designs at an early stage of the design process. Interviews were undertaken with 58 older people from the UK, Ireland and Germany who had hearing loss, sight loss and problems with manual dexterity. The information gained from the participants supported the development of the Virtual User Model.</p> <p><a href="#">Link to more information on FAST website</a></p>	<p>01/01/2010 30/06/2012</p>

<b>Project title</b> <b>Organisation(s)</b> <b>Contacts</b> <b>Funding</b>	<b>Project summary</b>	<b>Start and finish dates</b>
<p><b>ViPi - Virtual Portal for Interaction and ICT Training for People with Disabilities</b></p> <p><b>Research lead:</b> Interactive Systems Research Group, Nottingham Trent University</p> <p><b>Partners:</b> partners in Lithuania, Belgium, Greece, Cyprus</p> <p><b>Contact:</b> 0115 848 6019</p> <p><b>Funder:</b> EU LLP(Grundtvig)</p> <p><b>Amount:</b> €428,931</p>	<p>The aim of this project is to explore the ways in which ICT can be used to increase the employment of disabled people. The project will make available accessible and flexible training via an interactive portal and learning environment which is available online and via mobile phones. Web-based and mobile platforms are in development. A survey has indicated that the main requirement for supporting employability, as identified by stakeholders, was the need for basic ICT training.</p> <p><a href="#">Link to more information on FAST website</a></p>	<p>01/01/2011 31/12/2013</p>
<p><b>VIVOCA2</b></p> <p><b>Research lead:</b> School of Health and Related Research, University of Sheffield</p> <p><b>Partners:</b> Barnsley Hospital NHS Foundation Trust, ELPedium Technologies Ltd, Toby Churchill Ltd, Medipex</p> <p><b>Contact:</b> 0114 222 5454</p> <p><b>Funder:</b> NIHR HTD</p> <p><b>Amount:</b> £823,364</p>	<p>The aim of this project was to produce a device which will assist spoken communication for people with severe speech impairment (dysarthria). The device will recognise utterances and `translate' them into clear, natural sounding synthesised speech output which can be understood by the listener. Vivoca2 was evaluated in a field trial by individuals with moderate to severe dysarthria. Participants confirmed that they can make use of the device to produce intelligible speech but the trial indicated some difficulties in the performance and usability of the device when applied in real situations. These limitations will be addressed in future work.</p> <p><a href="#">Link to more information on FAST website</a></p>	<p>01/03/2010 31/05/2013</p>
<p><b>V-TIME - Virtual reality-Treadmill combined Intervention for enhancing Mobility and reducing falls in the Elderly</b></p> <p><b>Research lead:</b> Newcastle University &amp; Newcastle upon Tyne Hospitals NHS Foundation Trust</p> <p><b>Partners:</b> partners in Israel, Italy, Belgium, The Netherlands, Czech Republic</p> <p><b>Contact:</b> 0191 282 5959</p> <p><b>Funder:</b> EU FP7</p> <p><b>Amount:</b> €5,781,956</p>	<p>Health and care services invest significantly in falls prevention initiatives. Pilot studies indicate that using a treadmill together with virtual reality applications supplements physical exercise, stimulating visual scanning, planning where to walk, dual tasking abilities and negotiating obstacles. The project aims to exploit this technology and task-specific training in a motivating and safe environment that can readily be reproduced and standardised. Researchers will review V-Time's usefulness in supporting people to avoid falls and improve mobility, cognitive function, and functional independence.</p> <p><a href="#">Link to more information on FAST website</a></p>	<p>01/01/2012 31/12/2015</p>

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<p><b>WALKX - Development of a raising, walking and exercise device with upper body support for rehabilitation of stroke victims</b></p> <p><b>Research lead:</b> MCT Limited  <b>Partners:</b> Newtrim (UK) Ltd, partners from Norway, Sweden, Greece, France, Italy, Spain  <b>Contact:</b> 01327 702072  <b>Funder:</b> EU FP7  <b>Amount:</b> €1,083,794</p>	<p>Roughly 75% of people who have had a stroke survive, but about half lose the ability to live independently in their own home. The project has developed a robotic device that can support the individual in rising from sitting to standing position and enable them to undertake walking training. WalkX can be programmed as a robot enabling the user to follow the walking device or, if gaining more body control, to push the WalkX when walking and training. Researchers propose that this will reduce the need for rehabilitation from therapists.</p> <p><a href="#">Link to more information on FAST website</a></p>	<p>01/01/2011 31/12/2012</p>
<p><b>WAM - Wearable Assistive Materials</b></p> <p><b>Research lead:</b> Civil and Environmental Engineering, University College London  <b>Contact:</b> 020 7679 7224  <b>Funder:</b> EPSRC  <b>Amount:</b> £994,066</p>	<p>A number of projects are looking at the potential of exoskeletons to support people to walk. Following initial work in the Release project, WAM is developing concepts for an exoskeleton that can act as a muscle to support the whole walking cycle, providing support and control to the user and enabling them to walk otherwise unaided. The project team are looking at materials and techniques that might support locomotion including V2O5, a substance that is able to flex when exposed to an electrostatic charge. A prototype exoskeleton will not be produced by the project but final tests will show how much stiffness and strength different materials can deliver and the right way to proceed in further projects.</p> <p><a href="#">Link to more information on FAST website</a></p>	<p>01/03/2013 29/02/2016</p>
<p><b>WheelSAS - Wheelchair Stability Assessment System</b></p> <p><b>Research lead:</b> Faculty of Engineering and Computing, Coventry University  <b>Contact:</b> 024 7688 8673  <b>Funder:</b> NIHR i4i  <b>Amount:</b> £600,000</p>	<p>The issue of stability is of crucial importance in allowing users to get the most from their wheelchair whilst maintaining safety. The project aimed to develop a system for measuring and improving wheelchair performance. Researchers have developed an algorithm that can be used for prediction of the stability of wheelchairs or scooters with 3 wheels (two wheels on the rear and one wheel in the front). Ongoing work includes semi-structured interviews and an online survey to explore user and market needs. Findings will be reported in 2013.</p> <p><a href="#">Link to more information on FAST website</a></p>	<p>01/05/2010 30/04/2013</p>

<b>Project title</b> <b>Organisation(s)</b> <b>Contacts</b> <b>Funding</b>	<b>Project summary</b>	<b>Start and finish dates</b>
<p><b>Wii STAR - Wii Stroke Therapy for Arm Rehabilitation</b></p> <p><b>Research lead:</b> School of Community Health Sciences, University of Nottingham  <b>Partners:</b> Nottingham Trent University  <b>Contact:</b> 0115 823 0208  <b>Funder:</b> Nottinghamshire CLAHRC  <b>Amount:</b> Not disclosed</p>	<p>For people who survive a stroke, access to further rehabilitation is often difficult to achieve after hospital discharge. Virtual Reality (VR) rehabilitation offers a way for people to practice tasks intensively for a sufficiently prolonged period of time to facilitate motor recovery. Gaming consoles, such as the Wii and Kinect, may have clinical applications and this has led to their adoption by therapists in clinical settings. The project has developed a home-based system in collaboration with a local user group. Thirty participants were recruited to the feasibility trial and findings are due in 2013.</p> <p><a href="#">Link to more information on FAST website</a></p>	<p>01/09/2009 01/07/2013</p>
<p><b>Year Zero</b></p> <p><b>Research lead:</b> Illumina Digital Ltd  <b>Sub-contractors:</b> Sitekit Solutions Ltd, Maverick Television Ltd, Kameleon, Moray Community Health &amp; Social Care Partnership, Rotherham NHS Foundation Trust, Liverpool Community Health NHS Trust, South Warwickshire NHS Foundation Trust, NHS Local  <b>Contact:</b> 020 8600 9300  <b>Funder:</b> TSB ALIP dallas, NIHR and Scottish Government  <b>Amount:</b> Not disclosed</p>	<p>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. The aim is to encourage people to be proactive about their well being and to become better informed, healthier and lead more independent lifestyles. The tools developed include eRedbook, a digital version of the paper-based Red Book that is given to all new parents to record their child's health; A Better Plan, a planning tool to help family, friends and carers to cooperate around health, wellbeing and care, particularly to support older relatives; and Health Family Tree, to help people plot their family's health genealogy. Trials of a demonstrator version of eRedbook took place in March 2013.</p> <p><a href="#">Link to more information on FAST website</a></p>	<p>01/06/2012 31/05/2015</p>





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