

ASSISTIVE TECHNOLOGY: UNITED KINGDOM BASED ANALYSIS

Kamran Ahsan (Assistant Professor)

Department of Computer Science, Federal Urdu University of Arts, Science and Technology
MSC Block, Block No. 9, Gulshan-e-Iqbal, Main University Road (Karachi)

kamran.ahsan@fuuast.edu.pk

ABSTRACT—Assistive technology products provide help to disable people for complete daily living task. By using assistive technology disable people enabled to improve their quality of life. New and latest technologies extremely helpful in developing assistive living products as well as improving caring techniques. Technology Enhancement enables different method for caring elder or disable persons. The result of this research could radically increase deployment of improved assistive technology. This research considers the past and current projects/research for assistive technologies. This research investigates the level of involvement of various universities, research centers and companies/organizations into assistive living research and product development for helping easy living. This study consolidates assistive living information with various perspectives, and present assistive living information. This information is analyzed in relation to universities, research centers, companies/organizations, funding and timeline. By this research we found that several organizations and universities running considerable numbers of research projects with significant funding amount.

Keywords— Assistive technology, Assistive Technology devices, survey report, research in healthcare, research in Universities.

I. INTRODUCTION

Assistive technology [1] includes assistive, adaptive, and rehabilitative devices for elder or disable persons these devices enable elder or disable persons to select, locate and using them [2]. Elder or disable persons improve their physical and learning capabilities by using Assistive Technology Devices. The latest evolution in electronic technology field, make possible to develop small, powerful and low cost computers on a small chip that can be easily integrate with daily life using items such as home appliance, vocals and tools etc. making them smarter and interactive with the environment. Latest evolution in electronic technology enable Assistive Technology Devices (ATD) to support the elder or disable persons but also have the ability to communicate with each other and with central controlling system.

ATD encourage better independence [3] by enabling elder or disable persons to perform tasks that they were formerly unable to accomplish [4, 5, 6] by offering improvement to or changed technique [7, 8] of interacting with the technology needed to achieve such tasks [9] Mobile technology and information and communication technology enables several applications to facilitate physically/mentally impaired persons. Considering the importance of this technology, different research projects are working on make these applications possible through diverse funding streams specially research in UK and all over the world.

In this connection, this research investigates and provides a landscape study (UK region) for assistive living technologies [10, 11, 12] and reports, assistive living projects/research conduct (Current and past) by several organizations and universities in UK, Involvement of several funding bodies for assistive living work, funding allocated to various research/projects with associated time period and involvement of several companies and organizations in

assistive living work .

II. RESEARCH METHOD

This research provides the information in relation to organization and companies engage in assistive living research The information is available project wise and in tabular form for analyzing various perspectives. Each project information is available in relation to funding bodies, timeline and allocated fund for that project. Detail description is also available for each project. This research analyze the various aspect of funded research including period of each project and funding amount. This research also calculates various areas of funding streams for assistive technology research and innovation with total allocation of funds in each area. This study supports the future planning and trends for assistive technology researchers for putting their efforts in particular direction.

III. COMMERCIAL VIEW OF AL

It is important to analyze commercial aspect of the Assistive Living Technology for understanding the ratio of research streams into commercially viable products. This section elaborates commercial aspect of AL. For this purpose, table 1 present companies/organizations involvement with AL and consolidate work/projects according to the following timeline.

- 1st Jan 1997 to 31st Dec 2000
- 1st Jan 2001 to 31st Dec 2004
- 1st Jan 2003 to 31st Dec 2008
- 1st Jan 2009 to 31st Dec 2012

Total funding is also present for every timeline; however, few projects have not disclosed their funding. Few projects have no time given which are consolidated in the end of following Section (IV). The shorter version of companies involve with AL work available in section (IV) This section consolidate project with respect to timeline.

Table 1

S.No	Organisations/Companies	Projects	Funding	Cost	Time line
1	Fast - Foundation for Assistive Technology	Research Project - Advanced Wheelchair Controls	Nuffield Foundation	£13,878	13 th Aug 1997 31 st Aug 1998
2	CHST - Centre for Human Service Technology - University of Southampton	IMPACT - Increasing the IMPACT of Assistive Technology	European Commission	Not disclosed	1 st Jan 1998 1 st Jul 1999
3		Control of assistive technology using dysarthric speech		Not Disclosed	1 st Apr 1998 31 st Mar 2002
4	CRC - Central Remedial Clinic	ICAN - Integrated Communication and Control for all needs	European Commission - TIDE (Telematics for the Integration of Disabled and Elderly people)	Not Disclosed	1 st Jun 1998 31 st May 2001
5	A TEC - Assistive Technology Evaluation Centre	Wheeled Walking frames		Not disclosed	1 st Jan 1999 1 st Sep 1999
6		Telemetric Multidisciplinary Assistive Technology Education	European Commission - TIDE (Telematics for the Integration of Disabled and Elderly people)	£450,000	1 st Jan 1999 1 st Dec 2000
7	Madhouse Software Productions School of Computing and Management Sciences, Sheffield Hallam University	Virtual Wheelchair Interface		Not disclosed	1 st Jan 1999 31 st Dec 2002
8	Northampton Social Services	ASTRID - A Social and Technological Response to meeting the needs of Individuals with Dementia and their carers	European Commission	€200,000 £176,000 (Approx)	15 th Mar 1999 1 st Sep 2000
9	A TEC - Assistive Technology Evaluation Centre	Text phones		Not disclosed	1 st Jan 2000 1 st Mar 2000
10	Oxford Computer Consultants	PARREHA - Rehabilitation IT Aid for Parkinsons Disease		Not Disclosed	1 st Jan 2000 31 st Dec 2002
Total funds during 1st Jan 1997 to 31st Dec 2000 (Funding are not disclosed for 7 projects)				£639,878	
11		Cognitive Assessment Method for Assistive Technology		Not Disclosed	1 st Jan 2001 1 st Jan 2002
12	Family Mosaic	Elmington Supported Living Scheme, Southwark		Not Disclosed	1 st Jan 2001 1 st Jan 2004
13	Institute of Gerontology - Kings College London	Introducing assistive technology into older people's homes: feasibility, acceptability, cost and outcomes	EPSRC - Engineering and Physical Sciences Research Council	£402,902	1 st Sep 2001 31 st Jul 2003
14	Foyle Health and Social Services Trust	Going Home, Staying Home Project	Northern Ireland Housing Executive	£669,000	1 st Oct 2001 31 st May 2005
15	Dept of Electronics and Electrical Engineering - University of Glasgow	Increasing Social Inclusion and Participation for People with Disabilities: the Role of Education and Training		Not Disclosed	1 st Jan 2002 1 st Jan 2004
16	Assistive Technology Team, Medical Physics	LOCOMOTION - Location-based mobile	Assistive Technology Team, Medical Physics	€2,400,000 £2,112,000	1 st Apr 2002 31 st Oct 2004

	Department - Barnsley Hospital NHS Foundation Trust	phones applications for independent living of disabled and elderly citizens	Department - Barnsley Hospital NHS Foundation Trust	(Approx)	
17	Assistive Technology Team, Medical Physics Department - Barnsley Hospital NHS Foundation Trust	FATE - Falls and Telecare Evaluation	South Yorkshire Coalfields Health Action Zone (HAZ)	£86,000	1 st July 2002 1 st Aug 2003
18	CREST - Centre for Rehabilitation & Engineering Studies - University of Newcastle upon Tyne	I-MATCH		€2,414,522 £2,124,779 (Approx)	1 st Nov 2002 20 th Apr 2006
19	Sandwell Metropolitan Borough Council	Sandwell Telecare Project		Not Disclosed	1 st Jan 2003 1 st Jan 2004
20	Electronic Assistive Technology Service - Lincoln Healthcare NHS Trust	Preliminary Evaluation of Windows XP Media Center Edition for Use by a Person with Severely Impaired Motor Function		Not Disclosed	1 st Jan 2003 1 st Nov 2004
21	School of Computing & Creative Technologies - University of Abertay	Remote rehabilitation using an intelligent exoskeleton with web-based control	Department of Health - New and Emerging Applications of Technology (NEAT)	£231,637	1 st Jan 2003 31 st Aug 2006
22	Dementia Voice	At Home with AT: An evaluation of the practical and ethical implications of assistive technology and devices to support people with dementia and their carers	Sir Halley Stewart Trust	£48,152	2 nd Jan 2003 31 st Dec 2004
23	Assistive Technology Team, Medical Physics Department - Barnsley Hospital NHS Foundation Trust	ARTEMIS - Advanced Rehabilitation Technologies for Elderly and Mobility impaired persons applied through Innovative Internet Services		€2,368,000 £2,083,840 (Approx)	1 st Jul 2003 20 th Sep 2006
24	Spinal Unit - Salisbury District Hospital	THRIVE - Tele reHAbilitation thRough Interactive Video Endorsement Study	NHS London	£173,598	1 st Jul 2003 31 st Oct 2006
25		Supporting Independence: New Products, New Practices, New Communities	EPSRC - Engineering and Physical Sciences Research Council	£695,976	1 st Oct 2003 31 st Mar 2007
26	Division of Primary Care - University of Liverpool	INDEPENDENT - Investigating Enabling Domestic Environments for People with Dementia	EPSRC - Engineering and Physical Sciences Research Council	£605,589	1 st Nov 2003 23 rd Apr 2007
27		OLP - Ortho-Logo-Paedia		€1,370,000 £1,205,600 (Approx)	1 st Jan 2004 31 st Dec 2004
28	Assistive Technology Team, Medical Physics Department - Barnsley Hospital NHS Foundation Trust	Chronic Heart Failure: telecare monitoring at home	EPSRC - Engineering and Physical Sciences Research Council	£695,976	1 st Jan 2004 31 st Mar 2007
29	POLIS	POLIS - Universal Building Design	European Commission - FP6	Not Disclosed	1 st Jan 2004 1 st Jan 2008
30	Royal Hospital for Neuro-disability	Evaluation of switch skills for access to assistive technology using an electronic data logger:	Neuro Disability Research Trust NHS London	€20,050 £17,644 (Approx)	1 st Mar 2004 30 th Nov 2004

		a pilot study			
31		AT4I - Assistive Technology for Independence	Neighbourhood Renewal Unit	£293,642	1 st Apr 2004 31 st Mar 2006
32		EATerg - Electronic Assistive Technology External Reference Group		Not Disclosed	29 th Apr 2004 On going
33	MRC Spatial Disorientation Group - Imperial College School of Medicine	Evaluation Of A Vibro-Tactile Sensory Aid Project - Development of a tactile vest	NHS London MRC - Medical Research Council	£231,069	1 st Jun 2004 1 st Jun 2007
34		CWST - Conferences, Workshops, Seminars and Tutorials for support e-inclusion	European Commission - FP6	€449,995 £395,995 (Approx)	1 st Jul 2004 30 th Jun 2009
35	ACE Centre	KPT - Keeping Pace with (Assistive) Technology	European Commission - Leonardo da Vinci Programme	Not Disclosed	1 st Nov 2004 31 st Oct 2007
36	Assistive Technology Team, Medical Physics Department - Barnsley Hospital NHS Foundation Trust	VIVOCA - Voice Input Voice Output Communication Aid	Department of Health	£309,355	1 st Nov 2004 1 st Nov 2007
Total Funds during 1st Jan 2001 to 31st Dec 2004 (Funding are not disclosed for 8 projects)				£12,382,754	
37	ACE Centre	OATS - Open Source Assistive Technology Software - a pilot project		Not disclosed	1 st Jan 2005 31 st Mar 2006
38	Isle of Anglesey County Council	Enhanced Sheltered Housing on Anglesey: Assistive Technology Pilot Scheme	Welsh Assembly	£203,208	1 st Jan 2005 30 th Sep 2007
39	Dept of Computing - Lancaster University	MDDS - Method for Dependable Domestic Systems: A Checklist for the Dependability Assessments of Assistive Technology Systems		Not Disclosed	1 st Jan 2005 1 st Jan 2008
40	CUHTec - Centre for Usable Home Technology	Identifying Key Needs of People with Dementia that can be Supported by Technology in the Home	EPSRC - Engineering and Physical Sciences Research Council	£48,000	1 st Mar 2005 30 th Sep 2007
41	Royal Hospital for Neuro-disability	Effects of positioning of complex seating systems on swallowing performance in dysphagic adults with severe neurological disability	Neuro Disability Research Trust Sir Jules Thorn Charitable Trust NHS R&D Transitional Funding	£5,991	1 st Apr 2005 30 th Apr 2007
42	Maelor Hospital - Audiology Department	Investigation of the benefits of a volunteer support scheme for adult hearing-aid users	Powys Local Health Board	Not disclosed	30 th Jul 2005 28 th Feb 2009
43	Trent Dementia Services Development Centre	National Information Resource of Assistive Technologies for People with Dementia	Department of Health - Section 64 grant	£165,940	1 st Sep 2005 31 st Jul 2009
44	Dept of Computing Science and Mathematics - University of Stirling	MATCH - Mobilising Advanced Technologies for Care at Home	Scottish Funding Council (SFC)	£1,274,324	1 st Nov 2005 31 st Oct 12
45	Chailey Heritage Clinical Services	Effect of different angles of tilt-in-space wheelchairs on the posture and function of children with cerebral	NHS R&D Transitional Funding APCP - Association of Paediatric Chartered Physiotherapists	Not disclosed	22 nd Dec 2005 1 st Sep 2007

		palsy			
46	Division of Applied Biomedical Research-Kings College London	Approaches to Decision-Making in Assessment for Assistive Technology	Division of Applied Biomedical Research-Kings College London	Not Disclosed	1 st Jan 2006 1 st Jan 2009
47	Park Hospital	Evaluation of Two Virtual Reality Technologies with the Potential to Teach Children with Autism Spectrum Disorders	NESTA - National Endowment for Science, Technology and the Arts	£30,000	31 st Jan 2006 31 st Jul 2007
48	ACE Centre	Windowcatcher	Gatsby Charitable Foundation	Not disclosed	1 st Mar 2006 1 st Sep 2006
49	ACE Centre	Models of Multi-disciplinary Working in Children's Trusts	Children, Young People and Families Grant Programme (CYPF) - Department for Children, Schools and Families	£270,000	1 st Apr 2006 31 st Mar 2009
50	Barnsley Hospital NHS Foundation Trust	ALMS - Advanced Lifestyle Monitoring Systems	NIHR - Health Technology Devices (HTD)	£770,700	1 st Apr 2006 31 st Mar 2010
51	Assistive Technology Team at the Barnsley Hospital NHS Foundation Trust	ALMS - Advanced Lifestyle Monitoring Systems	National Institute of Health Research NIHR) Health Technology Devices (HTD) programme,		Apr 2006 Mar 2010
52	Walton Centre for Neurology and Neurosurgery NHS Trust	Reasons for non-use of electronic assistive technology (EAT) within a motor neurone population using a grounded theory approach	NHS R&D Transitional Funding	Not Disclosed	1 st Jun 2006 1 st Jun 2007
53	Centre for Speech Technology Research - University of Edinburgh	Automatically-determined unit inventories for unit selection text-to-speech synthesis	EPSRC - Engineering and Physical Sciences Research Council	£238,471	1 st Jun 2006 31 st May 2009
54	Dyslexia Action	Agent-Dysl: Accomodative Intelligent Educational Environments for Dyslexic Learners	EU FP6 programme		Sep 2006 Sep 2009
55	RNCB - Royal National College for the Blind	AHVIT-ACCESS - Audio Haptics for Visually Impaired Information Technology	European Commission - Leonardo da Vinci Programme	€365,335 £321,494 (Approx)	1 st Oct 2006 30 th Sep 2008
56	Advanced Care Technologies (ACT) Programme	ACT - Advanced Care Technologies Project	European Regional Development Fund Objective One	£1,900,000	1 st Oct 2006 1 st Oct 2008
57	Assistive Technology Team, Medical Physics Department - Barnsley Hospital NHS Foundation Trust	MAAVIS: Managed Access to Audio, Visual and Information Services	European Regional Development Fund Objective One	Not disclosed	1 st Oct 2006 1 st Oct 2008
58		AHVITED – Audio Haptics for Visually Impaired Training and Education at a Distance	European Commission Leonardo Da Vinci programme	€576,434 £507,261 (Approx)	1 st Oct 2006 1 st Sep 2009
59	UCL Centre for International Health and Development	TEENAGE WORLDS. DIFFERENT VOICES: an ethnographic study of identity and the lifeworlds of disabled teenagers who use AAC	ESRC - Economic and Social Research Council MRC - Medical Research Council	£60,000	1 st Oct 2006 1 st Jan 2010
60	RNCB - Royal National College for the Blind	E-YES	European Commission - Leonardo da Vinci Programme	€370,522 £326,059 (Approx)	1 st Nov 2006 30 th Sep 2008

61	Peninsula Technology Assessment Group	Effectiveness and cost-effectiveness of cochlear implants for severe to profound deafness in children and adults		Not disclosed	13 th Nov 2006 20 th Sep 2007
62	Centre for Speech Technology Research - University of Edinburgh	What makes synthetic speech difficult to understand for older people? The contribution of auditory ageing	BBSRC - Biotechnology and Biological Sciences Research Council EPSRC	£17,775	1 st Dec 2006 1 st Jun 2007
63	ORLAU - Orthotic Research and Locomotor Assessment Unit	Improved walking potential for mobility impaired patients. The Movement Centre Ski Walker	NIHR - Health Technology Devices (HTD)	£28,594	1 st Jan 2007 31 st Dec 2008
64	VMW Solutions	INHOME: an INtelligent INteractive services environment for assisted living at HOME	European Commission - FP6	€2,300,000 £2,024,000 (Approx)	1 st Jan 2007 31 st Dec 2008
65	Research Institute for the Built and Human Environment Edinburgh College of Art	IDGO TOO - Inclusive Design for Getting Outdoors 2	EPSRC - Engineering and Physical Sciences Research Council	£900,000	2 nd Jan 2007 1 st Apr 2011
66	ORLAU - Orthotic Research and Locomotor Assessment Unit	Feasibility study for a cyclic contracture correction device	NIHR - Health Technology Devices (HTD)	£32,361	1 st Feb 2007 1 st Feb 2008
67	Culture Lab - School of Computing Science, Newcastle University	Ambient Kitchen	CELS - Centre of Excellence for Life Sciences	£30,000	1 st Feb 2007 31 st Dec 2008
68	Faculty of Computing and Engineering - University of Ulster	Use of Talking Tactile Tablets to Support Students with Visual Impairment	JISC TechDis The Higher Education Academy	Not Disclosed	1 st May 2007 1 st May 2008
69	ACE Centre North	Let's All Play	Big Lottery Fund	£172,259	1 st Aug 2007 1 st Aug 2009
70	Department of Allied Health Professions - Canterbury Christchurch University	Exploring teachers' perceptions of postural management programmes for children with complex physical disabilities within mainstream education	PMG - Posture and Mobility Group	£4,990	1 st Oct 2007 31 st Mar 2008
71	Applied Vision Research Unit - Loughborough University	Attention Responsive Technology Implementation For Independent Control of the Environment (ARTIFICE)	EPSRC - Engineering and Physical Sciences Research Council	£97,259	1 st Oct 2007 30 th Sep 2008
72	Innovations in Dementia CIC	Innovations in Dementia	NESTA - National Endowment for Science, Technology and the Arts	£27,300	1 st Nov 2007 1 st Dec 2008
73	Glasgow School of Art	Innovation in envisioning dynamic biomechanical data to inform healthcare and design practice	NDA - New Dynamics of Ageing Research Programme	£151,900	1 st Nov 2007 1 st Feb 2009
74	Hereward College	ATVET	European Commission - Leonardo da Vinci Programme	€398,000 £350,240	1 st Nov 2007 31 st Oct 2009
75	National Hospital for Neurology and Neurosurgery	Web-based rehabilitation of hemianopic alexia	Stroke Association	£161,704	1 st Nov 2007 31 st Jul 2011

76	BIME - Bath Institute of Medical Engineering Ltd.	Low voltage night light development		£6,000	1 st Jan 2008 30 th Apr 2009
77	Ability net - Central England	Play AT IT project	Big Lottery Fund	£248,395	1 st Jan 2008 30 th Dec 2009
78	Digital Media & Systems Research Institute - University of Bradford	HERMES - Cognitive Care and Guidance for Active Ageing	European Commission - FP7	€2,800,000 £2,464,000 (Approx)	1 st Jan 2008 31 st Dec 2010
79	Faculty of Computing and Engineering - University of Ulster	SMART 2: Self Management supported by Assistive, Rehabilitation and Telecare Technologies	EPSRC - Engineering and Physical Sciences Research Council	£2,300,000	1 st Jan 2008 31 st Dec 2011
80	Assistive Technology Team, Medical Physics Department - Barnsley Hospital NHS Foundation Trust	What do users really want from communication aids?	D4D HTC - Devices for Dignity Healthcare Technology Co-operative	£10,000	1 st Jan 2008 1 st Jan 2011
81	DLF - Disabled Living Foundation	AT Information Network for the Future	Department of Health - Third Sector Investment Programme	£225,000	1 st Apr 2008 31 st Mar 2011
82	FAST - Foundation for Assistive Technology	Supporting People to Choose and Use Technology for Self Care	Department of Health - Third Sector Investment Programme	£130,100	1 st Apr 2008 31 st Mar 2011
83	Assistive Technology Team, Medical Physics Department - Barnsley Hospital NHS Foundation Trust	Assistive Technology Innovations Broker	D4D HTC - Devices for Dignity Healthcare Technology Co-operative	£21,000	1 st May 2008 1 st May 2010
84	ADI - Advanced Digital Institute	TV-based Video Telephony Platform for Assisted Living and Tele-Health	Technology Strategy Board (TSB) ALIP - Assisted Living Innovation Platform	£1,500,000	1 st Jul 2008 31 st Dec 2010
85	BIME - Bath Institute of Medical Engineering Ltd.	An international workshop on the implementation of assistive technology for people with dementia	EPSRC - Engineering and Physical Sciences Research Council	£19,962	1 st Aug 2008 31 st May 2009
86	Research Department of Mental Health Sciences - University College London	SHIELD - Support at Home Interventions to Enhance Life in Dementia: home treatment programme	NIHR - Programme Grant for Applied Research	£1,981,951	1 st Aug 2008 31 st Jul 2012
87	Chailey Heritage Clinical Services	Effectiveness and feasibility of intensive short-term graded exercise programmes, using either treadmill or static exercise bicycle, for non-ambulant children and young people with cerebral palsy.	NIHR - Research for Patient Benefit (RfPB) Programme	£64,258	1 st Sep 2008 31 st Aug 2010
88	National Clinical FES Centre	Randomised Controlled Trial of an Accelerometer Triggered Functional Electrical Stimulation Device for Recovery of Upper Limb Function in Chronic Stroke Patients	Stroke Association	£195,000	1 st Sep 2008 30 th Aug 2011
89	Digital Access Provision Forum	Health hub: user-centred design, development and integration with the built environment	ALIP		Sep 2008 Jul 2011

90	Tynetec	An evaluation of the potential benefits of proactive preventative telecare and telehealth systems	The Technology Strategy Board (TSB) through its Assisted Living Innovation Platform (ALIP)		Oct 2008 Mar 2010
91	Medilink West Midlands	i-DEAL - Intelligent Design Engine for Assisted Living	Technology Strategy Board (TSB) ALIP - Assisted Living Innovation Platform EPSRC-	£1,500,000	1 st Oct 2008 30 th Sep 2010
92	Walsall Deaf People's Centre (WDPC)	BASE - BASic English for deaf adults	Government	€244,659 £215,299 (Approx)	1 st Oct 2008 31 st Mar 2011
93	Faculty of Health, Psychology & Social Care - Manchester Metropolitan University	Smart Distress Monitors	Technology Strategy Board - Collaborative research and development	£203,893	1 st Oct 2008 31 st Mar 2011
94	Docobo UK Ltd	PEACE - PErsonAI Care Environments delivering support for vulnerable people	Technology Strategy Board (TSB) ALIP - Assisted Living Innovation Platform	£1,740,335	1 st Oct 2008 1 st Oct 2011
95	Tunstall Group Ltd	VirtEx	Technology Strategy Board (TSB) ALIP - Assisted Living Innovation Platform	£2,003,128	1 st Oct 2008 1 st Oct 2011
96	RNCB - Royal National College for the Blind	AHVITED - Audio Haptics for Visually Impaired Training and Education at a Distance	European Commission - Leonardo da Vinci Programme	€370,966 £326,450 (Approx)	1 st Nov 2008 1 st Oct 2010
97	Multimodal Interaction Group - University of Glasgow	TOBI - Tools for brain-computer interaction	European Commission - FP7	€12,000,000 £10,560,000 (Approx)	1 st Nov 2008 31 st Oct 12
Total Funds during 1st Jan 2003 to 31st Dec 2008 (Funds are not disclosed for 12 projects)				£35,834,601	
98	Division of Health and Social Care Research - King's College London	The changing healthcare paradigm and assistive technology: what aspects do wheelchair users want to be involved in when choosing their wheelchair?	Division of Health and Social Care Research - King's College London	£60,000	1 st Jan 2009 30 th Sep 2011
99	HFT - Home Farm Trust Ltd	ImPaCT in Europe - Improving Person Centred Technology in Europe	LLP - European Commission's Lifelong Learning Programme	Not Disclosed	1 st Jan 2009 31 st Dec 2011
100	National Clinical FES Centre	ATRAS - Assistive Technologies for Rehabilitation of the Arm following Stroke	NIHR - Programme Grant for Applied Research	£803,231	15 th Mar 2009 15 th Mar 2014
101	Global Security Intelligence Limited	HAPPY AGEING - a Home Based APPROach to the Years of AGEING	AAL - Ambient Assisted Living Joint Programme Technology Strategy Board - Collaborative research and development	€1,674,695 £1,473,731 (Approx)	1 st Apr 2009 30 th Mar 2011
102	Southampton Health Technology Assessment Centre	The clinical and cost-effectiveness of bone anchored hearing aids (BAHAs) for people who are bilaterally deaf	NIHR Health Technology Assessment (HTA) Programme	£178,793	1 st May 2009 30 th Apr 2010

103	Assistive Technology Team, Medical Physics Department - Barnsley Hospital NHS Foundation Trust		Barnsley Health and Social Care Research & Development Alliance	£7,000	1 st Jun 2009 30 th Aug 2010
104	School of Medicine - University of Manchester	Research in OsteoArthritis Manchester (ROAM)	Arthritis Research UK	£1,834,910	26 th Jun 2009 26 th Oct 13
105		AL: Personal and social communication services for health and lifestyle monitoring	EPSRC Technology Strategy Board - Collaborative research and development	£804,252	1 st Jul 2009 30 th Jun 2012
106	Charter & Plan Ltd	West Midlands Automated Pill Dispenser Pilot	Improvement and Efficiency West Midlands (IEWM) NHS Innovations West Midlands	£140,000	3 rd Jul 2009 31 st Mar 2011
107	Dolphin Computer Access	Accessible Resources Pilot Project	DCSF - Department for Children, Schools and Families	Not disclosed	1 st Sep 2009 31 st Dec 2010
108	Clinical Sciences Research Institute (CSRI) - Warwick Medical School	Analysis of different rehabilitation strategies to improve recovery after Achilles tendon rupture	Arthritis Research UK	£124,580	1 st Sep 2009 30 th Aug 2013
109	Primary Care Clinical Sciences- University of Birmingham	A cluster randomised controlled trial of an occupational therapy intervention for residents with stroke living in UK care-homes	NIHR Health Technology Assessment (HTA) Programme	£1,930,486	1 st Sep 2009 30 th Aug 2014
110	School of Computing and Intelligent Systems - University of Ulster	Intelligent Pre- and Post-Processing Algorithms for Autonomous Multiclass Brain-Computer Interfaces	EPSRC - Engineering and Physical Sciences Research Council	£101,963	1 st Oct 2009 30 th Sep 2011
111	ADI - Advanced Digital Institute	Utilising communications technologies for anytime and anywhere assisted living	Technology Strategy Board (TSB) ALIP - Assisted Living Innovation Platform	Not Disclosed	1 st Oct 2009 30 th Dec 2011
112	Docobo UK Ltd	PEACEanywhere - PErsonAl Care Environments anywhere at anytime	ALIP - Assisted Living Innovation Platform	£2,428,909	1 st Oct 2009 30 th Jun 2012
113	Geography & Environment - University of Aberdeen	Rural Digital Economy Research Hub	EPSRC - Engineering and Physical Sciences Research Council	£12,360,027	1 st Oct 2009 30 th Sep 2014
114	Assistive Technology Team, Medical Physics Department - Barnsley Hospital NHS Foundation Trust	Accessible Receptive Language Assessment	D4D HTC - Devices for Dignity Healthcare Technology Co-operative	£7,000	1 st Jan 2010 30 th Sep 2010
115	Cumbria County Council	Proposal to invest in Portable Assistive Technology to Facilitate better Social Care Assessment Processes	Cumbria County Council	£11,000	1 st Jan 2010 30 th Jun 2011
116	Physiotherapy department - Queen Margaret University Edinburgh	Effects of functional electrical stimulation (FES) on walking, performance, fatigue, activities of daily living and quality of life in people with MS	Multiple Sclerosis Society	£94,027	1 st Jan 2010 31 st Dec 2012
117	Assistive Technology Team, Medical Physics Department - Barnsley Hospital NHS	Maavis Knowledge Transfer project	University of Sheffield Knowledge Transfer Projects Fund	£10,000	1 st Feb 2010 31 st Jul 2010

	Foundation Trust				
118	SCHARR - School of Health and Related Research - University of Sheffield	VIVOCA2	NIHR - Health Technology Devices (HTD)	£753,000	1 st Mar 2010 1 st Oct 12
119	ATcare	Assistive Technology Diagnostic Tool	Department of Health - Social Enterprise Investment Fund (SEIF)	£99,000	1 st Apr 2010 31 st Aug 2010
120	UCLIC - University College London Interaction Centre	Pain rehabilitation: E/Motion-based automated coaching	EPSRC - Engineering and Physical Sciences Research Council	£1,504,100	1 st May 2010 30 th Apr 2014
121	Division of Applied Biomedical Research- Kings College London	Assistive technology for people with Parkinson's -- does it work?	Parkinson's UK	£164,000	4 th May 2010 4 th Nov 2012
122	Kellogg College - University of Oxford	Assistive Technology for Independent Learning		Not disclosed	1 st Oct 2010 30 th Apr 12
123	Human-Computer Interaction Research Group - University of York	i2Web	European Commission - FP7	£2,700,000 £2,376,000	1 st Nov 2010 30 th Apr 13
124	Faculty of Health and Life Sciences - Coventry University	Fall Detectors - What do users want?	NHS West Midlands Innovation Fund	Not Disclosed	1 st Jan 2011 31 st Dec 2011
Total Funds during 1st Jan 2009 to 31st Dec 2012 (Funds are not disclosed for 5 projects)				£27,266,009	
125	Assistive Technology Team, Barnsley Hospital NHS Foundation Trust,	SPECS - Speech-driven Environmental Control Systems	NIHR HTD		
126	Assistive Technology Team, Medical Physics Department - Barnsley Hospital NHS Foundation Trust	STARDUST - Speech Training and Recognition for Dysarthric Users of Assistive Technology	Department of Health - Research and Development Directorate	£89,918	
127		SNAPI - Special Needs Application Program Interface project		Not Disclosed	
128	Physiotherapy department - Queen Margaret University Edinburgh	The effects of functional electrical stimulation (FES) on walking performance, fatigue, activity of daily living (ADL) and quality of life in people with MS	Multiple Sclerosis Society	£94,027	
Total funds without timeline (funds are not disclosed for 2 projects)				£183,945	
Total Funding during 1st Aug 1997 to 1st Jan 2011 (34 projects are included without funding)				£76,307,187	

IV. FINDINGS

In association with the above Section (III) (commercial aspect for research and development of AL), this is observe that Sufficient financial benefit is assigned to assistive livelihood study and research and Large number of associations involve for commercializing assistive livelihood yields as well as Enhancement/Refinement of Technology and true assistive livelihood for elder populace and public with disabilities contains serious gap.

V. SCOPE

UK has been considered as a case in this investigation, whereas considerable study is going in the rest [13, 14, 15] the case based study performed on UK shown the weight of this study all over the earth. On the other hand, it has several precincts such as this work looks into data from internet, but

not from the health care professionals' standpoint. In totaling their viewpoint can present more indulgent for problems facing by older or disabled persons. It may offer appreciative of tribulations in front of experts for caring older or disabled persons and this study may not contain experts' opinion operating on assistive living technologies. In reality the Adding their view can supply major kind for technology constraint for assistive livelihood products.

VI. CONCLUSION

This study found that significant funding is allocated for assistive living research during 1997 and 2012. A considerable number of companies and organizations involve for commercializing assistive living products. There are noteworthy numbers of projects, engage for collaborative assistive living research and a significant number of

universities and research centers involve in assistive living work. However, there is significant gap between technology advancement and true assistive living for older population and people with disabilities. So, there is further need for assistive living technology research for development of various products or improvement in existing products. There is need for understanding the new technology potential for supporting the daily life. There is need for assistive living research with two perspectives, understanding of technology enhancement which can help for assistive living expansion and understanding of actual problems which need to be address such as wheel chair performance and automation (systems which can work without carers).

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