



LOTI Assistive Technology Research Brief

About LOTI

The London Office of Technology and Innovation (LOTI) was established to help its members (17 London boroughs, the GLA and London Councils) to collaborate on projects that bring the best of digital, data and innovation to improve public services and outcomes for Londoners. Read more about our work at: <https://loti.london/>

Context

London boroughs are interested in the potential of Assistive Technologies (AT) to help improve aspects of their social care provision and reduce the overall cost of care.

While assistive technology can refer to any device, software, or equipment that helps people work around their challenges, LOTI's primary interest is in *digital* ATs, for example, text-to-speech software, voice assistants like Amazon Alexas, smart watches, Internet of Things-enabled fall-alarms, motion detectors, and so on. At LOTI, we recognise that technology alone is rarely a complete solution. ATs nearly always need to be accompanied by changes to process and service patterns to be effective.

The use of AT has become even more important in light of Covid, which has increased the needs of some residents and placed greater demand on council services. Yet many councils report feeling uncertain about how to get the best value from ATs. As part of [LOTI's 2020 strategy](#), we wish to support boroughs to use Assistive Technology effectively and particularly to explore the role of ATs - and the new service patterns they can enable - in supporting their Covid Recovery work.

The problem we want to address

While numerous AT trials have been conducted by local authorities, charities and health organisations around the world, few come with robust or comparable evaluations showing their effectiveness, Return on Investment (ROI) and standard of evidence. Even where evaluations have been conducted, it can be hard to find the results, as they are dispersed across the internet. There is therefore a risk that councils fail to learn from and build on each others' experiences about what does and does not work, and spend money on unnecessary pilots on ATs whose effectiveness has already been (dis)proven.

What we want to do

LOTI wishes to commission the following pieces of research to strengthen our boroughs' collective knowledge about the role and effectiveness of assistive technologies.

WP 1 - Web research on use of smart water bottles	
Duration	1 Day
Deadline	To be submitted to LOTI by 10am 9 October 2020.
Objective	To help inform a specific pilot being proposed by LOTI boroughs on the use of smart water bottles (those which include a mechanism to remind users to drink) to improve hydration and thereby help reduce hospital admissions of care home residents.
Task	<ul style="list-style-type: none"> ● Conduct web research (articles, blogs, academic journals, etc) to identify examples, results and evidence concerning: <ul style="list-style-type: none"> ○ The use of smart water bottles - particularly by local authorities, health organisations or care homes - to improve hydration amongst older demographics; ○ The use of any other technology (such as an app, smart watch, voice assistant, etc.) to remind users to drink regularly. ● Sources do not need to be restricted to the UK - international examples are welcome.
Deliverable	<ul style="list-style-type: none"> ● Concise written summary of relevant information found. For each source found, we require: <ul style="list-style-type: none"> ○ one paragraph summarising the salient details ○ a link to the source. ● The document should end with a conclusion outlining: <ul style="list-style-type: none"> ○ Any overall themes / lessons ○ Notes on the quality / limitations of the sources discovered

WP 2 - Case Study Collection and Review - Web Research	
Duration	5 Days
Objective	To help LOTI and its boroughs understand and gain visibility of the breadth and quality of existing cases studies available online on the use of Assistive Technologies.

Task	<p>Conduct web research to identify and collate details of existing case studies on the use of digital ATs, their use cases and effectiveness and enter them into a common template.</p> <ul style="list-style-type: none"> • Sources do not need to be restricted to the UK - international examples are welcome. • The research should not include sources that are simply product descriptions from suppliers, unless they are linked to clear evidence of their use in practice
Deliverable	<p>Case studies should be entered into this spreadsheet, which is drawn from a common template designed to provide the key details that LOTI boroughs have said are important for informing their own work.</p> <ul style="list-style-type: none"> • All case studies should at minimum include the details required in columns A-D. • The researcher should record any additional available information about the case study in columns E-Q. If no information is available for a specific column, "No information provided" should be entered. <p>In a separate written document, we require the researcher's conclusions on:</p> <ul style="list-style-type: none"> • The quality / limitations of the sources discovered • Which sources provide the best case studies • Names of any organisations identified as having access to more information on AT case studies (that may not be shared online) • The extent to which it was possible to find information for each of the headings shown in the spreadsheet.

WP 2.1 - Case Study Collection and Review - Web Research on specific technologies and outcomes for users of ATs	
Duration	5 Days
Objective	Building on the evidence base created as part of WP2, the outputs of this work package will help LOTI and its boroughs better understand the effectiveness of existing case studies which focus on technologies and outcomes for users as outlined below.
Task	Conduct web research to identify and collate details of existing case studies focusing on:

	<ul style="list-style-type: none"> • The use of Passive Infrared Technology (and potentially telecare). • Specific outcomes categories, such as: <ul style="list-style-type: none"> a. Assisting or supporting with hospital discharge b. Promoting medicine intake and adherence to recommended dosage c. Preventing falls or reducing hospital admissions d. Promoting independence e.g. helping people to shop and cook independently e. Managing conditions such as dementia f. Managing mental health issues g. Reducing social isolation <p>For case studies identified as part of WP2 and any additional ones identified as part of this work package:</p> <ul style="list-style-type: none"> • Assess and systematically record the effectiveness of each individual case study by using the Mixed Method Assessment Tool • Categorise case studies by the outcomes they sought to realise. <ul style="list-style-type: none"> • Sources do not need to be restricted to the UK - international examples are welcome. • The research should not include sources that are simply product descriptions from suppliers, unless they are linked to clear evidence of their use in practice
Deliverable	<p>Case studies should be entered into this spreadsheet, which is drawn from a common template designed to provide the key details that LOTI boroughs have said are important for informing their own work.</p> <ul style="list-style-type: none"> • All case studies should at minimum include the details required in columns A-F, paying particular attention to columns C and D. • The researcher should record any additional available information about the case study in columns E-Q. If no information is available for a specific column, "No information provided" should be entered. <p>In a separate written document, we require the researcher's conclusions on:</p> <ul style="list-style-type: none"> • The quality / limitations of the sources discovered

	<ul style="list-style-type: none"> • Which sources provide the best case studies • Names of any organisations identified as having access to more information on AT case studies (that may not be shared online) • The extent to which it was possible to find information for each of the headings shown in the spreadsheet.
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WP 3 - Creation of LOTI AT case study library	
Duration	TBC
Objective	To source AT case studies from each LOTI borough so that their details can be shared with and inform the actions of the LOTI community.
Task	Set up a survey and conduct interviews with AT Leads at LOTI boroughs to collect evidence they have on their own AT trials and input them into the common template (see survey format at the end of this document).
Deliverable	Completed common template with AT case studies from LOTI each borough.

WP 4 - Existing Case Study Collection and Review - Offline Sources	
Duration	TBC
Objective	To help LOTI and its boroughs understand and gain visibility of the breadth and quality of existing cases studies currently not fully available online.
Task	<p>Follow up with relevant organisations (shortlisted by LOTI and identified during WP2) by phone and email to source case studies that may be incompletely shared online and input them into the common template, which outlines the key information LOTI boroughs would like to know. Relevant organisations include, but are not limited to:</p> <ul style="list-style-type: none"> • iCUHTec • TEC Services Association • Local Government Association

	<ul style="list-style-type: none">● Global Disability Innovation (GDI) Hub● Digital Boomers programme, Essex
Deliverable	<p>Case studies should be entered into this spreadsheet template.</p> <ul style="list-style-type: none">● All case studies should at minimum include the details required in columns A-D.● Case studies should record any additional information relevant to columns E-Q. If no information is available for a column, “No information provided” should be entered. <p>In a separate written document, we require the contractor’s conclusions on:</p> <ul style="list-style-type: none">● The quality / limitations of the sources discovered● Which sources provide the best case studies● The extent to which it was possible to find information for each of the headings shown in the spreadsheet.

Common Template for Recording AT trial Case Studies

Basic Information

Summary in a sentence

E.g. "Using Amazon Alexas to support greater independence for care home residents with vision impairment"

Which organisation(s) and teams were involved in the trial?

About the Trial

Who was the user and what user need did the trial set out to address?

What technology was used?

Please give details such as version number, manufacturer, supplier, etc.

What processes / service patterns were put in place alongside the AT?

In what context / environment was the AT tested?

Please list any technical or process dependencies for using this type of AT.

E.g: wifi access; ability to set up Amazon account, interoperability requirements, etc.

What data was collected during the trial? Please give details of any data processing / sharing agreements that were needed.

Results & Evidence

How effective was the AT at meeting the user need?

What other benefits, if any, were observed?

How many people were involved in the trial and for how long? Were control groups used?

What lessons were learned?

E.g. What worked well / what would you do differently next time?

What happened as a result of the trial?

E.g. was it discontinued, scaled up, etc.

Cost and Investment case

What was the cost of the AT and any processes / training that went alongside it?

Please provide details on the return on investment / cost avoidance measured.

Further Information

Please provide links to more detailed information

Who can boroughs contact to find out more about this trial?

