



Assistive and GPS Technology' – Factsheet

Assistive Technology

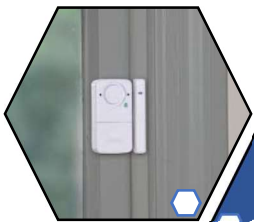


**Movement
Activated
Voice Alerts**

Movement Activated Voice Alerts

A device that detects motion. Placed on the approach to a doorway, these devices contain infra-red motion detectors. When movement is sensed, a voice message is triggered, e.g. "Go back to bed Dad, it's night time".

Prices range from £25 to £100



**Audible
door/window
alarms**

Audible door/window alarms

Emits an audible alarm, when a door or window is opened, alerting the care giver.

Prices range from £6 for battery operated magnetic door and window alarms, to £250 for door alarms plus wireless receiver.



**Activity
Monitors**

Activity monitors and recorders

Non-intrusive wireless infra-red sensors, placed around the home provide a password protected web interface real-time chart of a person's daily activity. Enables a carer to be notified via an alert text/phone call if a person has not left their bedroom, entered a specific area or carried out a certain action i.e. not opened the fridge within a pre-programable time period. Allows relatives or carers to establish routine either day or night and identify whether any interventions are required.

Prices start at around £100

**Motion Sensors****Motion Detectors**

Motion Detectors are simple devices that alert the carer when a person moves from a particular area. The detector can be placed on a bed or chair. The one featured is a 'Bedside Motion Detector' that emits a chime/beep alert when a person gets out of bed. Many are simple, have no wires and are battery operated. They increase in price when linked to carer/nurse alert call system.

Prices range from £25 to over £100

**Pressure mats****Pressure Pads and Mats**

Similar to motion detector devices. Can be placed under rugs, beds and chairs to alert carers that a person has moved or not moved. Can be linked to a control unit or telecare monitoring centre or a mobile phone. More advanced models have features that raise the alarm if a person does not return or get up within a pre-set time, or does so at an unexpected time. Can also be linked to trigger lights to reduce the risk of falling during the night or in reduce visibility.

Prices start at around £35 rising to £200 plus, for more complex models linked to smart technology and call centres.

**Object Locators****Object Locators**

Some people wander because they perceive they have lost something and need to find the item. Object locators are key ring type tags that are attached to everyday objects which emit an audible alarm when they become lost and are separated from their base unit. Can also be attached to a person, allowing a carer with the base unit to be notified if the person wanders away.

Prices start at around £20.



Other methods
to prevent
unwanted
wandering



Fidget
Blanket



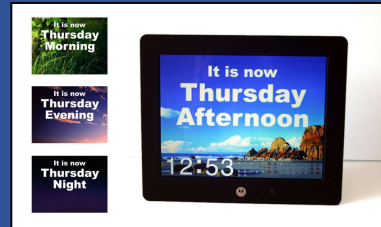
Directional
Signs



Temperature
Sensors

Other methods to prevent unwanted wandering

Specialist clocks – these place a strong emphasis on time/day/season (a confusion around time may be a reason a person becomes agitated/focused and feels the need to leave and wander).



Temperature sensors – sends a warning signal when the temperature in a room becomes too cold/hot (uncomfortable temperatures may be a reason a person becomes agitated and feels the need to leave and wander).

Light boxes – devices that regulate or provide light (light stimulation/deprivation is another reason a person may wander).

Toilet Signs – more useful in care homes, but can be used in a person's own home. Not knowing where the toilet is can lead to a person becoming uncomfortable, confused and therefore lead to wandering.

Smart Speakers – becoming a very popular household item, used primarily to access music, radio and news information. However, they can be used to set up routines, schedules and reminders e.g. medication, doctors appointments. Can also be used to send messages via an app from a family member to the person e.g. "Dad, it's time to take your medication".

Fidget Blankets – can keep a person occupied at certain times of a day where they become restless or agitated. Start at around £20.

Medication reminders – automatic pill dispensers that raises an alert to remind a person to take their medication. Can be linked to call centres and if the medication isn't taken at the correct set time, an alert is raised and the person contacted to remind them. Basic models that vibrate/sound alarm start at around £20.



Monitoring centres and specialist packages

There are many careline companies available offering a range of support services through a remote contact centre. The careline company will remotely monitor the person in their home through sensors or detector devices that are linked through a base unit to the telephone line. When a specific problem is detected through the sensors e.g. a fall, smoke, gas, or water flooding, a signal is sent to the company who in turn request assistance with a pre-arranged point of contact - family member, carer, friend, neighbour, warden etc. The company can also contact emergency services if required and some services offer a talk through service to the person who is in difficulty.

Packages vary greatly so researching and getting several quotes is advisable. Look at what they can offer. A typical bundle can include:

- Wireless Hub, connection and power supply cables
- 2 door sensors
- 4 motion and temperature sensors
- Pendant alarm
- Set up for text alerts, emails and notifications
- Set up assistance and support

You will need a router within the property and a device to manage the system if not entirely managed by a company e.g. a smartphone, tablet or computer.

Also available are automated reassurance and reminder services. At varying set times during the day, the company will send an automated message to the user's mobile telephone or landline. This demands a positive response from the user e.g. pressing a key on their telephone key pad which tells the company that the user is okay. No response prompts an agreed set of actions by the care company e.g. notifying a family member/carer.

Costs: Dependent on the package but generally involves a one-off start-up fee and then a monthly contract.



GPS Tracking

Global Positioning System (GPS) is a satellite-based navigation system that was first developed for military purposes in the 1960's and finally made available for public use in the 1980's. GPS relies on a number of satellites circling the Earth to transmit signals back and forth to GPS devices, which when decoded reveals the devices exact location. The technology can also measure speed, distance travelled and distance to a pre-programmed coordinate. GPS tech is extremely accurate, working in city, rural and on water environments equally well. Most hi-tech GPS receivers are accurate to within 10 metres. In the last few years advances in technology have seen GPS enabled devices shrink in size and GPS is now included as a standard feature in all Smart phones.

The size of GPS locators is important as it now enables a person to carry a small device on a person's clothing or in their property with or without their knowledge, which enables others to track and locate them with ease. The marketplace is flooded with various GPS trackers, with a range of differing models, shapes, sizes, functions and cost.

Things to consider:

- ask yourself the question - what do I want it to do.
- don't go for cheap imports. You get what you pay for!
- shop around and do your research.
- get advice.
- ensure you source your device from a creditable supplier.
- think about battery life – some devices have a battery life of 30 days. A battery life that lasts less than a day is unlikely to be of any benefit.
- shape and size – where is the person going to carry it? Does it need to be attached to them? Are they likely to remove it? Does it need to be covertly concealed in their clothing?
- do you want one with a SOS button?
- cost – prices range from a one-off payment of £10 to several hundred pounds when using the tracking services of a specialist company. You get what you pay for so shop around.
- functions – what can it do? Whilst most come with basic functions, location, speed, route history, others have specialist functions. These can include: remote monitoring (allows a carer to call and listen to what is going on around the device), SOS function, geo-fence boundary facility which allows a carer to set a safe perimeter before the tracker is activated, 2-way communication allowing carer and person to communicate with each other.

Monitored Trackers - size and features are generally the same as non-monitored trackers, but these GPS trackers provide 24/7 access to a call centre, often with a talk-through to the user if they get lost. Fees vary dependent on the service contract but typically prices start at £100 with a monthly fee.

GPS Terminology

- SOS function – many trackers have a SOS button which when activated will emit an automatic message showing the current location of the tracker to any devices that have been pre-programmed to receive the alert.
- Live Tracking – this means that a person can monitor, locate and track another person on-screen using either an app or website.
- Geo-fence function – this is software that allows the carer to set a virtual geographical boundary on a map screen, using GPS or RFID (radio transmission) tech. Carers can create zones which when crossed



SAFEGUARDING HUB

Know the **Risk**
Understand the **Risk**
Reduce the **Risk**

sends a warning message, alerting the carer to the fact that the person has left the set area. Some systems allow different zones to be set at varying days or hours in a day dependent on the person's lifestyle.



GPS enable smart phone apps

Mobile phone apps like 'Lifestyle 360' allow the user to invite family members to the location sharing group. The user can pre-programme certain venues (home, favourite store, school etc.) and receive notifications when a family member arrives and leaves those pre-programmed venues. Some also offer a weekly driving summary for the user and those connected to the group.

Some work through text messages whereby you can send the tracker a text message or call the phone. In return you receive a return text with a google maps link, which when opened gives the current location of the phone.



Bluetooth Trackers

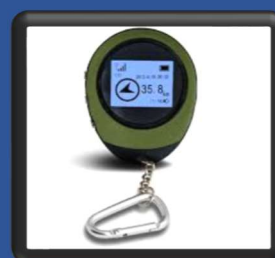
These trackers are not GPS but instead operate through Bluetooth on a person's smartphone (usually on an app), meaning that they are not a managed service. Long battery life, but their working range is limited to around 20 to 25 metres. Anything over that and the unit will be lost.

Cheap to purchase with prices starting at around £10



Stick/Dongle Trackers

Small and lightweight GPS trackers that are often worn around the neck on a lanyard. They are not a managed service and instead contain a SIM card.



Mini Trackers

Prices start from
£30

Small, lightweight and waterproof which can be placed in clothing or wore on a lanyard. Some makes have SOS function.

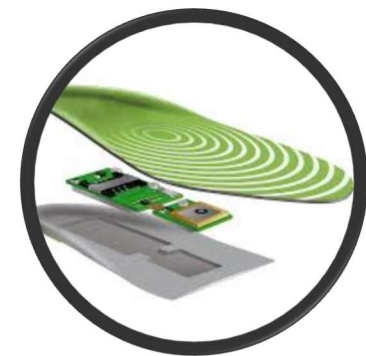
**Pebble style trackers**

Pebble was a company (now acquired by Fitbit) pioneering smart watches and fitness trackers. Generally, trackers like the one shown opposite are commonly known as pebble type trackers. They are small, lightweight, normally coming with a clip so they can be attached to a belt, handbag or an item of clothing. They can be used as either a personal tracker or part of a live tracking managed service from a number of suppliers. They offer live real time location monitoring, either through a SMS text service (instant response with a map of the persons location) or a live tracking app on smartphones.

Dependent on the device they can offer:

- SOS alarm function.
- two-way conversation with up to three pre-set contact numbers (both emergency and non-emergency calls).
- low battery alarm
- fall detection

Prices start at around £100

**Smart Sole**

A tracker that can be slipped into a shoe. When a user leaves a pre-set geo-fence area, the carer/family member will receive an alert to their phone, tablet or laptop.

**Smart watches**

Allows a carer or family member to track the wearer in real time via apps across Android, IOS and also PC web tracking platform. Dependent on the make they can offer many features including, two-way calls, SOS function, voice chat, remote listening, route history, alarm and do not disturb function.



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Geo-fence trackers

Tracking technology that allows virtual geographical fences to be set. When a person passes the pre-set boundaries, an alert is sent to the carer or family member, providing an early warning that the person is leaving the area. Allows the user to set safe and unsafe zones, for varying days and times of the week, according to the wearer's lifestyle.

Aids to identification



Identification bands/cards/Name tags

It is important that the person carries some form of identification so if found wandering they can be easily identified. Identity bracelets can be obtained for a relatively small fee and in many areas are provided by the local authority/health trust. Cards in wallets with name, address and telephone number are essential. Ensure that there are multiple cards and place these in all the person clothing e.g. trouser/coat pockets. Consider sewing name tags/information tags into the persons clothing. You can also have bespoke information printed on tags that you can either sew or iron into clothing.

The image opposite features a bracelet with a QR code which can be scanned by any Smart phone and will automatically take you to a login page where a pin number is required. The pin number is on the inside of the bracelet. When entered, it will show varying information e.g. the persons, name, age medical condition, medication, people to contact in an emergency and any other useful information.