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Consumer Factsheet

Home automations for older people and people with disability

PEER
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The purpose of this factsheet is to assist people to control their home environment easily and safely. Adjusting the temperature in the home, locking/unlocking doors, switching on/off lights, opening/closing curtains or louvers, etc, are all activities that are necessary for our wellbeing and comfort in the house. Many of us, however, find it challenging to complete these actions without assistance.

This factsheet will provide information about what home automations can help you with and who can help you get, install and use them at your home. It also provides advice about how to protect yourselves from third parties accessing your personal information through the internet, to which some home automations need to be connected to.

What can home automation assist me in/with

The most popular home automations or "smart" home controls are those controlling electric systems, appliances and devices in the home. The most common functions of home automations, include:

- switching on/off or diming the lights,

- turning on/off the air-conditioner and control the temperature in the house,

- operating door locks,

- turning on/off electric appliances, motorised blinds, fans, etc,

- controlling home security systems.

The users interact with the smart appliances and devices usually through a touchscreen device mounted on the wall (either removable or fixed) and/or from a smartphone/tablet. Other ways to interact with the smart systems in your home include remotes or voice activation, which are especially convenient for people who do not have full control of their arms, hands or fingers. The control of the system is simple, however, training and support can be provided by the installers/contractors or your Occupational Therapist. In the case of voice activation systems, the audio capability of the products needs to be requested and ensured.

Useful features of many smart home systems, include:

- Notifications sent to the users about the systems' status or operation. For example, if a garage door has been left open for a long period, the user will receive a message and can choose whether to leave open or shut the door from their smartphone. This function could also be useful for carers, wishing to check the safety of their loved ones or of their clients.

- Automation of events based on geo-location, saved scenarios and schedules. For example, when the room temperature falls under a specific threshold, and/or the occupant is on their way home within a geo-fence, i.e., within a pre-determined radius to home, a scenario where the air-condition is switched on to increase the temperature can be saved and set automatically to restore thermal comfort.

- Many smart home systems provide energy saving settings, where appliances and devices operate in optimum mode to save energy, while maintaining environmental comfort.

What is required to install home automations in my home?

Home automations for the control of the home environment can be installed as a home modification, i.e., in an older dwelling, or as a specially tailored system for a new house. Usually, it is much easier to enable full control of numerous appliances and devices in the home when the smart controls are considered early in the building design and construction process. In that case, hardwired connections can be set up between the controls and the appliances/systems and devices and fixtures compatible with the controls can be used from the beginning.

In existing home, where rewiring is not an option, home automations can be considered and applied as home modifications. Wireless and battery-operated smart devices communicate with the controllers via Wi-Fi, where an internet connection is necessary, or via wireless Bluetooth, Z-Wave and Zigbee mesh (no internet required).

Since home automations involve electric and electronic systems, power outages may have an impact on the users of the home. Smart devices, such as TVs, speakers, etc, without built-in battery will not work without power. Since there would be no internet connection, controlling the appliances and systems through the house Wi-Fi would also be impossible. However, devices that are important for people's safety, such as locks, garage doors, alarms and cameras usually have battery back-up and can be controlled via a smartphone. Also, when smart controls are

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connected to systems vital to someone's safety or health, a UPS (Uninterrupted Power Supply) can be used to power the router until normal power is restored.

Are home automations safe?

Wireless smart home systems run the same security risks as all devices that are connected to the internet. Although very rare and mostly limited to extremely high-end homes, cybercriminals can potentially access personal information and potentially engage in identity theft, access databases of smart-device companies to breach the data of multiple users, control home systems and appliances and access/burgle a home, when a system is vulnerable. Three main steps are necessary to ensure the maximum possible security when choosing and setting up home automations:

1. Only buy home automation systems from reputable companies with a strong security record. Ask for the installers of the system or a member of your family to set up the devices to update software automatically, as new software minimize the risk of viruses and treat older security issues.

2. Ensure that any app or software used to control your appliances can only be unlocked by you and your family. Robust user authentication, using complex, unique passwords and two-level-authentication, should be set up to access smart home systems and smart devices.

3. You should share minimum personal information with smart devices and regularly monitor your credit cards and accounts' charges.

Can I get funding for purchasing and installing home automations?

Home automations are considered part of the NDIS Home Modifications package. If you are a NDIS participant, you should talk to your Occupational Therapist (OT), who will assess your needs and prescribe the right type and level of assistive technology. A specialist NDIS SDA approved provider should be consulted alongside the OT to discuss any concerns or special requirements prior to requesting or obtaining funding from the NDIS.

Where can I find more information?

- The HMinfo Industry Factsheet: *Home automations for older people and people with disability,* available from the HMinfo website: www.homemods.info

- NDIS. Home Modifications: Guidance for Builders and Designers. Available for download here.

- Assistive Technology Australia website.

- Nicholls L., Strengers Y. & Tirado S., 2017, Smart home control: exploring the potential for enabling technologies in vulnerable, disengaged and regular households, Centre for Urban Research, RMIT University, Melbourne.

- Wallock, K.E. and Cerny, S. L., 2021, Benefits of Smart Home Technology for Individuals Living with Amyotrophic Lateral Sclerosis. Assistive Technology Outcomes and Benefits, Volume 15, Winter 2021, pp. 132-138. Available online: www.atia.org/atob

- Rebecca Jamwal, Hannah K. Jarman, Eve Roseingrave, Jacinta Douglas & Dianne Winkler (2020): Smart home and communication technology for people with disability: A scoping review. Disability and Rehabilitation: Assistive Technology, DOI: 10.1080/17483107.2020.1818138

- Chapman, K., McCartney, K., 2002, Smart homes for people with restricted mobility. Property management, Vol 20, No 2, pp 153-166.

- What Are the Different Operating Standards for Home Automation Tech?

- Geofencing can level up your smart home if you set it up properly

- Does A Smart Home Work Without The Internet?

**This information was correct at time of printing.