

Healthcare Assistive Devices

One of the major pressing issues faced by modern society is an ageing population¹. The continued reliance on manpower (nurses, caregivers, etc) is not sustainable. Therefore, there is a strong need to design and develop affordable devices that enable and empower the elderly (and chronically ill) to carry out simple daily tasks such as opening the door or holding a cup of water, allowing them to regain some independence and improve their quality of life.

Challenge: Future Assistive Healthcare Devices

To design and fabricate assistive devices that *enable, empower and augment* an elderly person to carry out daily tasks such as opening of door handles, holding a cup of water, utensils, etc. This may also include *mobility assistive devices* that, for example, enable the elderly to walk with confidence without falling. However, personal mobility devices (PMDs) such as wheelchairs are excluded from this challenge.

Additionally, *rehabilitative devices*, such as a hand orthosis for stroke patients to regain functionality in their hands², are also within the scope of this challenge.

¹ <https://www.who.int/news-room/fact-sheets/detail/ageing-and-health>

² <https://www.saebo.com/benefits-rehabilitation-gloves-dynamic-splints-stroke-recovery/>