

Gadgets for seniors: Ambitious techies roll out robots, smart gear for their elders

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For older adults who grew up before the personal computer, iPhones and Amazon Echo became technological mainstays in everyday life, a growing number of startups are working on smart devices with features designed to keep aging minds and bodies healthy.

Personal-assistant robots such as the ElliQ and Cutii, smart shoes that signal a fall and even a smart hip-protection airbag—all still in prototype and not yet available in the consumer market—recently debuted at the Consumer Electronics Show in Las Vegas, designed with features for aging people whose senses may no longer be pin sharp.

From technology-assisted home-care services such as Honor to hardware products such as grandPad's tablet for seniors, with a magnifying glass and simplified apps, businesses are seeking to tap into a booming population of [older adults](#) and help them tackle a critical challenge of modern aging: [social isolation](#).

More than 8 million Americans over 50 are affected by isolation, which is a "growing health epidemic," according to Connect2Affect, an advocacy group launched by the American Association of Retired Persons to erase social isolation.

Social isolation—feeling lonely and cut off from the world—may accelerate many diseases, such as heart disease, and impair immune systems, according to research from the University of York in the United Kingdom and the University of Chicago. Researchers at Utah's

Brigham Young University have suggested that the heightened risk of dying from social isolation is on par with smoking 15 cigarettes every day and being an alcoholic.

The number of Americans aged 65 or older is expected to nearly double in the next three decades. And as that population grows, the technology market catering to older adults is projected to grow to at least \$20 billion in 2020, according to Laurie Orlov, a Florida-based analyst who specializes in technology for the elderly.

Although many of the startups working on products for an older market are based overseas, Israel's ElliQ is testing its personal robot in the Bay Area and tablet-maker grandPad is headquartered in Orange, Calif.

While Silicon Valley venture capital firms Andreessen Horowitz, Battery Ventures and Kleiner Perkins Caufield Byers don't have elderly-friendly device startups in their portfolios, they have invested in other businesses that help the elderly. San Francisco-based Honor, a personalized elderly care service with an app for scheduling services related to home care, has raised \$20 million from Andreessen Horowitz and \$42 million from Thrive Capital.

Yet, as companies jump into this burgeoning market, gerontologists are urging caution rather than rushing out tech products for the elderly. They say many of the startups, run by young entrepreneurs eager to serve a demographic often forgotten by the technology industry, do not always understand what older adults really want.

"There's no denying that we have a growing aging population and with that, there is a business opportunity," said Dr. Carla Perissinotto, an associate professor in geriatrics at UC San Francisco. "The devices are generally designed by younger folks, and many of the devices are very complicated to use. Unless they are going to be designed by or with

elderly folks, there is a high chance for failure."

For older adults, the current landscape of technological devices may already be too hard to navigate. A May 2017 survey by Pew Research found only 26 percent of adults over the age of 65 were "very confident" in using smartphones, tablets and computers—compared to 74 percent of adults between 18 and 29 years old.

Some of the design features that younger adults look for in devices, like a smaller size and a quieter speaker, are undesirable for older adults, Perissinotto said. Older adults often struggle to hear or read fine print, and they may lose sensitivity in their fingertips, requiring more force to press icons on a touchscreen. They also may forget basic digital tasks or not know how to do them, such as signing into a Wi-Fi network.

Barry Sardis, 70, a retired Silicon Valley computer programmer who lives in a San Jose retirement community, is interested in the new generation of personal-assistant devices for the elderly. Sardis is testing a prototype personal robot from ElliQ, which won a Best of Innovation award at CES.

Sardis said he is testing ElliQ's ability to proactively ask questions or suggest activities that exceed capabilities of popular smart speakers like Amazon Echo and Google Home, which only respond when they are called.

ElliQ is made of two parts: a movable smart speaker and a tablet screen. The smart speaker moves on its own when communicating with a user to convey body language and lights up during certain actions to signal that it's paying attention. The tablet will display music, send messages to ride-hailing apps and provide closed captioning responses so users who are hard of hearing can read what ElliQ says.

"The reason the social robots struck me as something for the elder-care market is that I see them as something like smartphones," Sardis said.

"Smartphones are multi-functional, and there is a broad range of requirements and desires from the elder community."

Unlike other personal robots, which normally have a face and are able to move around the room with wheels or mechanical legs, ElliQ purposely does not look human to prevent any notion that the robot is a suitable alternative to human-to-human interaction.

"Body language with lights and closed captioning make (ElliQ) more intuitive, but ElliQ is not a person," said ElliQ founder Dor Skuler, whose company has announced plans to test the device with more people in retirement homes in Marin County and Florida.

Other startups aim to ease older adults into using their products with simpler features. grandPad makes iPad-like tablets for the elderly with bigger icons and a bigger power button. The tablet, which provides a dozen basic apps, has senior-friendly features such as a magnifying glass to help read small text, a wireless charger since some users may forget to charge the tablet regularly, and a simplified "transportation app" to hail Lyft in a few clicks.

"We need to make the technology sophisticated enough that it makes it look easy," said Dr. Kerry Burnight, a former professor of geriatrics at UC Irvine who now serves as chief gerontologist for grandPad. "It's not dumbing down; it's the opposite."

ElliQ and grandPad focus their apps on keeping older adults socially and mentally engaged by providing easy video calls or playing music playlists to improve one's mood and decrease stress.

French startup Cutii, with its eponymous [personal robot](#), seeks to

connect older adults through organized activities and exercises arranged by the robot, said founder Antoine Bataille.

Yet even with robots designed to help the elderly stave off social isolation, doctors still say the human touch is the best medicine.

"There is no substitution for in-human connections," said Perissinotto. "Even if you use technology, it should be only as a supplement."

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