Technology touches all our lives each day whether at work, home or on the go. It holds the potential to greatly improve the way we enjoy our daily activities, particularly for older adults and people with disabilities. The Consumer Technology Association Foundation (CTAF) is focused on identifying life changing technologies and pairing them with nonprofit organizations serving the needs of older adults and people with disabilities.

For the first time globally, there are more people age 65 and older than under the age of five. Technology and the programs we support are enabling us to meet the needs of older adults, people with disabilities, and their caregivers, whether professionals or family. The Active Aging study we completed with CTA highlights the opportunities and the challenges ahead. The market for connected products that enable healthy aging will triple in size by 2022, but there are still resources needed to create consumer awareness about the solutions and learning how to use them. The CTA Foundation is addressing these needs.

Our grant programs have kept people living independently, created new career opportunities, and enabled people to explore their passions. Our research has created greater clarity around the growing market opportunities to address the needs of older adults and people with disabilities. Our recognition programs create attention for new innovations being developed to meet the needs of our population. Thanks to the generous support of CTA, all overhead is covered for the CTAF, ensuring that our supporters’ investment goes directly to programs making true impacts towards our mission. We are pleased to share just a few of the highlights and success stories we have seen over the past year in this report. We hope these stories will inspire you to reach out and get involved with our work.

Join us as our industry improves the lives of so many in need.

Sincerely,

Denise Gibson
Chair
Co-Founder & Chair, Ice Mobility

Stephen Ewell
Executive Director
CTA Foundation
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Your support allows us to bring technology to those in need, and give them freedom, independence, purpose and most importantly, vital connections.

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As well as a number of anonymous contributors.

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Thank you to the following sponsors for their support of the CTA Foundation and also for the philanthropic work they do in their communities. These companies are making a difference and creating positive change in the world.

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HELPING SEED POSITIVE AGING

During the CTA Foundation’s fall Board of Trustees retreat, the Board had the opportunity to visit the Front Porch Sunnyvale Community and hear from Davis Park, director of Front Porch Center for Innovation and Wellbeing. He explained that their work—which has included pilots on hearable technologies, voice assistants and smart home technologies—is “only possible because of CTA Foundation funding seeding the experience in our community. CTA Foundation support delivers an impact on the members of the community far greater than the grants dollars provided.”

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The CTA Foundation at CES 2020

The Accessibility Leaders Tour, produced in hand with CTA’s Government and Legal Affairs team, brings advocates from the aging and disability communities to CES. The group engages with tech companies to help to make technology more accessible. The CTA Foundation also hosts its annual roundtable discussion between industry and advocacy leaders at CES to highlight new innovations and develop greater relationships and opportunities for innovative technology solutions. The CTA Foundation also participates on panels on topics like AI and health tech.

The Accessibility Marketplace

This area includes many technologies that enable people to work, live and play regardless of age or ability. Technologies from vehicle tech to smart homes, health and fitness to gaming, enable people to live healthy and independent lives.

- Companies like Lizn, Nuheara, Oticon and Widex are addressing hearing loss.
- The American Printing House for the Blind, OrCam, Sensible Innovations and Vispero are addressing vision loss.
- WHill and Tobii are addressing mobility, along with a range of companies implementing voice assistants and voice control into their products.
- Telepresence robotics companies like Suitable Technologies and Other Labs help address social isolation.

At CES 2020, you won’t need 20/20 vision to see all the technologies improving lives for people of all ages and abilities.

CTA Foundation Eureka Park Accessibility Award Winners

In our 5th CES Eureka Park Accessibility Contest, we selected five companies to receive booths in Eureka Park based on their technologies to improve the lives of older adults and people with disabilities. The competition was fierce and the five companies we chose have diverse business models that use tech to address a variety of needs. The winners are:

- **ACCESS EXPLORER**: Their app, Cavi, is for both iOS and Android devices to provide turn-by-turn navigation in indoor environments for people with disabilities and older adults with age-related disabilities.
- **INTUITION ROBOTICS**: The company’s first product, ElliQ, is a proactive social robot for older adults aimed at keeping users active and engaged by connecting them to their families and the outside world.
- **LORO**: Loro is an intuitive and inclusive robotics startup that is developing a smart assistive companion for wheelchair users. It empowers its users with increased independence and connectedness by enhancing their vision, communication and safety.
- **MIERON**: Mieron’s first product, MieronGO, is a library of virtual reality neurotherapy exercises based on the principles of locomotive training, physical therapy and occupational therapy for all levels of mobility. VR is clinically proven to reduce the brain’s pain perception by up to 90%, with the effect lasting outside of the VR experience.
- **TRANSLATELIVE**: The Instant Language Assistant (ILA) device allows older adults and those with disabilities to instantly communicate with anyone they meet, in person or at a distance. It can help those who are deaf, hard of hearing, low vision, blind, deafblind, speech-disabled and is accessible for those with mobility disabilities.

Visit Eureka Park, CES’ dedicated startup space to see new innovators from around the globe.
The CTA Foundation recognizes this epidemic and launched its first pitch competition at CES 2019, sponsored by AARP Innovation Labs and emceed by Daymond John, the AARP Brand Ambassador who is the Founder and CEO of $6 billion global lifestyle brand, FUBU, and Co-Star of ABC’s Emmy Award-winning business show, Shark Tank.

Out of 90 entrants, eight startups were chosen to compete in the pitch competition, all with varying missions, technologies and devices, however, they all shared one goal — creating a solution that increases social connection.

Set up in Eureka Park’s Start Up Stage, the startups went head to head in front of a standing room only audience and competed for the chance to be a finalist at AARP’s grand pitch finale. Each company had three minutes to present their product that promised to reduce social isolation for the aging senior community. Each entrepreneur was then questioned on topics ranging from manufacturing costs and business strategies to product roadmaps and milestones by industry experts Denise Gibson, chair and co-founder of Ice Mobility; Andy Miller, SVP for Innovation at AARP; and Alyson Plosko, sector manager for health at Village Capital. After the compelling presentations, the audience voted for StoryUP and Waverly Labs.

Founder and CEO of Waverly Labs, Andrew Ochoa had worked with colleagues spread across different countries, and who oftentimes, communicated in different languages. Pulling from this experience,赵 thinks his team created the sophisticated “smart, translating, earbuds” that can translate 15 languages and 42 dialects in 1.5 to 2 seconds called Pilot. While the votes were tallied, Daymond John and AARP CEO Jo Ann Jenkins had a fireside chat where they discussed how technology is truly a resource that can enhance each aspect of a person’s life at different life stages, especially those 50 and older. Jenkins explained that AARP’s focus is shifting from thinking about the past toward the future and what the 60-year-old organization can do for their 38 million members.

A CASE STUDY: AARP AT CES

Studies show that social isolation is as deadly as smoking 15 cigarettes a day, and with 115 million American seniors, it is forecast at least 50% will suffer from this problem and die prematurely.

“The CTA Foundation recognizes this epidemic and launched its first pitch competition at CES 2019, sponsored by AARP Innovation Labs and emceed by Daymond John, the AARP Brand Ambassador who is the Founder and CEO of $6 billion global lifestyle brand, FUBU, and Co-Star of ABC’s Emmy Award-winning business show, Shark Tank. Out of 90 entrants, eight startups were chosen to compete in the pitch competition, all with varying missions, technologies and devices, however, they all shared one goal — creating a solution that increases social connection.”

Jo Ann Jenkins, AARP CEO

“Helping to drive the development of innovative new products and services that focus on the interests and needs of people age 50-plus is an important element of AARP’s mission. The CTA Foundation Pitch Competition helps to deliver new solutions to a large and, so far, underserved market and spotlight a key opportunity that other businesses are missing out on.”

Jo Ann Jenkins, AARP CEO

StoryUP, makers of Healium, was developed by CEO Sarah Hill, a former broadcaster. Hill developed Healium to deal with areas in confined stress for herself and realized this could also help others, such as WWII veterans. These individuals could use their emotions to go places within the virtual world, where they couldn’t go physically as a therapeutic way to reduce stress and experience the world.

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98

CTAF REPORT

CTA Innovation Labs | CTA Foundation, Inc.
Q: Why is it important to have accessibility featured at CES?

LANE: The importance of having accessibility featured at CES cannot be overstated. It helps to educate the tech world on the importance of adopting accessibility features in their products. It also helps companies that have assistive tech to see how they fit in the consumer tech industry while staying true to their core market. There is no bigger stage than CES to showcase accessibility. One thing I would like to see from my colleagues in the media is to make sure that they stop by and see some of this amazing technology that helps the senior and the disabled community to be independent and live fuller lives. The social aspect of accessibility tech is something that needs to be preached from the mountain tops.

MAY: Most products are not fully usable by a blind consumer, so it is important that we highlight those products that are accessible in order for manufacturers to take note of this important customer segment.

SAID: CES is shining a light on the importance of accessibility in consumer products and it is a very important perspective and can add a competitive edge to any product and enhance its usability. CES is where innovation starts. I am a believer that only when accessibility starts at the design stage will we close the gap between disability and mainstream. Otherwise the gap will keep widening and we will never be able to catch up with the rapidly changing technology.

Q: How effective is it to bring disability advocacy organizations together with tech companies in roundtable discussions?

LANE: It is so important for them to be in attendance. This helps them to find out what technology is out there that can help the community. It also gives them an opportunity to talk with other like-minded organizations and tech companies. This can help in the education and implementation of assistive tech.

MAY: Bringing together a few companies that focus on accessibility allows other manufacturers that wish to be accessible to learn best practices and to understand the tremendous value of their products to people who are blind or disabled.

SAID: I totally agree and love the idea! I attended one, and it was a nice introduction to other key players in the industry. Although it’s important to have roundtables, I’m not a fan of isolating disability discussions from the mainstream. I think it will be very effective and brilliant if we can immerse ourselves in the advanced technologies of all ability and all ages and learn from each other’s perspectives.

Q: What types of technologies are you looking for at CES 2020?

LANE: I am looking forward to seeing assistive and adaptive technologies. I am looking to see the new strides in voice activation. When we have the human body as the interface this unlocks a world of potential for members of the senior and the disabled community. I would also like to see the advancements in wheelchairs. We have reached the point where we should see more technology integrated into power wheelchairs. Connected technologies that help medical professionals has always been very intriguing. It can provide better medical care and wellness for the patient. I also would like to see any advancement in assistive tech for rehabilitation and medical advances.

MAY: My favorite discoveries at CES are the products I am not looking for; the fun surprises, which I will buy when released. I also enjoy noting products, which other blind people will want to hear about in my annual post-CES webinar.

SAID: I believe smart packaging will change lives when it comes to the blind and the visually impaired and the issue of print packaging.

**WHY ACCESSIBILITY MATTERS AT CES**

The CTA Foundation is hosting various activities at CES 2020 highlighting the technologies that enable us to lead healthy and independent lives regardless of age or ability. Steve Ewell talked with several veteran CES attendees about the importance of accessibility at the show including:

PAUL AMADEUS LANE
Bureau Chief, ABC News Radio KMET-AM, and host of the Tech Zone

MIKE MAY
Executive Director of Access Explorer, CTA Foundation Trustee

RASHA SAID
Founder of Sensible Innovations, a CES Innovation Award winner and Smart Cities Marketplace exhibitor
HOW TECHNOLOGY CAN ADDRESS THE CAREGIVER CRISIS

Last year, the world crossed a threshold for the first time: MORE PEOPLE ARE NOW 65-YEARS OR OLDER THAN FIVE-YEARS OR YOUNGER. According to the United Nations, by 2050 one in four people living in Europe or North America will be over 65. While there is great opportunity that comes with longer lifespans, this scenario also raises several challenges including a caregiver crisis.

In 2019, CTA and the CTA Foundation released the Active Aging: Consumer Perceptions and Attitudes study, which found by 2022 the U.S. market for connected solutions for seniors is expected to reach nearly $30 billion. The study shows that nearly all seniors prefer to live independently in their homes as they age, and more than 60% are ready to embrace safety, smart monitoring, health and remote care tech to help them be more self-sufficient.

One major concern raised by older adults is understanding which technologies can meet their needs. The study found younger caregivers can be effective technology advocates since they’re generally well-versed in smartphones, tablets, wearable tech and smart home products.

But we face a shrinking number of caregivers as our population ages. The U.S. Census Bureau expects there will be three and a half working age adults for every person of retirement age in 2020. As these demographic shifts occur, the large base of younger caregivers diminishes, resulting in fewer caregivers per older adult.

CTA research shows 72% of seniors would be interested in a service that provides guidance on how to implement new technology products — a clear sign that a focus on such services would resonate with seniors. Seniors’ excitement about tech is coupled with some trepidation about the installation and use of technology, and point to a need for services around implementing new technology products. But customer service programs designed for seniors and their caregivers can help mitigate these key tech challenges.

Overall, technologies that can be easily installed and maintained, or services handled by the installer and integrator community, can help manage caregiving across the reduced number of professional and family caregivers.

The CTA Foundation is the charitable organization that is linking older adults and people with disabilities with technologies on behalf of the industry.

The CTA Foundation has supported many groups highlighting technologies for older adults and people with disabilities such as the Oak Hill Smart Home on Wheels, OATS Senior Planet Centers, Front Porch Center for Innovation and Wellbeing pilots and Easter Seals of Greater Houston’s BridgingApps programs.

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Sixteen nonprofits received $700,000 in grants in 2019. Some were previous grantees and others were new, but all had admirable programmatic ideas to help seniors or people with disabilities by integrating tech in their lives.

Connecting Using Voice Technology

One of the new grantees is the AARP Foundation, the philanthropic branch of AARP, which hosted the first Annual Pitch Competition during CES 2019. AARP plans to use voice technology within five to ten low-income senior communities in urban areas like New York City with devices like Amazon’s Alexa to engage seniors who live alone.

While Alexa is often used to inform users of the weather or news, the AARP Foundation wants to take it a step further by developing a third-party app for the device’s free marketplace, Alexa Skills. By having the recipients conduct a self-assessment via the AARP skill, Alexa will suggest options to connect seniors with their peers. The goal is to maximize the use of voice technology to reduce the isolation and loneliness that often impacts seniors. At the conclusion of the grant cycle, AARP will assess whether these seniors are still at risk of social isolation.

VR Job Training for Real World Experience

The Arc is another first-time grantee. They are working with the Johns Hopkins Applied Physics Laboratory to design a virtual reality system to help adults with intellectual or developmental disabilities (I/DD) better navigate the workplace and the tasks they need to complete.

The Arc is working with a small group of I/DD individuals by providing job coaching. Using the same group, the organization plans to test its innovative “environment navigator” by partnering with various companies or recruiters open to hiring people with disabilities.

The mission is to help “employer’s upfront investment in training” while providing employees with the support they need to encourage job productivity and longevity with satisfactory wages. The project seeks to pave the way for people with I/DD to live financially independent lives.

A Fresh Perspective on FinTech

According to the National Council on Aging, “a study in The Journal of General Internal Medicine reveals that out-of-pocket medical expenditures in the five years prior to an individual’s death total more than $38,000, leaving one in four seniors approaching bankruptcy.” This shows why it’s crucial that seniors are informed and in control of their finances. Easter Seals of Greater Houston, another previous grantee, wants to help older people and veterans improve this life skill.

Using their BridgingApps program, which provides links to various apps, they are bringing the benefits of fintech to people dealing with different cognitive impairments like traumatic brain injury, a stroke or Alzheimer’s disease.

These are just a few grantees that the CTA Foundation is funding. To learn more, visit CTAFoundation.tech/grants.
Clark wanted to maintain his independence, especially as he was relearning how to use his smartphone, so he explored different types of technologies. One of them was the GoVision HD Video Magnifier, a “transportable” device that enlarges text and images.

As he played around with the video magnifier, it was also suggested that Clark could benefit from a different kind of keyboard to make his typing easier when using his smartphone. While he tried different styluses, BridgingApps digital trainer Jana Rodriguez introduced him to the Selvy PenScript app. This keyboard app allows Clark to write out letters with the stylus and transform them into text. Jana also helped him turn on and learn the accessibility features already built into his phone like increasing the home screen size and making the font size larger. Learning these features enabled Clark to navigate his device more easily.

Today, Clark is thrilled with his progress and how these solutions have helped him better communicate with friends and family while relearning basic tasks like spelling. While he still has his fair share of frustrations, he makes the choice to use them as motivation. For example, he was frustrated by his lack of knowledge when using a Mac Mini. He decided to make it a goal to learn how to use it with a larger screen in his home.

Clark knew he would occasionally forget how to use these devices, so he and BridgingApps created a customized manual that would come in handy when he had a lapse in memory or wanted to practice his newfound technology skills through repetition. Clark and his family have been appreciative of BridgingApps’ expertise and the ongoing support that will continue to aid in his recovery and help him become more confident and independent.

Visit BridgingApps.org to learn more about the technology featured in this story.

In 2017, during Hurricane Harvey, Houston firefighter Clark suffered a traumatic brain injury (TBI). The injury resulted in ongoing problems like memory loss and significant vision issues that made daily activities challenging. He wanted to be proactive in his recovery process and even though he had physical therapy, he experienced extreme frustration with the inability to use his smartphone because of his vision and memory deficiencies. He decided to visit BridgingApps’ AT&T Assistive Technology Lab to find technology that would help him.
New England Assistive Technology (NEAT) Oak Hill Center is an example of how smart home technology benefits people in various stages of life and abilities.

Empowering Diverse Individuals to Embrace Their Differences

NEAT’s Oak Hill Center is the largest private provider in Connecticut for the disabled community and has many programs and services that help individuals of all ages.

Oak Hill encourages individuals to learn about the latest technologies, products and services that assist people in their everyday activities. Its mission is to empower others through assistive technology to maintain an independent life. This is one of the reasons the CTA Foundation chose to grant them funding for their innovative program, Smart Home On Wheels (SHOW). Using their SHOW, they demonstrate how differently abled people and seniors can regain their independence and live their best lives with technology.

Oak Hill ‘Shows’ How to Take Control of our Homes

Since its debut more than six months ago nearly 1,000 people have toured the SHOW intending to empower themselves with technology. People have come as far as Alaska to pay a visit to this mobile smart home which gives people, especially aging adults and people with disabilities, the chance to learn about different technology brands and how they can be incorporated in the home. They showcase technologies including:

- **Amazon’s Echo Show:** This can help caregivers and guardians of seniors who are aging in place to reach out or “drop-in” virtually using Alexa as a video intercom when a senior isn’t answering the phone.
- **CookStop:** After scanning the kitchen for movement to determine if an active stove has been left unattended, CookStop will start a countdown to turn off the stove, helping reduce the chance of a fire.
- **Ring Doorbell:** It’s compatible with a smartphone or an Echo Show and allows the individual or caretaker to see and speak with whoever is at the door.
- **NEST Protect:** As a smoke and carbon monoxide detector, NEST Protect can communicate threats and issues in the home audibly as well as through a smartphone. It can also light a path which is incredibly useful for older adults and fall prevention.
- **August Smart Lock:** Using the Siri or Alexa voice control, deadbolts can be locked or unlocked. It can even be scheduled to be locked if the user forgets to lock the door after leaving.

SHOW visitors also can speak with Kristopher Thompson, the Smart Technology Specialist, who researches and implements emerging technologies with the smart home in mind. Kris works with many groups, home service agencies and individuals to train their staff, assess infrastructure and install smart home technology to make life more accessible to seniors and the disabled community.

Schedule a tour of Oak Hill’s Smart Home On Wheels at assistivetechnology.oakhillct.org.

CTA Foundation 2020 | CTAFoundation.tech

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**SMART HOME SOLUTIONS**

Smart devices are becoming integral in our daily routines making many facets of our lives just a finger tap away. This is most evident in our homes, since many American houses are outfitted to work with technology. Being in control of your home is becoming important now for seniors who choose to age in place or people with disabilities who leverage technology to their advantage.
Brenda Shelman, a 60-year-old Byte Back alumna, now works at the company as an administrator. In an interview with the Brookings Institute she explained the difficulties she encountered, along with the support system she gained and how her confidence was restored through her Byte Back family.

Initially Brenda didn’t think she needed technology training. After nearly 10 years of not working due to a disability, she finally was cleared by her doctor to work on a part-time basis. The first step was getting a job, but she quickly realized the world had changed and she didn’t have the skills to compete in the workforce. Everyone around her seemed younger and smarter, and the world was moving much faster than she remembered due to technology. Realizing her disadvantage took a toll on her confidence. She “felt lost.” However, she didn’t dwell on these factors. Instead she used them to motivate her to catch up to the 21st century. She enrolled in Byte Back’s Computer Foundations class and never looked back.

Concerns

Although she was happy with the direction she was taking, she still had concerns that were chipping away at her confidence. The biggest issue was being able to retain the knowledge she was receiving from Byte Back. She wondered how she could compete, but soon realized that her fellow classmates, mostly older people like herself, were in similar situations or changing careers. Enrolling in Byte Back’s classes allowed them to try something new.

At first, Brenda struggled like everyone else, but Byte Back is more than a place to learn technology. It’s a place where people lift each other up and keep the end goal in sight — graduating. Brenda was able to achieve her goal even after suffering a family tragedy. Although she missed a few classes, the support from Byte Back ultimately encouraged her to come back and she learned she wasn’t alone in her journey. Byte Back also gave her the ability to be fearless and not be afraid to “press buttons and try things.” After completing the Computer Foundations 2 class and becoming certified in Microsoft Outlook, she was ready to join the workforce.

Brenda still has hesitation with technology platforms like social media, but she also has the comprehension, capability, and most importantly, the confidence to take on new technologies. She knows, regardless of her age, she can compete with her peers and individuals younger than herself.

Reaching Goals

Brenda’s life has changed greatly since graduating from Byte Back. She has gained invaluable friendships with students and instructors alike and she has a new career. In October 2017 she started as a Student Ambassador for Byte Back, which was supposed to be a two-week assignment to help register incoming students. Today, she works at Byte Back doing administrative work.

Brenda has always been a confident woman, but Byte Back has shown her she can do anything. Her age is merely a number which doesn’t dictate her life or goals. Now she volunteers in her Brookland community and tells people who seem like they need direction or a boost in confidence about Byte Back.

Inspiration

Brenda has words of encouragement for others — surround yourself with like-minded people who want you to do better. When you start to feel low and not as determined, they can give you the “pick me up” you need to keep going. Also, remember to take one day at a time.

Brenda recognizes how seniors and people with disabilities can be overlooked, but she sees how the CTA Foundation and Byte Back work together to not only shed light on this disparity, but let these groups know they are just as important as any able-bodied person.

For information about Byte Back or to enroll in classes, visit ByteBack.org.

Byte Back provides a pathway of inclusive tech training that leads to living-wage careers. Since 1997, Byte Back has served thousands of adults, helping graduates gain valuable tech skills, launch successful careers and become part of the digital economy by offering courses in Washington, DC and Maryland.
Whether it's software or hardware, engaging people with disabilities and people across the age spectrum allows for greater opportunities to draw in loyal customers for your products.

Engaging diverse populations provides a range of benefits to the overall design of products. Just as the industry sees advantages by including the voices from minorities and women, people with disabilities and older adults are underrepresented and bring new ideas and viewpoints to the types of products that can serve these groups.

Accessible technology not only serves seniors and people with disabilities, but also serves a purpose for the general public. We can all experience a temporary disability whether it stems from a simple broken bone or an illness, at any time in our lives. Statistically, as we age, we likely will experience some type of physical and mental deterioration in vision, hearing, mobility, and cognition. It's important to realize these issues affect everyone, not just the highlighted groups.

The Active Aging: Consumer Perceptions and Attitudes report, shows the U.S. market for solutions provided by smart, connected devices is expected to grow from $9 billion in 2018 to nearly $30 billion in 2022. The largest segment of this market will be safety and smart living technologies, which will triple in size during that time. AARP research finds the spending of 50+ year old Americans amounts to $5.5 trillion and supports nearly 90 million jobs. The American Institutes for Research finds that after-tax disposable income for working age people with disabilities is about $490 billion. This consumer report shows there is a viable market for consumer technologies focused on these demographics.

ENGAGING DIVERSE POPULATIONS IN DESIGN

With nearly 20% of the U.S. population reporting a disability, and that number expected to grow as the population becomes older, there is a significant market aimed at people looking for products that allow them to maintain their independence.

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Support the CTA Foundation
Be recognized as a philanthropic leader and help the CTA Foundation to aid older adults and people with disabilities:
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The CTA Foundation shares highlights, news items, and topics related to our mission of technology improving the lives of seniors and people with disabilities on Twitter, LinkedIn and Facebook.

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For the most up-to-date information, visit CTAFoundation.tech

Contact Us:
Stephen Ewell, Executive Director
703-907-7660
sewell@CTAFoundation.tech

Revé Van Croft, Coordinator
703-907-5220
rvancroft@CTAFoundation.tech

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