



Frequently asked questions (FAQS)

What is an AGE-WELL National Innovation Hub?

It is a place where a broad range of stakeholders in the area of technology and aging can work together to create technologies, practices and policies that support seniors and their caregivers. The aim is to foster more efficient development, testing and delivery-to-market of products and services that support healthy aging across Canada.

What is the focus of the new AGE-WELL National Innovation Hub in Ottawa?

The hub, which was officially launched on November 27, 2017, is called *Sensors and Analytics for Monitoring Mobility and Memory (SAM³)* (*Capteurs et analytique de suivi mobilité-mémoire*). It will focus on the creation of sensor-based smart technologies—through user, industry, community, clinical and academic collaborations—to track seniors' health and wellbeing, and help people stay healthy, safe and living independently. This is AGE-WELL's second National Innovation Hub.

What makes this hub unique?

The core goal of the SAM³ hub is to find solutions that help monitor the mobility and memory of older people. It will bring together researchers in the field of sensor technologies and data analytics, health-care professionals focused on aging, industry partners, trainees, older people and their families to devise intelligent sensor systems for an aging population.

Who is leading the hub?

The hub is a joint initiative of AGE-WELL, Bruyère Research Institute and Carleton University. Its primary offices are located at the Élisabeth Bruyère Hospital, with research facilities that include an apartment laboratory resembling a typical home setting. This lab will be used to test embedded smart sensor technologies with older people. Research will also be carried out in labs and other facilities at Carleton University, which will have offices for the hub in its new Institute for Advanced Research and Innovation in Smart Environments (ARISE), opening in April 2018.

Why was Ottawa chosen for this hub?

Ottawa has a unique combination of local and regional expertise and capabilities related to aging, sensors and analytics, as well as a national reach. The long-standing collaboration between Bruyère, with its provision of care focused on an aging population, and Carleton University, a Canadian leader in engineering and technology development, provides the foundation for the hub. Ottawa also has a strong high-technology sector, with companies both large and small involved in sensors, computer analytics, artificial intelligence, telecommunications and other technologies that will be part of the systems that SAM³ is developing.

Why is such a hub needed now?

Demand for technologies to support Canada's aging population has never been higher; approximately one-quarter of Canadian seniors report having some kind of physical, cognitive or sensory impairment that affects their ability to perform activities of daily living. More than eight million Canadians provide care for a family member or friend. There are promising new technologies that can deliver customized solutions to older adults and caregivers, such as smart-home devices and personal health monitors, but these need to be adapted, enhanced and expanded to better support aging in place.

There are already a number of sensors on the market; what will the hub's work add?

There has been a continuous evolution in the capability of sensors to detect motion, light, pressure and many other inputs. Some "smart" sensor products are commercially available for the home environment, but these simply monitor factors such as motion and location. Sensors have the capacity to generate a great deal of additional data, and predictive analytics will be required to turn that data into useful information for health monitoring and intervention. The SAM³ hub will develop intelligent sensor systems that bring together such sensors and analytics to support healthy and independent living.

Are there specific examples of sensor systems that will be developed?

Clinicians and scientists focused on aging will combine sensors and analytics to track information about the well-being, cognitive abilities and mobility of older adults. For example, sensors will be used to show if an individual's memory is declining over time, whether a person has elevated fluid retention, possibility related to heart disease, or if he or she rises from the bed with difficulty one morning, indicating there could be an increased risk of a fall. Such information could prompt an automatic response, such as special instructions delivered over a speaker in the home—or details could be relayed to family or health-care professionals, for them to respond.

What about privacy issues relating to health monitoring systems?

Issues around privacy and the collection of data, how it is used and who has access to it, will be considered in the design and functioning of such technologies. These areas will be addressed in all projects carried out by the SAM³ hub, in collaboration with the AGE-WELL network, which has a research program that is focused on ethical, social and privacy issues surrounding the use of new advanced technologies.

Who will benefit from the new hub?

This hub will help ensure that older Canadians and their caregivers benefit from new and emerging smart home technologies that can support independent living and improve health and quality of life. It will connect researchers, health professionals and industry with end-users and non-profit partners to help transform ideas into useable products, ultimately producing social and economic benefits. It will give stakeholders ready access to the latest research findings and information on emerging sensor technologies for seniors.

How will different stakeholders be involved in SAM³?

Industry partners, community organizations, government agencies, researchers, health-care professionals, trainees, older people and family caregivers are among the groups that will interact

in this hub, co-designing, testing and validating technologies that address scientific, educational, health-care, economic and social objectives. They will generate new ideas in a collaborative process that helps to ensure that innovations are able to meet the needs of older people.

How will the hub have a national impact?

Using dedicated infrastructure and expertise at the local level, the hub will design solutions to specific challenges faced by aging populations, and will develop best practices for deployment and applications of new sensor technologies. The notion of “co-creation” among all stakeholders, including consumers, will be critical. The hub will share its innovative approaches and solutions nationally.

Will there be opportunities for young researchers?

In Ottawa, the hub will bring training opportunities for new scientists, graduate students and postdoctoral fellows involved in technology and aging from various clinical fields and specialties such as rehabilitation sciences and predictive analytics. AGE-WELL, Bruyère and Carleton University will jointly fund trainees that will be part of AGE-WELL’s *Early Professionals, Inspired Careers* (EPIC) training program. EPIC equips bright young researchers with the skills they need to be the next generation of innovators in the field of technology and aging.

How will this new hub advance AGE-WELL’s mission?

AGE-WELL’s mission is to accelerate innovation in the field of technology and aging that will improve quality of life and produce economic and social benefits for Canadians and the global community. The SAM³ hub is part of that mission. AGE-WELL National Innovation Hubs build on a national network by incorporating local resources, expertise and partnerships focused on specific areas.

How can I get involved?

We welcome everyone with an interest in sensors and analytics to support healthy aging. For more information on how to get involved, please contact the hub at sam3@sce.carleton.ca or 613 562 6262, extension 1210.

What is AGE-WELL?

AGE-WELL NCE Inc. is a pan-Canadian network of industry, non-profit organizations, government, care providers, end users, and academic partners working to drive innovation and create technologies and services that benefit older adults and caregivers. Its vision is to harness and build upon the potential of emerging and advanced technologies in areas such as artificial intelligence (AI), e-health, information communication technologies (ICTs), and mobile technologies to stimulate technological, social, and policy innovation. AGE-WELL is funded through the federal Networks of Centres of Excellence program. More about AGE-WELL: <http://www.agewell-nce.ca/>

What is Bruyère Continuing Care:

As one of the largest academic health care centres of its kind in Canada, Bruyère plays a key role in addressing the health care needs of the vulnerable and medically complex in the Champlain region, offering complex continuing care, rehabilitation, palliative care, long-term care and affordable housing for older adults. We facilitate the transition between acute care settings and

the community. We strive for excellence and innovation through patient-centred teaching, education and health services research. Our Bruyère Foundation works tirelessly to raise funds that help change the lives of our region's aging population. More about Bruyère:

www.bruyere.org

What is Carleton University?

Located in the nation's capital, Carleton University is a dynamic research and teaching institution with a tradition of leading change. Its internationally recognized faculty, staff and researchers provide 30,000 full- and part-time students from every province and more than 100 countries around the world with academic opportunities in more than 65 programs of study. Carleton's creative, interdisciplinary and international approach to research has led to many significant discoveries and creative works. As an innovative institution, Carleton is uniquely committed to developing solutions to real-world problems by pushing the boundaries of knowledge and understanding daily. More about Carleton: www.carleton.ca