



PURE

PREVENTION CURE REHABILITATION

**Fostering Innovation,
Enriching Lives**

The importance of PURE

The Imperative: Reduce the impact of functional impairment on quality of life

The 2017 Study on Disability in Canada (Statistics Canada) found that:

- 22% of Canadians age 15+ are living with at least one disability – that’s over 6.2 million individuals in Canada alone
- The prevalence of disability increases with age, affecting 47% of those age 75+
- Individuals living with functional impairment are less likely to be employed, and more likely to live in poverty

The Opportunity: Advanced Human-Machine Interaction (HMI) Technologies



HMI technologies bring together robotics, artificial intelligence, wearable and implantable sensors and medical devices, biomimetic materials, virtual reality, advanced rehabilitation, neuroprostheses and behavioural assessment to develop next generation products that intelligently interact with humans and enhance their functional abilities.

The market for HMI products and services in relation to PURE is forecast to be US\$80 billion by 2026.

The Entity:



PURE is Canada’s state-of-the art centre for research and innovation in injury prevention, rehabilitation and functional recovery. In its two locations, PURE houses more than \$100 million of unique, cutting-edge equipment, managed and operated by highly skilled personnel. PURE provides access, expertise and services to researchers, entrepreneurs, and industry players – offering a one-stop-shop from discovery to validation and commercialization in all aspects related to HMI.



Our mission

To foster the development and application of innovative interventions and intelligent devices that prevent injury, improve quality of care, restore function, and enhance quality of life.



Our vision

A future with improved abilities and enhanced life experiences for people living with, or at risk of, functional impairments.

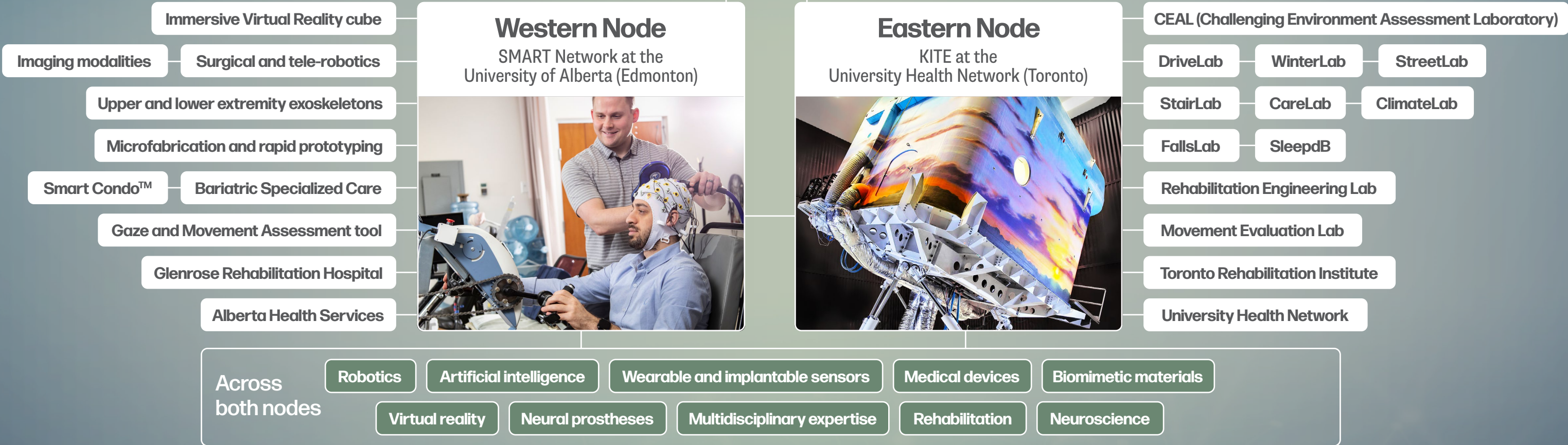
The PURE Ecosystem

Our specialized resources

PURE provides highly specialized infrastructure, equipment, resources and multidisciplinary expertise in HMI at its two locations in western and eastern Canada. These resources are available to collaborators across Canada and beyond, and are essential for accelerating discovery and its translation to social impact.



- \$100 million state-of-the-art equipment, imaging and prototyping facilities
- 130,000+ sq.ft. of shared and individual lab space
- Access to multidisciplinary expertise in artificial intelligence, rehabilitation, and neuroscience
- Validation opportunities at Canada’s largest rehabilitation centres
- Business and commercialization support to connect researchers, clinicians and entrepreneurs



Our community of users and collaborators

PURE supports and collaborates with researchers, entrepreneurs, and companies from across Canada and around the world. Our user community includes many of the most accomplished world-class researchers in HMI.



1,500+

users and collaborators from across Canada and around the world

PURE supports...

- Investigators and research labs across Canada
- Emerging and established Canadian companies
- International researchers and organizations

Our unique impact

For...



**Researchers,
entrepreneurs,
and industry
partners**

PURE provides ...

A leading edge one-stop-shop for bringing innovative ideas, products and solutions to the healthcare system and the market – efficiently, safely, and successfully



**Early-career
personnel and
investigators**

A learning environment with state-of-the-art equipment, multidisciplinary exposure, and training opportunities preparing the next generation of leaders in the HMI field



**People living
with, or at risk
of, functional
impairment**

Enriched life experiences through solutions that prevent injury, restore function, enhance participation and inclusion, and facilitate independent living



Canada

A centre that leverages the nation's high-caliber infrastructure and expertise; promotes employment and economic success; and advances social justice

Our strategic priorities

Objectives



Expand our community of collaborators across research, industry and healthcare

- Increase access to leading edge infrastructure and expertise
- Strengthen the ecosystem through greater cross-discipline and cross-sector collaboration



Enhance research and development in intelligent medical devices and interventions

- Elevate interest and engagement in the field
- Increase the number of world-first advances and successes in prevention and rehabilitation



Accelerate translation of outcomes to healthcare and commercial applications

- Provide a comprehensive, collaborative and seamless approach to discovery and translation in HMI technologies
- Reduce the time from idea to application and impact



Train the next generation of researchers and entrepreneurs in HMI

- Increase awareness and attract and top talent
- Provide exceptional training and experiences that position our trainees as HMI leaders in Canada and beyond



Advance social justice by promoting equity, diversity and inclusion of all human beings

- Offer an inclusive, equitable and diverse environment at PURE
- Advance solutions that increase participation, promote inclusion, and enhance experiences for all people with disabilities

Our aspirations for the future



We envision a future where...

- PURE is home to an expanded, diverse community of collaborators, and serves as a vibrant ecosystem for developing and translating HMI technologies
- Cross-discipline and cross-sector collaboration at PURE has led to notable knowledge advances in injury prevention and functional restoration
- Innovations in practice, programs and products have been successfully translated to the healthcare system and the national and global marketplace
- Canada's leadership in HMI innovation has been elevated to new heights, with significant impact on improved health, elevated social justice, and economic success across the nation and globally
- All individuals facing functional impairment are experiencing higher levels of participation, inclusion, independence, and quality of life

Ultimately,
we are working together towards
our **vision** of a future with improved
abilities and enhanced life experiences
for people living with, or at risk of,
functional impairments



Join Us

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