UBC STAR is the Western Canada hub for applied R&D improving human performance in extreme environments.

**Noteworthy successes since 2014 launch**

- **$26.9M** applied R&D catalyzed
- **$3.8M** equipment and infrastructure investments made
- **110+** student research opportunities created
- **100+** private sector partners engaged

**Expanding and diversifying research funding from non-Tri-Agency sources**

- **90** funding proposals submitted
- **62%** proposal success rate
- **$2.2M** Department of National Defence-funded advanced materials network
- **$6.2M** Department of National Defence (IDEaS 1B) contracts
- **$4.5M** Industrial and Technological Benefits (ITB) investments

**Catalyzing research opportunities that benefit Canadians**

- Continuous dialogue with government funding agencies, including PaciCan.
- Daily tracking of safety and security opportunities to match UBC researchers to R&D competitions.
- Technical support for prototyping, device and materials testing.
- Multi-disciplinary partnership development, project implementation and research development support.

**Partnership-driven with 100+ private sector collaborations in B.C. and around the world**

- Raytheon
- BAE Systems
- Lululemon
- Arc'teryx
- PRE Labs
- Patriot One Technologies
- EPIC Ventures
- Beyond Aerospace
- TANKA
- TerraSense Analytics
- KF Aerospace
- L3Harris
- MDA
- Innovex Engineering
- Arc4dia
- DRDC Centre for Security Science
- DRDC Toronto, Valcartier, Suffield
- Textron
- Apparel Innovation Centre
- Patronus

**Convener of research talent from across both UBC campuses and beyond**

- UBC Faculty of Management
- UBC School of Engineering
- UBC Irving K. Barber Faculty of Science
- UBC Irving K. Barber Faculty of Arts and Social Sciences
- UBC Faculty of Creative and Critical Studies
- UBC Faculty of Forestry
- UBC College of Graduate Studies

**Tailored support for all applied R&D disciplines, including high-impact social research**

- IDEAS Proactive deterrence of ‘grey’ threats **$294,574**
- IDEAS Improving CAF veterans’ returns to civilian life **$200,000**
- CIMVHR Understanding the financial wellbeing of survivors of veterans **$225,769**
- MINDS A digitized community-based CAF recruitment and referral portal **$31,530**
- MINDS Grey zone conflict governance and organization **$18,800**
HAZARD SENSING

Improving public health
DR. SEPIDEH PAKPOUR, School of Engineering
IDEaS COVID-19 Challenge Competitive Project
Dr. Pakpour and her team are developing a wearable device providing real-time COVID-19 sensing using an integrated rPPG-based screening and sweat-based biosensing approach.

Sensing and tracking threats to national security
DR. ZHENG LIU, School of Engineering
Indigenous-owned partner firm TerraSense was incubated in UBC STAR facilities before expanding to nearby officers where it works with UBC researchers including Dr Jiang Liu. Together we have secured over $4M in DND contract support for development of the Multimodal Input Surveillance and Tracking (MIST) system.

DECISION SUPPORT

Enhancing police training
DR. MEGAN SMITH, Faculty of Creative and Critical Studies
Dr. Smith is working in collaboration with the Royal Canadian Mounted Police to create augmented and virtual reality immersive training environments, increasing the realism of police training.

Helping Canadian Armed Forces Veterans find post-military careers
DR. ERIC LI, Faculty of Management
Dr. Li is working together with the UBC Vancouver campus’s Institute for Veterans Education and Transition (IVET) to use AI techniques to match veterans with civilian occupations and help them transition to post-military careers.

PROTECTIVE MATERIALS

Comfort-Optimized Materials for Operational Resilience, Thermal-transport and Survivability
DR. KEVIN GOLOVIN, School of Engineering
UBC STAR hosts the $2.2M DND-funded COMFORTS micro-network in collaboration with colleagues at the Universities of Alberta and Victoria — part of UBC STAR’s extended (STAR West) network of researchers working together on advanced materials innovation.

We detect hazards to human safety and security. We create protective materials for people, structures and vehicles. We provide decision-support to individuals, business and governments and engage with partners and researchers from all disciplines to create regional opportunities for R&D investment.