

Defence Research and Development Canada

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Government of Canada invests in Canada's Safety and Security

January 29, 2014

Defence Research and Development Canada is announcing 20 new science and technology projects as part of an approximately \$14.5 million investment under the Canadian Safety and Security Program. All projects are built on a model of partnership between government, academia and the private sector.

The Canadian Safety and Security Program was established in 2012 to invest in science and technology projects that will strengthen Canada's ability to anticipate, prevent, mitigate, prepare for, respond to, and recover from natural disasters, serious accidents, crime and terrorism. This is achieved through the convergence of science and technology with policy, operations and intelligence.

The Canadian Safety and Security Program is led by Defence Research and Development Canada's Centre for Security Science (DRDC CSS), in partnership with Public Safety Canada, and supports academic, federal, provincial or municipal government-led projects in collaboration with response and emergency management organizations, non-governmental agencies, industry and academia.

Making Investments to Achieve Strategic Objectives

Canadian Safety and Security Program funding supports knowledge generation and technology projects and activities in response to Canadian public safety and security priorities. These priorities are identified through risk assessments, consultation with communities of subject matter experts as well as with central agencies, and policy, operational and intelligence entities.

These investments must contribute to achieving the program's primary goal of ensuring that Canadians and their institutions have a greater resilience to global and domestic public safety and security threats.

These efforts are guided by a set of long-term goals: a secure and efficient flow of people, goods and services across Canadian borders and ports of entry; a connected and multi-jurisdictional security, intelligence and national emergency management system; and public confidence that hazards are being identified, assessed and addressed in a way that respects Canadian values.

Call for Proposal

The objective of the Canadian Safety and Security Program is to develop a collaborative space where industry, academia, multiple levels of government and safety and security practitioners can work together developing new knowledge and technology enablers to reduce vulnerability and risk.

In March, 2013, the Government of Canada also announced an investment of approximately \$20 million for innovative science and technology projects under the same program.

The second Canadian Safety and Security Program investments have now been identified:

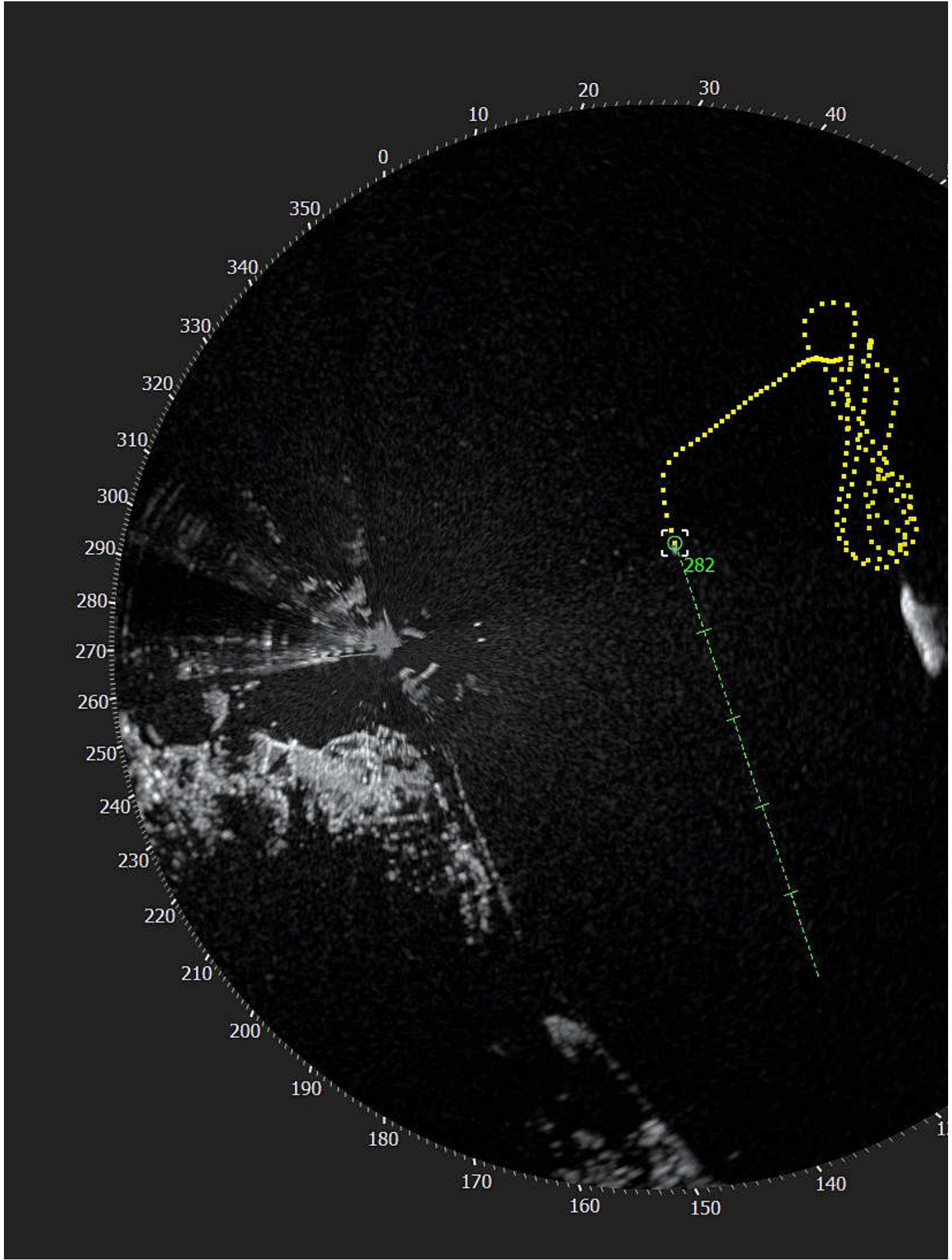
1. The Royal Canadian Mounted Police (RCMP) will lead a project that will assist in enhancing border surveillance capabilities in the Great Lakes, St-Lawrence Seaway. **Partners:** Accipiter Radar Technologies Inc. and United States Coast Guard.
2. Public Works and Government Services Canada (PWGSC) will lead the development of a National Standard for Personal Protective Equipment (PPE), which will help First Responders with the selection, use and care of PPE when investigating and dismantling clandestine drug laboratories. **Partners:** Canadian Standards Association Group; Royal Military College of Canada; and Royal Canadian Mounted Police.
3. Industry Canada will lead a project that will assist in defining, designing, building, testing and operating an effective public alerting service that goes directly to cell phones in an affected area. Developing such a public alerting service will help quickly inform citizens of immediate threats to their safety and security. **Partners:** Bell Mobility; Ontario Office of the Fire Marshal and Emergency Management; Ontario Power Generation; Pelmorex Communications; and Public Safety Canada.
4. The Nova Scotia Department of Natural Resources will lead the development of an Internet mapping website where emergency management community officials and other interested parties can immediately obtain information about the possible extent of coastal flooding. **Partners:** Department of Fisheries and Oceans Canada; Environment Canada; New Brunswick (NB) Emergency Measures Organisation; NB Local Government and Climate Change; Nova Scotia (NS) Health and Wellness Emergency Management Office; NS Environment, Climate Change Directorate; Prince Edward Island (PEI) Office of Public Safety; PEI's Environment, Labour and Justice; Service NB Topographic Infrastructure; and Service NS and Municipal Relations.
5. Public Safety Canada will lead a study to produce 'machine learning algorithms,' a computer system that is trained to

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- recognize malicious network data, which will assist in the detection of 'advanced persistent threats' to computer networks. **Partner:** Dalhousie University
6. Public Safety Canada will lead the development of a method to leverage cross-sector resources to more effectively analyze critical, real-time intelligence against emerging cyber threats, thereby providing capabilities to assist security and intelligence communities during the investigation of cyber threats against critical infrastructures. **Partners:** École Polytechnique and Natural Resources Canada.
 7. The Government of British Columbia Environmental Assessment Office will lead a series of case study reports on Smart Grid Technologies to understand Canada's current security vulnerabilities. These studies will contribute valuable knowledge to policy-making agencies and support their future efforts in securing Canada's electricity grid. **Partners:** ABB Inc.; BC Government; and Tantalus Systems.
 8. The City of Ottawa Fire Services will lead the development of an evidence-based fire dynamics training (FDT) curriculum that will assist in closing current critical knowledge and capability gaps. This training will be incorporated into Canadian firefighting training certification standards for adoption and use by all fire services in Canada. **Partners:** Calgary Fire Department; Halifax Regional Fire & Emergency; and Service de sécurité incendie de Montréal.
 9. L'École nationale de police du Québec will lead a project to develop a tool that will assist in documenting best practices and lessons learned surrounding the use of communications and information technologies during the management of high profile security events. **Partners:** Royal Canadian Mounted Police, Sûreté du Québec and Ville de Québec.
 10. The County of Hastings will lead a study to examine the economic impact of community paramedicine programs and their potential value within the global healthcare system. **Partners:** Corporation of the Country of Hastings Emergency Medical Services; County of Renfrew; and Quinte Healthcare Corporation.
 11. Public Safety Canada will lead a collaborative research study with academic researchers and government officials to share information and address current knowledge gaps on countering extremist violence. **Partners:** Royal Canadian Mounted Police and University of British Columbia.
 12. Natural Resources Canada will lead a project to develop tools, which will automatically generate and display results concerning the impact of major earthquakes. This information is critical to managing disasters and will inform the emergency management and larger public safety communities of the potential scope and characteristics associated with seismic hazards. **Partners:** École de Technologie Supérieure; Ministère de la Sécurité Québec; Natural Resources Canada; Ontario Ministry of Community Safety and Correctional Services; Public Safety Canada; Transport Canada; University of Ottawa; University of Waterloo; and University of Western Ontario.
 13. Atomic Energy Canada Limited will lead a project that will assist in finding an improved treatment for individuals who have inhaled radioactive particles during a radiological-nuclear event. **Partners:** Canadian Forces Health Services; Health Canada; and University of Manitoba.
 14. The Department of National Defence will lead a clinical study that will contribute to current research on the development of a nerve agent antidote (HI-6) that can be self-administered through an intramuscular injection or intravenously. **Partners:** Defence Research and Development Canada; Ethica CRO Inc.; Netherlands Ministry of Defence; Public Health Agency of Canada; and United Kingdom Ministry of Defence.
 15. Industry Canada will lead a study that will assist in the development of a secure and functional framework to enable sensitive information-sharing between telecommunications network operators. **Partners:** Centre de services partagés du Québec; and Centre risque & performance de Polytechnique Montréal.
 16. Emergency Management British Columbia will lead a technology demonstration project that will assist in improving the interoperability and situational awareness between aviation resources from multiple organizations during emergency management events. **Partners:** British Columbia Ambulance Service; British Columbia's Ministry of Forest Lands and Natural Resource Operations; and Selkirk Systems Inc.
 17. The Royal Canadian Mounted Police will lead the development of Homemade Explosives (HME) Training for civilian police forces and first responders. This training will include several significant aspects of the HME response from arrival at the scene to final cleanup. **Partners:** Global Tactical Solutions; HardPoint Defense & Security Technologies Inc.; Ontario Ministry of Community Safety and Correctional Services; and Ontario Provincial Police.
 18. Public Works and Government Services Canada will lead a project to improve Canada's preparedness and prevention capabilities against blast hazards by identifying best practices guidelines and design of blast-resistant window retention anchors. **Partners:** Advanced Coatings Enterprises (ACE) Windows; AMBICO Ltd.; Baker Risk Ltd.; Carleton University; Canadian Standards Association; Department of Foreign Affairs Trade and Development; Environment Canada; Natural Resources Canada; Royal Canadian Mounted Police; and University of Ottawa.
 19. The Government of Saskatchewan will lead a technology demonstration project to assist in the development and commercialization of a tool that will enable first responders to share critical infrastructure information through reliable, accurate and secure wireless technology. **Partners:** Advance Property Exposure Canada Inc.; Canadian Interoperability Technology Interest Group; and University of Ottawa.
 20. The Canada Border Services Agency will lead a project that will test the readiness of face-recognition technology as a means of screening against a watch list in an operational environment. **Partners:** ADGA Group Consultants Inc.; Calgary Police Service; Department of Homeland Security; NextgenID Canada Inc.; Information and Privacy Commissioner of Ontario; Public Safety Canada; Royal Canadian Mounted Police; Transport Canada; and Université du Québec.



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