INCREASED MILITARY SECURITY THROUGH COMMUNICATIONS

BACKGROUND
Solana Networks specializes in developing network and security systems. The company has designed and marketed a network monitoring system for use in wired networks. Through the ARC Initiative, Solana partnered with UOIT to investigate the possibility of creating a network monitoring and situational awareness system for wireless networks. This technology would have broad applications in the defence industry, for emergency response teams and for disaster recovery organizations because it can be used by tactical units looking to maintain communication and location awareness in harsh environments.

The UOIT team researched and developed a novel localization method to visualize the mobile wireless network in real time. The team created a simulation environment that allowed performance testing of the developed algorithms in order to determine the operational limits of such a system in the field.

OUTCOMES
The team was able to develop a proof of concept for a situational awareness system and study its performance and limitations in different scenarios. Two master’s degree students at UOIT completed their research theses based on their work in this project, and one of them spent two months as an intern at Solana, which provided him with great hands-on industry experience. A post-doctoral fellow and several undergraduate students also assisted in various stages of the project and also gained valuable expertise in this field.

Solana Networks was pleased with the outcome, which provided them with a proof of concept as well as a simulation environment for performance analysis of the proposed algorithms. The results of this project will help Solana develop a commercialized product.

ABOUT FEDDEV ONTARIO
The Federal Economic Development Agency for Southern Ontario (FedDev Ontario) was created as part of Canada’s Economic Action Plan to support businesses and communities in southern Ontario as part of the Applied Research and Commercialization (ARC) Initiative. ARC is a pilot program designed to address the gap between small- and medium-size enterprises and post-secondary institutions. Launched in 2010, ARC’s goal is to accelerate innovation, improve productivity, create jobs and contribute to the creation of globally competitive Ontario companies with fewer than 1,000 employees.

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