

5G (ENCQOR) Technology Development Challenge

Virtual Locationing

Challenge Launch Date	<ul style="list-style-type: none">• January 3, 2019
Challenge Deadline	<ul style="list-style-type: none">• January 31, 2019
Challenge Statement	<ul style="list-style-type: none">• Ericsson is interested in working with Ontario based College/ University teams to conceptualize, investigate, prototype and verify a virtual Ubiquity locationing system for indoor networks.
Project Partner	<ul style="list-style-type: none">• Ericsson Canada Inc.
Timeline	<ul style="list-style-type: none">• This is a two-year project:<ul style="list-style-type: none">• 4 months ramping up on concepts including detailing the core network architecture for mobility positioning solutions, radio RF parameters including TDoA, and trilateration algorithms.• 8 months creating simulators to process data, and present for customer location-based services applications.• 8 months receiving actual data, processing and presenting for customer location-based services applications.• 4 months assessing performance of various techniques and creating demonstration capabilities for interested customers.
Available funding	<ul style="list-style-type: none">• This project is expected to be funded to \$150K CDN over 2 years.• Additional cost will be needed for Ericsson RBS equipment.
Applicant Type	<ul style="list-style-type: none">• Ontario based College/University
Location	<ul style="list-style-type: none">• It is expected that the students/supervisor will perform all work at their campus location and will procure all necessary equipment, tools, and software to conduct this investigation.
Project Details	<ul style="list-style-type: none">• This is a pre-development prototype project in which the supervisor/student will work with Ericsson to conceptualize the proposed virtual location solution, and then develop a working prototype for performance assessment and demonstration.• The applicant will use simulations and measurements to assess performance of different algorithms and is responsible for all work providing monthly progress updates at Ericsson site meetings.• The applicant shall have APP development expertise on iOS and Android mobile phones, to be procured using program funding.

	<ul style="list-style-type: none"> • The solution will include standard 5G compliant terminals and may include NB-IoT devices. • The solution may involve remotely working with Ericsson mobility teams in Canada, USA, Sweden, China, and Germany.
Project Goals/ Outcomes	<ul style="list-style-type: none"> • The project goals/outcomes are: <ul style="list-style-type: none"> • Applicant presentations on solution architecture, algorithms, expected performance, error budget analysis, APP design, iOS and Android performance differences, and solution accuracy. • Prototype(s) of possible APPs demonstrating the concepts. • A working lab at the applicant’s site used to demonstrate the concepts, performance, and any new innovative applications.
Applicant Capabilities	<ul style="list-style-type: none"> • The applicant shall have expertise in locationing concepts and shall have this as one of their core research areas. • The applicant shall have or acquire simulation tools and capability. • The applicant shall have software design expertise, including iOS and Android APPs, and shall understand tunneling interfaces. • The applicant shall have access to a lab area on campus which can be used for performance testing and verification. • The applicant shall have RF expertise in indoor propagation and any test equipment which may help in the analysis.
Additional Information	<ul style="list-style-type: none"> • The applicant shall present resume and references for all staff. • The applicant shall be able to operate without supervision. • The applicant shall have a good understanding of indoor radio. • The applicant will be required to sign an Ericsson NDA. • This project is based on Ericsson IPR, and the project is to prototype and refine this innovation. • The applicant will freely license any potential new IPR related to this project to Ericsson and Ericsson’s customers.