

*With communication and interoperability issues between concerned departments being cited in the independent reviews of recent events at Canada's Parliament and the RCMP Moncton shootings in 2014, public safety communications have come to the forefront of the discussions within the Canadian Federal Government and other jurisdictions. It's time to move beyond our conventional legacy systems and realize the full potential of a modern public safety network.*



### SOLUTIONS

YRH provides multiple solutions to help you with your telecommunication projects. From surveys, testing & measuring, design to cost evaluation, project management and training, we will help you complete your projects.

### ENGINEERING

Our professional engineering team will design an efficient solution to your problems, weather it is a simple project, a complex system or network.

### CONSULTING

Our vast experience and recognition in multiple telecommunication sectors gives our engineering team the knowledge to help you in your telecommunication projects. Our independence from service providers and manufacturers to provide the best solution for your needs.

### 700 MHz LTE for Public Safety

TETRA, P25 and other digital radio communication systems are deployed to meet the mission critical communication needs of public safety agencies for the better part of the last 10 to 20 years. Among their advantages are their low latency, robustness, direct communication, group call, and the ability for ubiquitous coverage. However the low throughput of these networks is starting to show their age and limit the ability to integrate enhanced applications like video surveillance, live video recording, and automatic reading of sensitive equipment and sensors to name a few. LTE offers a broadband option that can use and develop devices, applications, and services that would be impossible to integrate with legacy networks. Of course the LTE standard was not developed for Public Safety Networks and does come with its limitations. However some of the drawbacks have been addressed in 3GPP Release 11 and 12, which now allows for higher power devices (UE), group calling, and Peer-to-Peer communication for direct, locally routed, or UE relay communication. With a uniform and open standard, a 700 MHz LTE Public Safety Network can leverage economies of scale achieved by Mobile Network Operators (MNO) and equipment manufacturers throughout the globe.

### SERVICES AVAILABLE

- ☞ Consulting
- ☞ Technology Evaluation
- ☞ Measurements
- ☞ Predesign Assessments
- ☞ Network Design
- ☞ Redesign Solutions
- ☞ Mitigation Solutions
- ☞ Project Management
- ☞ Post Construction Validation



### ABOUT YRH

At the heart of our organization is a dynamic and involved team of consulting engineers specialized in broadcasting and telecommunications, with a solid reputation for problem-solving.

In its 48 years of existence, YRH has completed mandates in more than 50 countries on 5 continents, in a variety of climatic conditions and work environments. Our varied experience is at your disposal in this increasingly competitive domain.

Our strength lays in our dedication to the excellence of our work and our attention to the needs of our clients. At YRH, we not only work for you but with you to ensure your entire satisfaction at every stage.

Yves R. Hamel et Associés Inc., your consultant-experts in telecommunications, broadcasting and mobile networks since 1967.

### Network Options

The age old question still remains: build your own network, or use an MNO's network. The answer might lie somewhere in the middle. Unfortunately in most cases the needs of a Public Safety Network cannot be met by an existing MNO. But that doesn't mean that a Public Safety Network can't leverage an existing MNO's infrastructure to meet demand in areas with limited coverage while their own network is being rolled out. Interoperability with existing legacy networks and devices is also required for a seamless experience and transition. With the shrinking budgets of most governments, funding for a Public Safety Network may be limited. However, one network built and used by all public safety agencies like local, provincial and federal police, ambulance, fire, and utilities would reduce costs and allow for greater cooperation and interoperability between these critical agencies.



### 700 MHz LTE ecosystem in Canada

The 2015 Budget reserved an additional 10 MHz for a total of 20 MHz in the 700 MHz band for a Public Safety Broadband Network. The Budget also allocates \$3M in funding over two years starting in 2016 to study possible network scenarios. With Canada in lock step with the 20 MHz Bandwidth already reserved for Public Safety in the U.S, this would allow for harmonization and interoperability with our southern neighbors, a trait that is highly desirable in our increasingly integrated cross-border public safety operations.



Source : <http://www.firstnet.gov/network>

### FirstNet and the 700 MHz LTE Public Safety in the U.S.A

In the U.S, FirstNet, a public agency within the NTIA is responsible for the nationwide public safety broadband network. In 2012, a budget of 7 billion dollars was allocated by the US federal government for the use in building the 700 MHz LTE public safety network using the allocated 20 MHz. The network will be rolled out in a public-private partnership (PPP).

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*Each client and each project are unique and so require a specific analysis or study.*

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