

Broadcast–Broadband Convergence *B<sup>2</sup>C*Lab

# Emergency Management Community Symposium

## NextGen Broadcast Innovation for Critical Communications



# LAND ACKNOWLEDGEMENT

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Humber is located within the traditional and treaty lands of the Mississaugas of the Credit. Known as Adoobiigok, the “Place of the Alders” in Michi Saagiig language, the region is uniquely situated along Humber River watershed, which historically provided an integral connection for Anishinaabe, Haudenosaunee, and Wendat peoples between the Ontario Lakeshore and the Lake Simcoe/Georgian Bay regions. Now home to people of numerous nations, Adoobiigok continues to provide a vital source of interconnection for all.



Innovation, Science and  
Economic Development Canada



Transport  
Canada



Hamilton



Public Safety  
Canada

ONTARIO **POWER**  
GENERATION



Algoma  
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Siyata

The Conference  
Board of Canada



Ramudden Digital



London  
CANADA



HARVARD MEDIA  
— A HILL COMPANY —



July 9, 2025



**November 10, 1979**  
**Mississauga, Ontario – Mavis Road Crossing**



# EVOLUTION IN WIRELESS COMMUNICATIONS

NextGen Broadcast System can be integrated into the Connected World



**1G**  
1980



**2G**  
1992



**3G**  
2001



**4G**  
2011



**5G**  
2020



**NTSC-B/W** 1941    **NTSC-Colour** 1953    **ATSC1.0-Digital** 1995

... and save lives

# ATSC 3.0 – INTERNET PROTOCOL FOR NEXTGEN BROADCAST





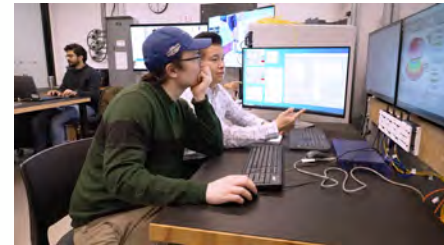
# THE BROADCAST SYSTEM AS PART OF WIRELESS COMMUNICATIONS



- Operates on existing, independent, reliable infrastructure
- Infinitely scalable – Can reach an infinite number of receivers/devices over wide geographic area/Massive IoT downlink
- No network congestion
- Deep building penetration
- NextGen Broadcast system can seamlessly integrate with other IP systems (5G, Wi-Fi, Bluetooth)
- Broadcast mobility: mobile devices/vehicles

# B<sup>2</sup>C LAB – INTRODUCTION

- Front-facing **industry research centre** in North America exploring multi-sectoral applications of ATSC 3.0 broadcast including convergence with other IP global data delivery standards (5G,Wifi, Bluetooth)
- Equipped with both **ATSC 3.0 OTA broadcast system** and three **5G core networks**
- **RF anechoic test chamber** supporting the development of a wide range of wireless devices, sensors and antennas
- **Testing, Deployment and Implementation projects** for industry and municipal partners
- **Scientific Research** to advance capabilities of IP data delivery standards
- **Fostering partnerships between Humber Polytechnic and public and private sectors** leading to business innovation at local, regional and national levels
  - Facilitating commercialization through **innovation/technology transfer/adaptation in marketplace**
  - Supporting adoption of ATSC 3.0 in Canada





# B<sup>2</sup>C LAB – BROADCAST TEST BED

- **World-class OTA SFN broadcast test bed** including 4 ATSC 3.0 transmitter-antenna sites operating on 2 TV channels across Toronto region/includes **CN Tower** – potential for testing over 20% of Canada's marketplace
- **Inter-Tower Communications Network (ITCN)**– Connect all broadcast towers – IP, 5G-based scalable and configurable nationwide terrestrial broadcast network using existing TV infrastructure
- **Broadcast Core Network (BCN)**–Connect all broadcast facilities enabling point-to-multipoint services/Coupling broadcast and cellular networks via network slicing of a carrier 5G

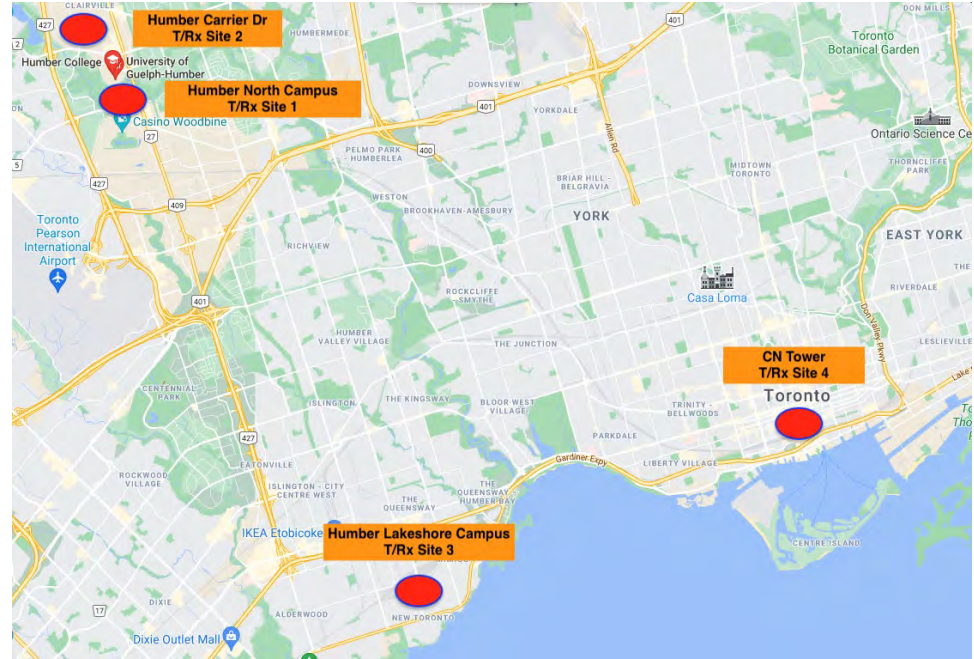


Image Source: Google Maps

# Thank you !!

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Calgary



## ATSC 3.0 : thinking outside the box with NextGen Broadcasting







Digital  
Equity



Storytelling &  
Engagement



Partnerships  
& Regional  
Collaboration

Experimentation



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Governance and Digital Equity



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**Public Safety and Communication**



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Climate





What's next



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Questions?

Ask me anything  
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