

KATIVIK REGIONAL GOVERNMENT AND ITS EASTERN ARCTIC UNDERWATER FIBRE OPTIC NETWORK (EAUFON) PROJECT

TELECOMMUNICATION AND CONNECTIVITY –
BUILDING SECURE REDUNDANCY FOR THE NORTH

Dan Pellerin
Senior Advisor Telecommunications
Kativik Regional Government

A BACKGROUND

2000 – 2005

- The Kativik Regional Government (KRG) accepts to be Nunavik's Internet Service Provider
- Financial agreements with Governments
- Deployment of satellite earth stations in 14 communities
- 2004 – Deployment of wireless distribution system and the launch of Tamaani Internet



A BACKGROUND

2005 – 2010

- Increasing Capacity

2004 – 10 Mbps

2005 – 50 Mbps

2010 – 150 Mbps

- At this point, it was very clear that satellite was not the answer. It was extremely expensive and overused. Demand was rapidly increasing



A BACKGROUND

2011 – 2015

- Exploring alternate solutions
- Feasibility study was done to link Nunavik to the south using microwave towers
- Feasibility study was done to consider a submarine fibre around Nunavik
- An application to the Connecting Canadians program brought 1200 Mbps additional bandwidth



A BACKGROUND

2015 – 2018

Submarine Fibre is the way forward

- A desktop study was commissioned for submarine fibre in the Nunavik region
- An application to the Connect To Innovate program was made to fund a submarine fibre project



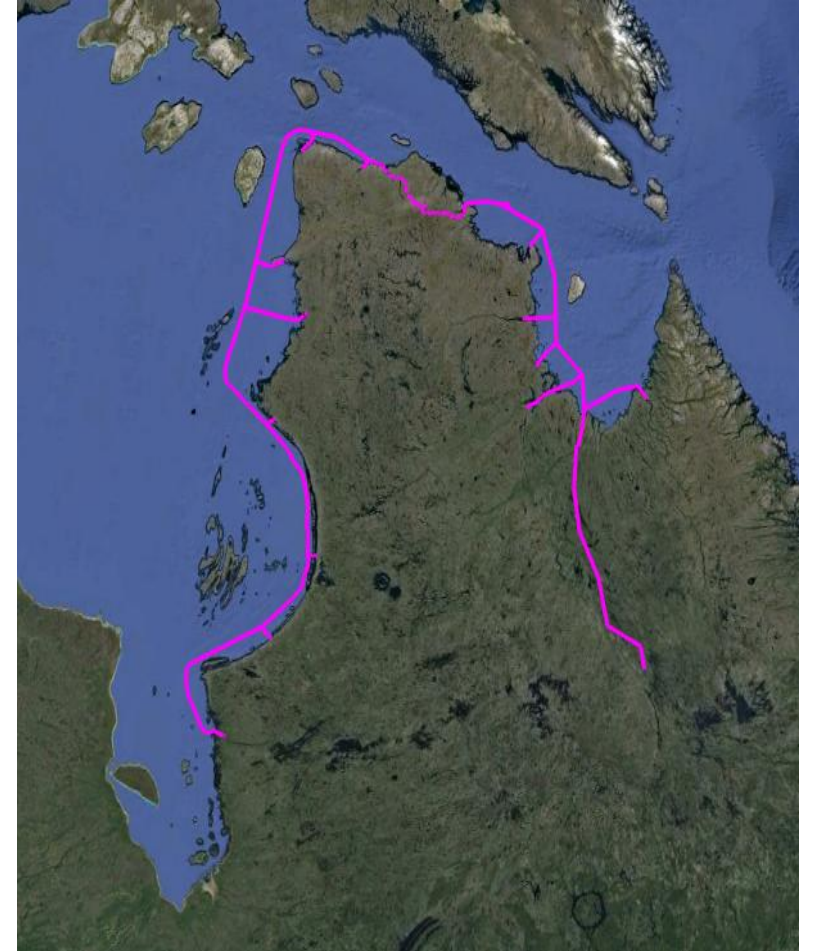
KRG EAU FON PROJECT

In 2019 KRG began the Project known now as EAU FON (Eastern Arctic Underwater Fibre Optic Network) to connect the Nunavik Communities with a reliable, dependable, and affordable High-Speed Fibre Optics connectivity.

The Fibre project consists of:

- EAU FON 1 (Marine portion **completed 100%**), undersea fibre from Chisasibi to Puvirnituk connecting the communities of Whapmagoostui, Kuujjuaraapik, Umiujaq, and Inukjuak. A terrestrial fibre route from Kuujjuaq to Kawawachikamach.
- EAU FON 2 (**Completed 100%**), undersea fibre from Puvirnituk to Akulivik, Ivujivik, Salluit, Deception Bay.
- EAU FON 2 (Anticipated completion date: Summer 2026), A terrestrial fibre route from Deception Bay to Kangiqsujaq.
- EAU FON 3 (Anticipated start date: (August 2026), Undersea marine cable connecting from Kangiqsujaq to Kuujjuaq with connectivity to Quaqaq, Kangirsuk, Aupaluk, Tasiujaq, and Kangiqsualujuaq.

At Chisasibi and Kawawachikamach, the fibre cable connects to the partner networks (Eeyou Communications and Sichuun) for connectivity to the internet. This creates redundancy for the communities in case of a fibre break.



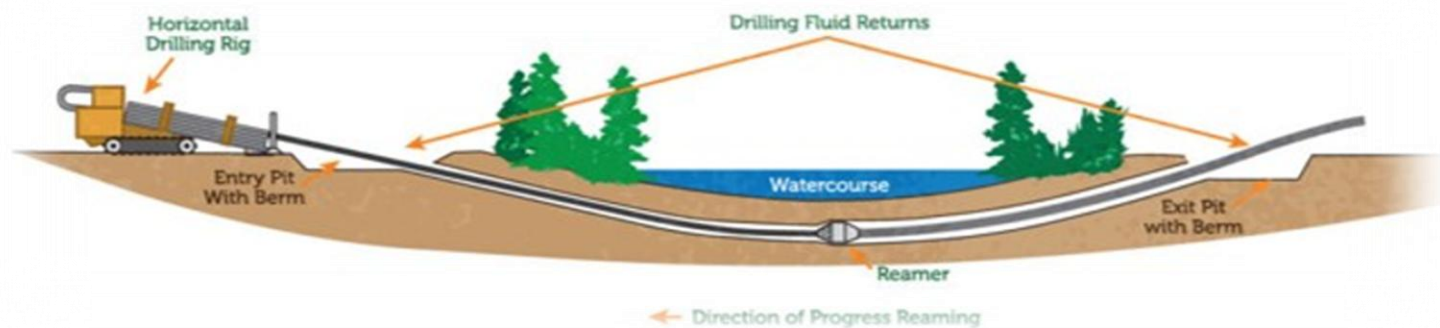
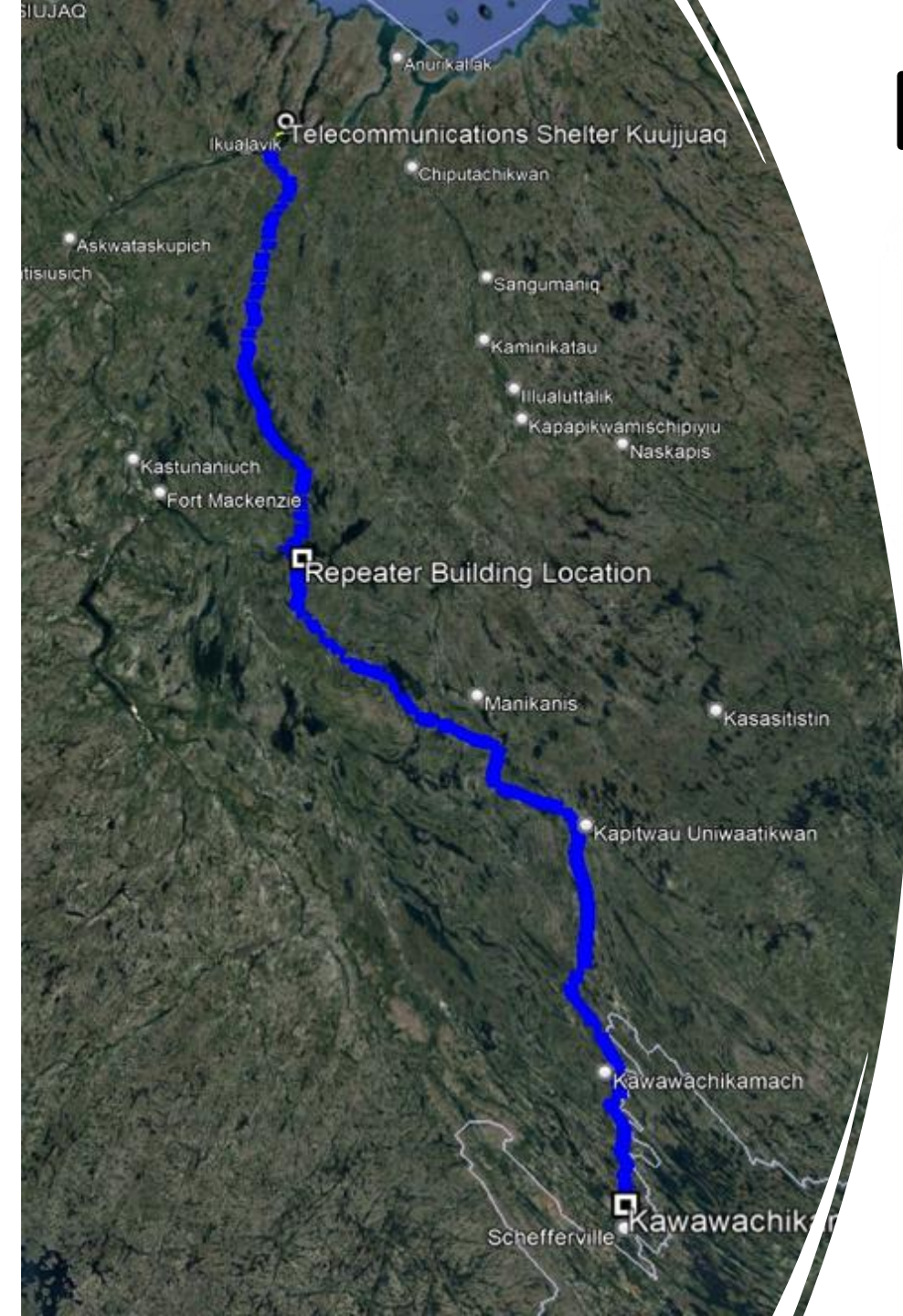
EAUFON 1

Marine Fibre Optic Cable from Chisasibi to Nunavik Communities of Kuujjuaraapik / Whapmagoustui, Umiujaq, Inukjuak & Puvirnituk

- Put into Service on June 30, 2022
- Low latency, high-capacity bandwidth at prices comparable to the south.



EAUFON 1 continued



Planned terrestrial link from Kuujuaq to Kawawachikamach

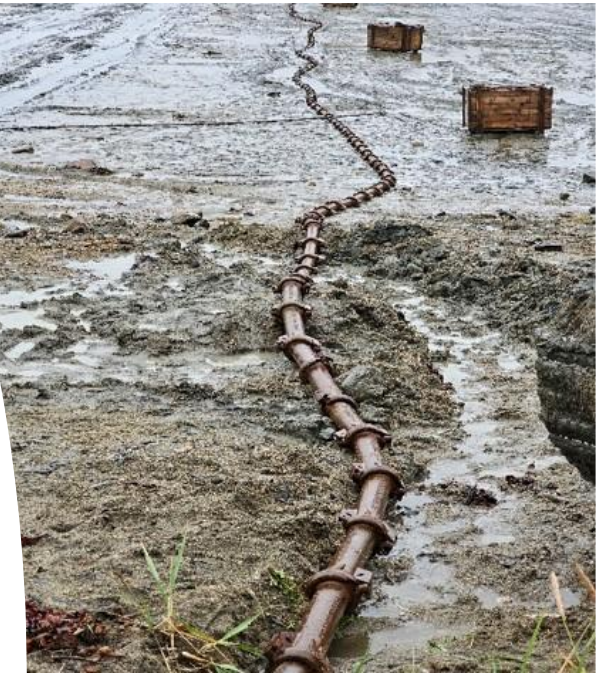
EAUFON 2

Quebec's northernmost community of Iqaluit gets connected to fibre



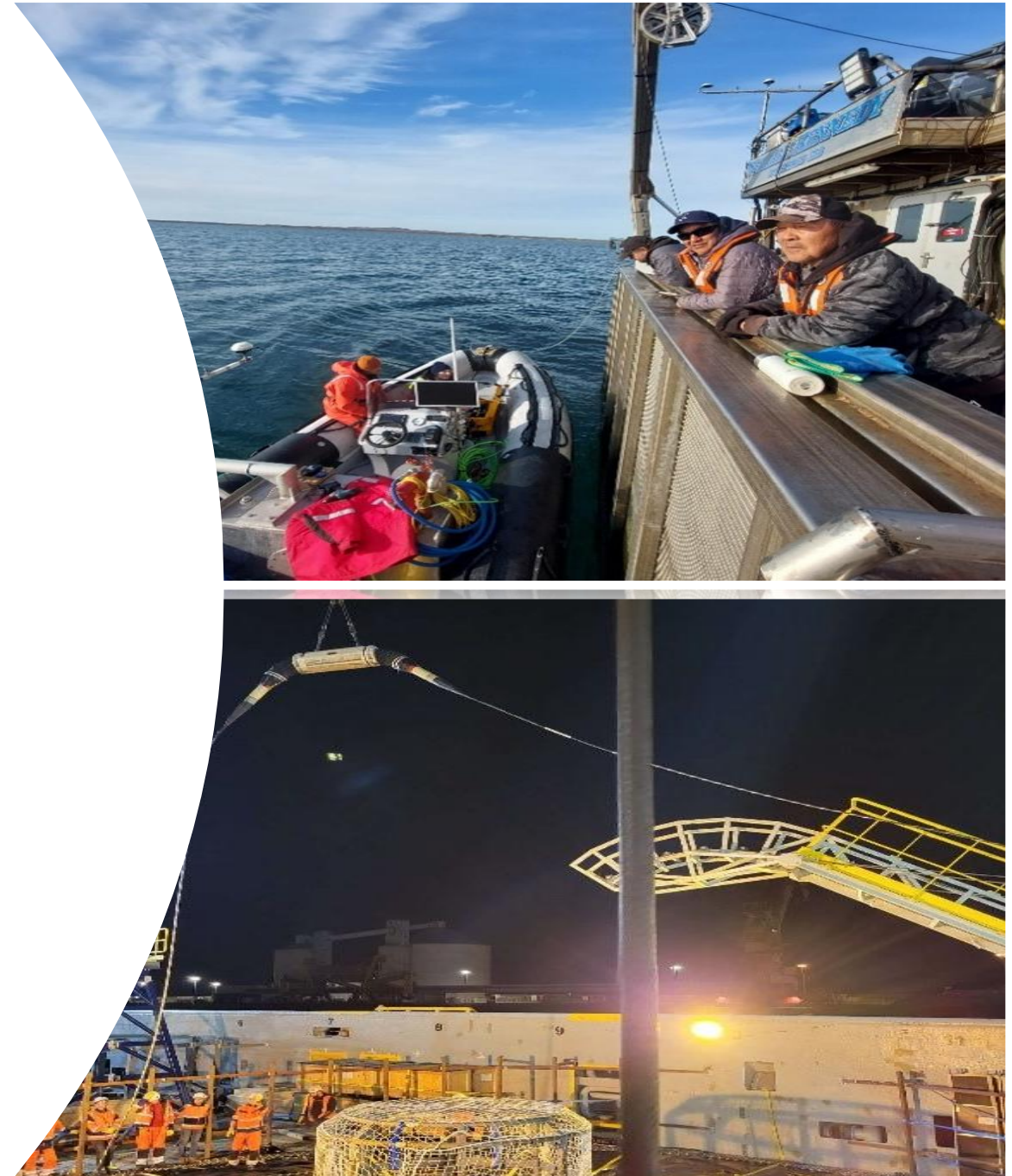
ACHIEVEMENTS TO DATE

- 7 out of 14 Nunavik communities are connected to the Fibre optic Network
- Almost 1200 Km of Optical Fiber network installed in Hudson Bay
- \$328 million invested since 2018
- Affordable High-Speed Internet

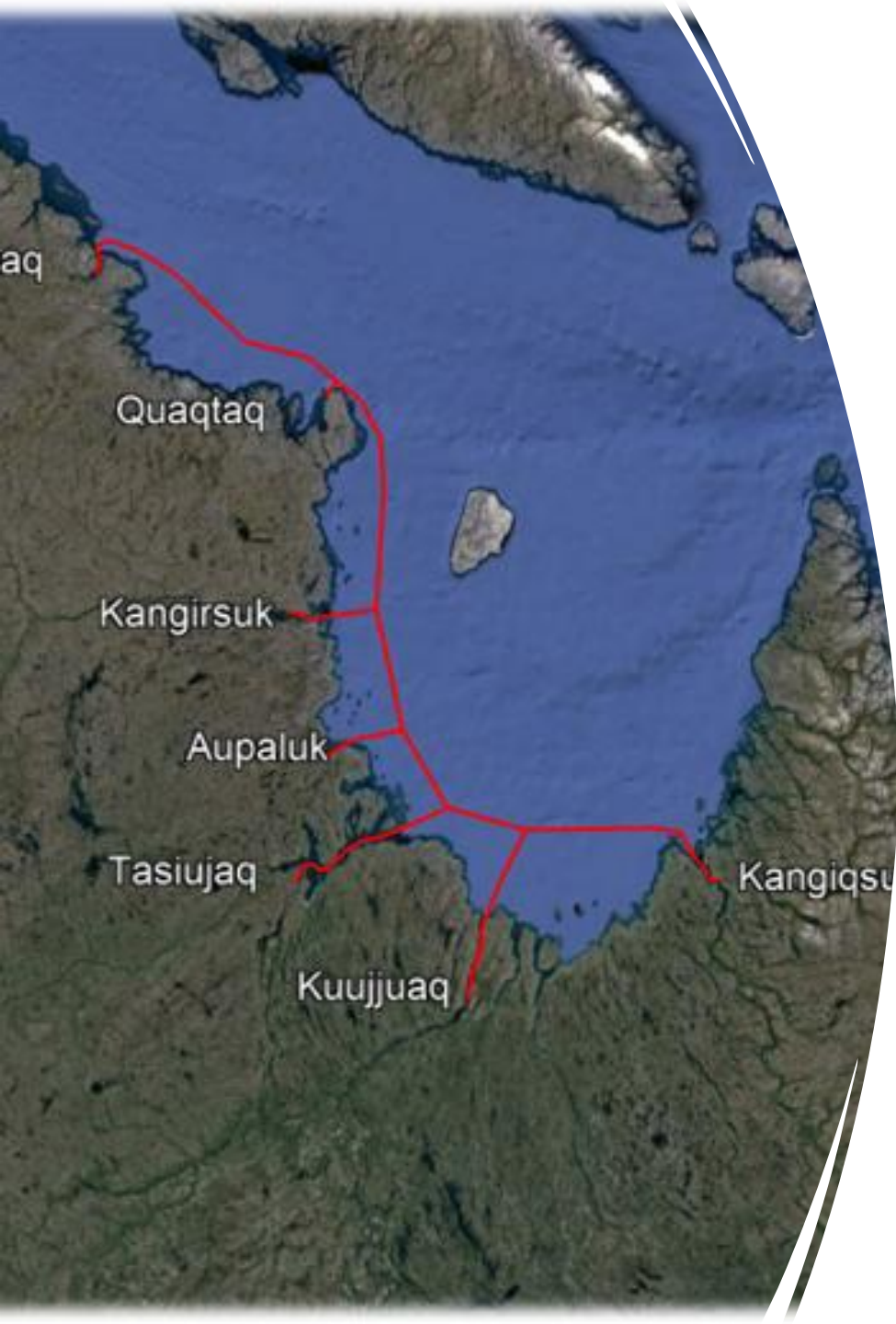


NOT WITHOUT CHALLENGES

- The COVID pandemic and subsequent supply and labour issues had a significant impact on the installation schedules and led to an overall cost increase for the project
- The marine program for EAUFON-2 was delayed by a year due to ship availability



TO BE COMPLETED

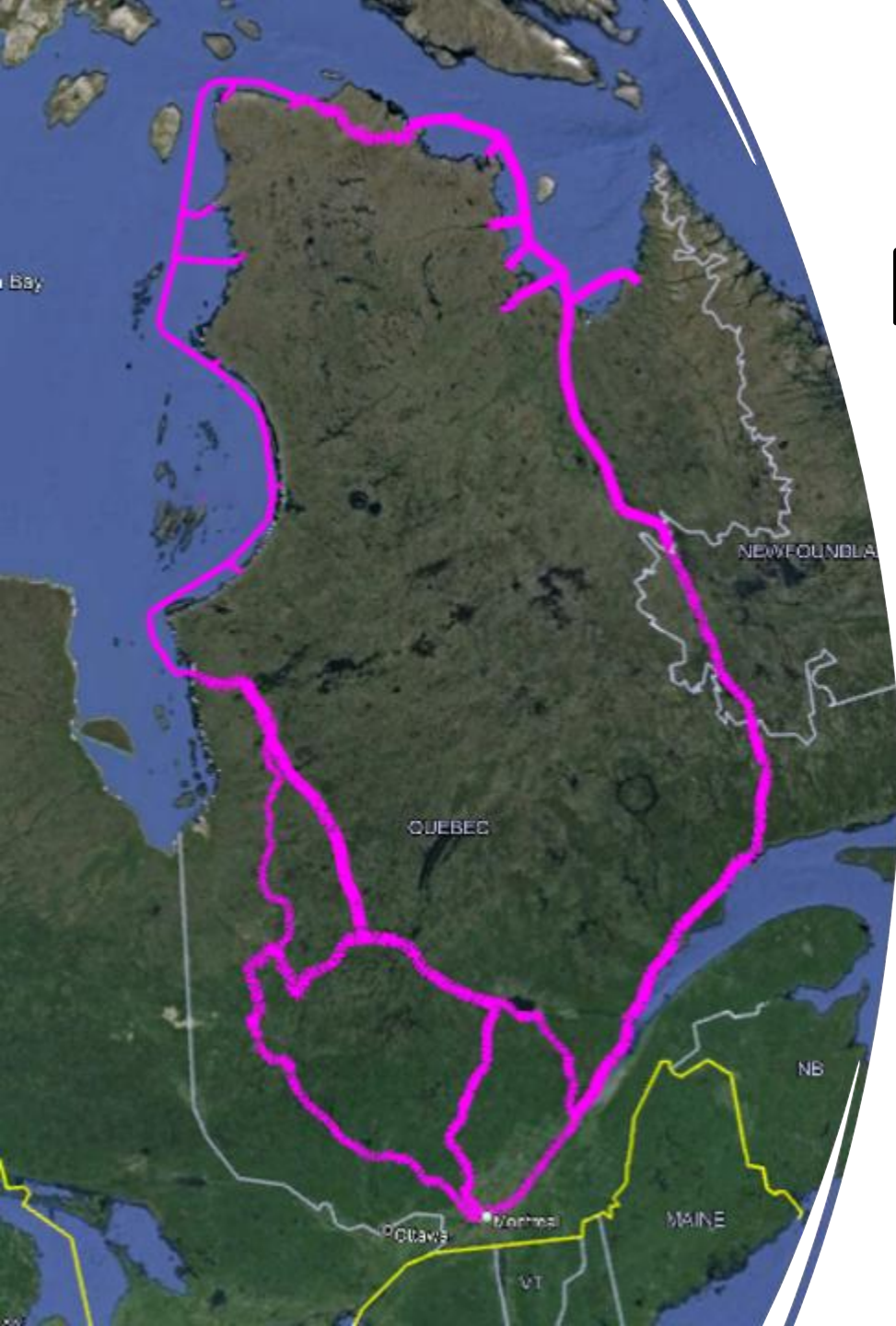


- Remaining 7 communities in Ungava Bay to be connected – *estimated* \$158 million
- 2026 Connect Kangiqsujuaq to Salluit
- 2026 Connect remaining Ungava communities to the submarine fibre
- 2026 Terrestrial connection between Kuujjuaq and Kawawachikamach

Low Latency Satellite still required

- SpaceX Community Gateway installed in Kuujuaq – 10Gbps capacity - scalable as required
- SpaceX High Performance Terminals are being installed in Ungava Bay communities while waiting for the connection to the EAUFON fibre.
- Will provide excellent redundancy for the submarine fiber network.



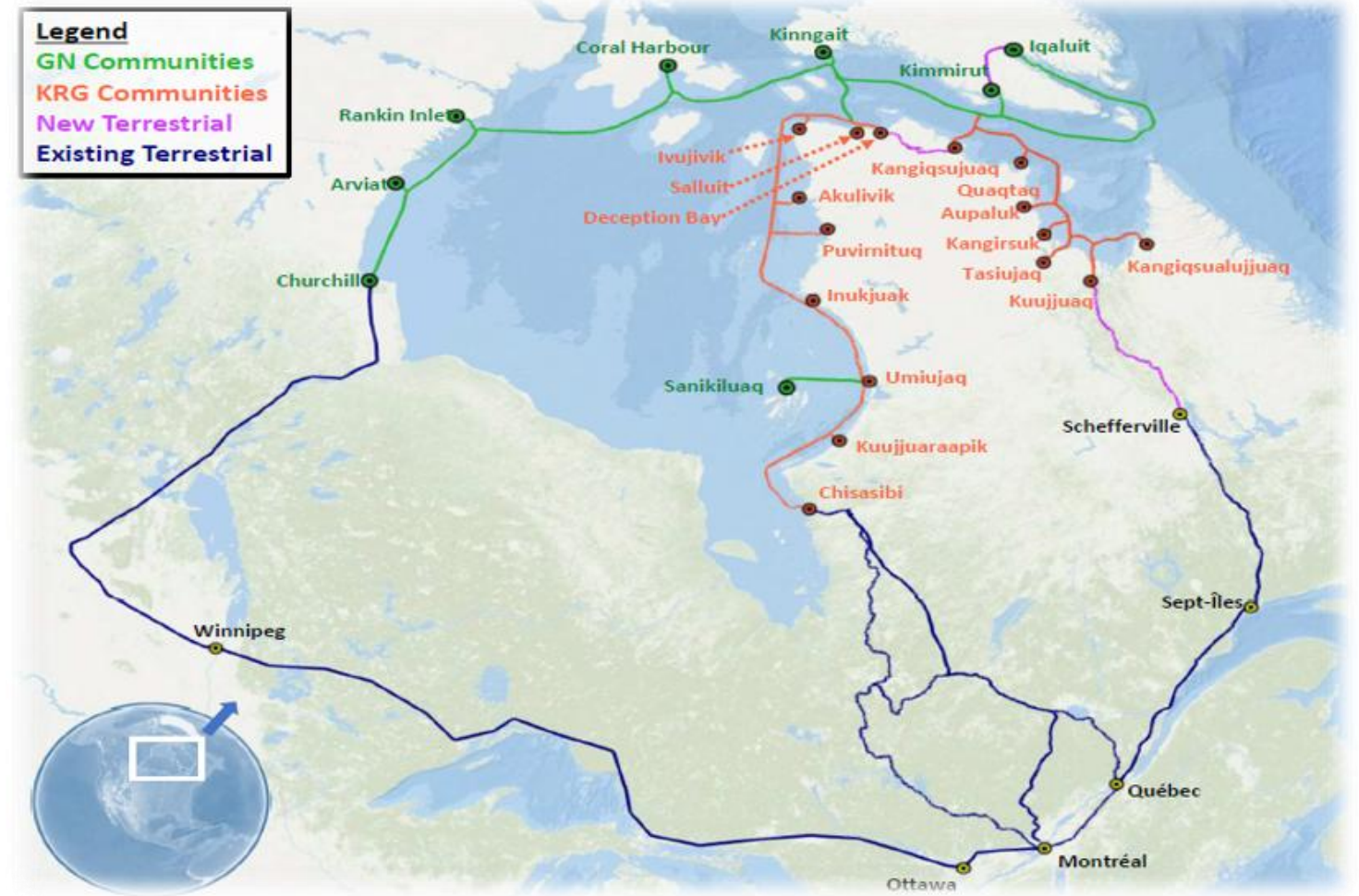


PUTTING IT ALL TOGETHER

- A High Speed, High-Capacity network that will eliminate the Digital Divide
 - Full Redundancy
 - Low Latency

OR THIS.....

The KRG has built its network to be very extendable





WHY FIBRE?

With the implementation of a Fibre Optic cable bringing more dependable and reliable broadband/internet into Nunavik, it will broaden opportunities and open doors currently closed as a result of slow and unreliable connectivity.

The results of Fibre positively impact:

- Socio & Economic value opportunities
- Tele-Health opportunities
- Tele-Education opportunities
- Tele-Justice opportunities

No longer will accessing the internet be faster or slower depending on the time of day or how clear the skies are. Instead, the speed of the internet will be faster than ever and remain constant regardless of outside forces.

Over the longer term, a fibre optic solution is much more economical than satellite costs while providing 100% of Nunavik's broadband requirements

Acknowledgements

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Telecommunications Commission

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Kativik Regional Government
Administration régionale Kativik



THANK YOU