INDIGENOUS COMMUNITY-BASED DIGITAL INFRASTRUCTURE IN CANADA:
The First Mile Connectivity Consortium

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PRESENTATION OVERVIEW

1. First Mile approach to telecommunications development
2. First Mile Connectivity Consortium – research, policy, public outreach
3. Infrastructure Development - Building the Manitoba First Nations Network of the Future Initiative
4. Training and Capacity-Building – the First Nations Technology Council
GEOGRAPHICAL PARADOX OF TELECOMMUNICATIONS DEVELOPMENT

Urban Communities:
- Cheapest digital services
- Best transportation links
- Low need for tele-services
- Low appreciation of tele-services
- Best digital infrastructure

Remote Communities:
- Most expensive digital services
- Worst transportation links
- High need for tele-services
- High appreciation of tele-services
- Inadequate digital infrastructure
WHY THE DISPARITIES BETWEEN URBAN AND REMOTE COMMUNITIES?

Easier to build on existing subsidized urban development
- Roads and other public utility infrastructure have been highly subsized in urban areas
- Public health, education, social services infrastructure already exists in urban centres

Policy-makers lack knowledge about remote environments
- Choosing build options that are high-cost and unsustainable in the long-term
- Systemically privileging urban perspectives

Corporations (incumbent telcos) wield enormous power
- Corporate political lobbying (evidence at CRTC BSO hearings)
- Most subsidies only available to incumbent telcos
- Lack of “business case” to build and maintain in remote regions
FIRST MILE TELECOMMUNICATIONS INFRASTRUCTURE DEVELOPMENT

Regional and local digital networks designed and built with region/community needs as the starting point.

Regional and local ownership and control of digital infrastructure.

Operating costs for anchor tenants support regional and community connectivity.

Regional and community training, local support staff, community jobs.

Sustainable digital technologies to meet regional and community needs.
WHOLE COMMUNITY UNDERSTANDING OF DIGITAL TECHNOLOGY ADOPTION IN REMOTE AND RURAL INDIGENOUS COMMUNITIES
DIGITAL TECHNOLOGIES ARE USED BY AND FOR THE WHOLE COMMUNITY

- Healthcare, telehealth, and health education
- Economic development, business and entrepreneurship
- Education and distance education
- Indigenous government and governance
- Justice, public safety and emergency communications
- Community interconnection and interdependency
- Digital content about Indigenous culture and identity
- Commercial entertainment
- Research, data collection, GIS, report generation
- Infrastructure maintenance, remote monitoring
- Indigenous resurgence, self-determination and activism
- Land-based activities and environmental sustainability
REGIONAL INDIGENOUS COMMUNITY INTERMEDIARY ORGANIZATIONS

The network footprint ovals have been generalized for illustrative purposes.
ROLES OF REGIONAL COMMUNITY INTERMEDIARY ORGANIZATIONS IN TECHNOLOGY DEVELOPMENT

- Advocate for and administer digital infrastructures and services on behalf of their Indigenous member communities.
- Represent and are governed by groups of local communities, allowing residents to access services and benefit from economies of scale otherwise unavailable.
- Use digital technologies to deliver public services and economic development opportunities to the residents of member communities.
- Act as mediators between local, place-based communities and external entities like government funders or corporations.
- Engage in both social and technical activities associated with the effective use of digital technologies.
FMCC MEMBERS

Atlantic Canada’s First Nation Help Desk
First Nations Education Council
Keewaytinook Okimakanak KNET Services
Western James Bay Telecom Network
Nanaandawewigamig
First Nations Health and Social Secretariat of Manitoba
First Nations Technical Services Advisory Group, INC.
First Nations Technology Council
EVIDENCE-BASED POLICY AND REGULATORY ACTIVITIES

EVIDENCE-BASED POLICY ACTIVITIES:


2014: Industry Canada – Two submissions on Spectrum Policy (3500 MHz and AWS)

2010: Industry Canada - Consultations contributions for a national digital strategy

EVIDENCE-BASED REGULATORY ACTIVITIES:

2015-2016: CRTC – Review of the Basic Service Objective (BSO)

2015: CRTC – Review of Telesat’s Pricing for Satellite Services

2014: CRTC – Let’s Talk TV Consultations

2014: CRTC – Review of Satellite Services

2013: CRTC – Review of Northwestel’s Modernization Plan
FOR FURTHER INFORMATION ...

FMCC Coordinator: Dr. Rob McMahon at RdMcmaho@ualberta.ca
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Visit the First Mile web site at: http://firstmile.ca

Call toll-free at: 1-877-737-5638 x 4522

Thanks to our funders
BUILDING THE MANITOBA FIRST NATIONS NETWORK OF THE FUTURE INITIATIVE
PROJECT PHASES

Phase 0: Information gathering
- Current State & technology needs
- Roadmap w/recommendations to get to Desired State

Phase 1A: Feasibility Study
- Terrain / labour / other costs associated with rural & remote locations; develop a valid estimate of real costs
- MFNs choose their own ISPs based on recommendations

Phase 1B: Road Map Development
- Develop Roadmap, Business Case, Legal Structure and Market Sounding
- Identify needed steps to get to Phase 2 and commencement of service.

Phase 2A: Design and Planning
- Implement the Roadmap components
- A Comprehensive Engineering Plan that will provide a clear and actual pathway to The Build Phase.

Phase 2B: The Build
- Triple A network that is Adequate, Accessible and Affordable will become a foundation for Education, Healthcare, Government and Consumers in MFNs communities
- Ownership & control by MFNs for MFNs
PROJECT OBJECTIVES

Connect all 63 MFNs with High Speed Fiber Optic Internet

Manitoba First Nations Majority Owned and Operated

Take all satellite connected communities off of satellite connections
Develop a legal structure:
Who owns and manages the Network

Business Model to benefit First Nation Communities and citizens

Enhance the service delivery for community owned ISP
Ekosani! Miigweetch! Mahsi! Wopida! Thank You!

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Together we will build the network of the future.......the Gateway to Economic Development Opportunities for Manitoba’s First Nations
First Nations Technology Council

Building capacity to fully utilize digital and connected technologies

www.technologycouncil.ca

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Find us: First Nations Technology Council

@FN_TechCouncil
INDIGENOUS COMMUNITIES AND DIGITAL TECHNOLOGIES – A THEORY OF CHANGE

1. Initial Outcomes
   - First Nations Leadership endorse and provide support and guidance
   - First Nations know about Pathways to Technology, Partners and Strategy
   - Communities are ready to commit and engage in the planning and implementation

2. Early Outcomes
   - Communities join the Pathways to Technology Connect and Advance Initiative

3. Intermediate Outcomes
   - Communities participate in digital skills development programs
   - Communities are connected to all resources and networks required to advance technology
   - Community Technology Plans are implemented in phases and regions
   - Coordination at all levels to improve informed decision making and capacity
   - 203 communities have a Technology Plan and resources to achieve short, mid and long term goals
   - All First Nations have access to sustainable high-speed internet connectivity

4. Long Term Outcomes
   - First Nations have the digital skills required to utilize technology in all personal, professional and academic pursuits
   - All First Nations utilize technology in the advancement of absolute autonomy

"FirstMiLE.ca"
INITIATIVES OF CHANGE

Indigenous Technology Talent Development Strategy

First Nations in BC Knowledge Network
www.fnbc.info
BC’S TECHNOLOGY SECTOR – OPPORTUNITY

- 93% Homes with access to high-speed internet
- 84% Homes with a personal computer
- 3% Unemployment rate in digital economy
- 8% Unemployment rate
- 14% Unemployment rate
- 18% Employment rate decrease for off-reserve youth in 2009
- ? Homes with connectivity/access to infrastructure
- Canadian population
- Indigenous population
- On-reserve schools with less than 1 mbps connection
- 6.8%
Industry leaders agree that talent availability is the most significant issue facing firms in BC. Talent drives growth through innovation and creativity.

Indigenous people are the fastest growing population in Canada. The population is expected to grow to 1.4 million by 2017.

Median age is much lower (29) than the national average (41) creating a young demographic of potential innovators.

Culture connects Indigenous people to the land reducing movement away and keeps talent local.
FOR MORE INFORMATION

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Thank you!