

# Empowerment through Connectivity



2018 Indigenous  
Connectivity Summit  
Community Report

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“The Internet has become a vital link in connecting and bringing our communities together... it’s an even more vital link than the highway in many ways.”

–Jim MacDonald, former Mayor of Inuvik

# Executive Summary

The 2018 Indigenous Connectivity Summit (ICS) was held in Inuvik, Northwest Territories (NT) on October 11 to 12, 2018 to find solutions to ensure Indigenous communities across North America can connect to fast, affordable, and reliable Internet. It drew nearly 140 delegates to Canada's Arctic Circle (and included more than 700 virtual participants) for a two-day series of panels and presentations themed on connecting the first<sup>1</sup> 1,000 miles with a focus on rural and remote northern communities. The event was preceded by a one-day training session at the University of Alberta in Edmonton for Indigenous people currently operating a community network or seeking to deploy one.

Speakers and participants identified significant challenges to connectivity in rural and remote northern communities. These include geographic barriers, diverse socio-economic realities, growing bandwidth requirements, and lack of research. Community networks<sup>2</sup> were widely recognized as an ideal solution to enable many rural and remote northern communities to connect themselves to the Internet on their own terms.

The event also explored how connectivity empowers northern Indigenous communities. Participants identified the Internet as a powerful tool to support language and culture revitalization, health and education outcomes, and economic development and self-determination. To further amplify Indigenous voices in the future of the Internet, participants developed the following principles:

- 1. Consultation:** It is critical to consult with Indigenous communities and stakeholders to develop meaningful, relevant, and culturally appropriate connectivity solutions.
- 2. Advocacy:** Indigenous communities must take steps to amplify their voices to have a say in the decisions that shape the future of the Internet.
- 3. Capacity building:** Indigenous communities would benefit from education opportunities, including culturally-appropriate digital literacy resources, technical training, and financial management to support sustainable connectivity solutions.
- 4. Strategic partnerships:** Indigenous communities can benefit from strategic partnerships with influential individuals, organizations, anchor institutions, and others who share common values and connectivity goals.

Participants also developed recommendations for a national broadband strategy, which will be submitted to the Canadian federal government.

Videos of the presentations and discussion are available on the Internet Society's livestream channel at <https://livestream.com/InternetSociety/indigenet2018>.

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1 Although the commonly used term is 'last' mile, many community members said they prefer to refer to this as 'first' mile because Indigenous communities should be the first thought, not the last.  
2 Community networks are communications infrastructure built, managed and used by local communities: <https://www.internetsociety.org/issues/community-networks/>



# What is the Indigenous Connectivity Summit?

Indigenous communities throughout Canada and the United States face unique challenges to Internet access and inclusion. The Internet Society began the annual Indigenous Connectivity Summit so that a diverse community of stakeholders could develop solutions to ensure Indigenous communities can connect themselves to fast, affordable, and sustainable Internet.

The inaugural event held in Santa Fe, New Mexico in November 2017 started an important conversation about what connectivity means to Indigenous communities and how to ensure Alaska Native, American Indian, Inuit, First Nations, and Métis communities can get up to speed. The [2017 Indigenous Connectivity Summit Community Report](#) highlighted a vital correlation between connectivity and various socio-economic benefits. It also found community networks are an ideal path for many Indigenous communities to drive their own connectivity solutions.

The [2018 Indigenous Connectivity Summit](#) was held in Inuvik, Northwest Territories from October 11 to 12, 2018 to continue the conversation sparked by the initial event. It hosted about 140 Indigenous community network operators, Internet service providers, policy-makers, and Indigenous leadership in a series of panels and presentations themed around connecting the first 1,000 miles. Over 700 people viewed the event online.

The event examined unique challenges and opportunities in rural and remote northern Indigenous communities and showcased success stories of community networks around the globe to inspire solutions to close the digital divide. An additional theme emerged at this year's event which focused on empowerment and ways to ensure Indigenous voices have a say in the future of the Internet.

The 2018 Indigenous Connectivity Summit was presented by the Internet Society, in partnership with the University of Alberta, First Mile Connectivity Consortium, the Town of Inuvik, and Inuvialuit Regional Corporation. The event was sponsored by the Canadian Internet Registration Authority, the Internet Corporation for Assigned Names and Numbers, Google, CANARIE, OneWeb, Cybera, Telesat, and Iristel. Wally Schumann, the Government of Northwest Territories' Minister of Industry, Tourism and Investment and Minister of Infrastructure provided a welcome address on behalf of the territory.



# What's happening in northern Canada

“Infrastructure plays a critical part in the longevity and health of our communities.”

–Wally Schumann, Government of Northwest Territories Minister of Industry, Tourism and Investment and Minister of Transportation

Helen Kalvak Elihakvik School's high school graduation was more than a milestone for three students well above the Arctic Circle in Ulukhaktok, NT this year. It was the first ever for the small hamlet on the west coast of Victoria Island with a population of 396.

Rather than moving several hundred kilometers away from home, students completed the high school credits required to apply for post-secondary education through the Northern Distance Learning Program based in Inuvik.

The significance of their accomplishment is probably one of the clearest examples that demonstrates the urgent need to ensure rural and remote Indigenous communities across North America have fast, affordable, and sustainable Internet access. Rather than having to move away from their communities, three teenagers were able to stay with their families until graduation, thanks to the Internet. With adequate broadband, the program could reach many more remote communities and families throughout northern Canada.

In 2016, the Canadian Radio-television and Telecommunications Commission (CRTC) declared broadband Internet a basic telecommunications service for Canadians and established a universal service objective for Canadians of 50 Mbps download and 10 Mbps upload speeds.<sup>3</sup>

Two years later, however, many rural and remote Indigenous communities are still a long way off from being able to view streaming services like Netflix, let alone access critical education and tele-health services.

A string of Ottawa commitments throughout 2018 offered a glimmer of optimism that connectivity could be nudged in the right direction. Most notably, in September 2018, CRTC published information about its Broadband Fund, which will provide \$750 million over five years in addition to Innovation, Science and Economic Development (ISED) Canada's \$500 million over five years in order to help Canada meet its universal service objective.

The CRTC's eligibility requirements laid important groundwork to ensure applicants conduct meaningful community consultations with any community affected by proposed projects, and indicate whether any proposed project will affect Indigenous communities, Indigenous rights, or treaty rights.

At the 2018 Indigenous Connectivity Summit, the Internet Society and the Government of Northwest Territories committed to help CRTC and Broadband Fund applicants deliver on their promise to work with Indigenous communities to find solutions to universal service targets.

Despite various Indigenous leadership, senior government officials, and corporate leaders present at the event, however, several participants were disappointed the CRTC and ISED did not send official delegates. Despite their absence, the Internet Society maintains its commitment to help CRTC and potential Broadband Fund projects consult with Indigenous communities and facilitate opportunities both at the Indigenous Connectivity Summit and in other opportunities in the future.

## Canadian developments since the ICS

A representative of the Broadcasting and Telecommunications Legislative Review Panel attended the ICS to invite Indigenous delegates to provide written submissions in response to its review of the Canadian communications legislative framework. However, several participants complained about the short notice and questioned the Panel's efforts to be inclusive of Indigenous communities throughout Canada. The Panel has since revised its due date for feedback. An update on the Government of Canada website states, “In response to comments from several parties, the Broadcasting and Telecommunications Legislative Review Panel has decided to extend the deadline for submissions to its Call for Comments until January 11, 2019.”

3 <https://www.theverge.com/2016/12/22/14052368/canada-broadband-internet-essential-service>

# What's happening in the United States

The broadband access gap for Indigenous people living in the United States (U.S.) is notable. The Federal Communications Commission's (FCC) 2018 Broadband Deployment Report estimates 35.4 per cent of Americans living on US tribal lands in 2016 did not have access to fixed broadband of 25 Mbps download and 3 Mbps upload speeds, compared to only 2.1 per cent of Americans living in urban areas.

Like Canada, one of America's key challenges to providing broadband access in rural areas is low population density, making it difficult to achieve economies of scale. Connectivity advocates anticipate the disparity will likely get worse as large broadband providers focus on rolling out 5G wireless speeds to highly populated areas while other regions still struggle with basic access.

In March 2018, the United States' Congress provided the Department of Agriculture's Rural Utilities Service \$600 million for a broadband loan and grant pilot program designed to increase broadband service in rural areas.<sup>4</sup>

The FCC is banking on a few initiatives to improve rural connectivity, including freeing up spectrum for more low-orbit satellites to help address poor connectivity in rural areas. It claims it is also trying to address the digital gap by cutting regulation to spur investment, encouraging cheaper technology alternatives, and looking at more 'efficient' ways to allocate subsidies.

However, many connectivity advocates argue some of its subsidy enhancement cuts could make broadband access even harder for many tribal communities. For instance, the FCC continues to stand by its November 2017 decision to take an enhanced broadband subsidy in its Lifeline program away from many residents of non-rural tribal lands. With an annual budget of \$2.33 billion and 12 million subscribers, Lifeline provides a \$9.25 per-month subsidy to reduce the cost of Internet or phone service for low-income Americans. Residents of tribal lands are also eligible for an enhanced monthly subsidy of up to \$25 for a total of \$34.25 per month.

The FCC vote removed the enhanced monthly subsidy entirely for residents of urban tribal lands, claiming

they already had adequate access to affordable service and that the enhanced funding could be used to spur deployment in rural areas in other ways. While residents of urban tribal areas will no longer be eligible for the \$25 enhanced subsidy, they remain eligible for the standard \$9.25 per-month subsidy.

Several Democrats and Republicans also criticized a nearly 25 per cent in cuts to an FCC program funded through the Universal Service Fund which reimbursed some of the costs for phone companies that provide broadband in rural communities. Several senators accused the cut of preventing broadband deployment and making it more expensive for consumers.

## U.S. developments since the ICS

Since the ICS event, the FCC has taken steps to increase funding to its Connect America Fund that aims to expand broadband deployment and make service more affordable in rural areas. In December 2018, it announced increased support for small rural providers, or rate of return carriers, to expand availability of service of at least 25/3 Mbps, compared to the previous 10/1 Mbps standard.

Funding increases include \$67 million a year more for carriers who receive support through the fund's Alternative Connect America Cost Model (A-CAM), which the FCC believes could help up to 100,000 more homes and businesses access 25/3 Mbps service. Additionally, it will increase the \$1.4 billion annual budget for legacy carriers through an annual inflation adjustment, eliminate budget cuts required in 2018 by prior budgetary rules, and guarantee a minimum of support for each carrier. The regulator also hopes to incentivize further 25/3 Mbps deployment with a new offer of model-based support. The FCC claims it adopted measures to eliminate regulatory burdens and encourage the efficient use of support, in addition to seeking comment on further legacy support in tribal areas.

Also in December 2018, Congress passed the Farm Bill<sup>5</sup>, which expands the Department of Agriculture's Rural Utilities Service loan and grant program, paving the way for much-needed funding for rural and remote areas of the US. The Bill also aims to better coordinate funding for rural broadband between the FCC, National Telecommunications and Information Administration (NTIA) and the Rural Utilities Service (RUS).

4 For more information: <https://www.govinfo.gov/content/pkg/FR-2018-12-14/pdf/2018-27038.pdf>

5 <https://www.congress.gov/bill/115th-congress/house-bill/2>



# Unique connectivity challenges in rural and remote northern communities

Despite advancements in broadband technology and various government commitments to improve connectivity in rural and remote Indigenous communities, there is no simple, one-size-fits-all solution to eliminate Canada's digital divide. A snail's pace might be considered an accurate description of the rate at which we are inching towards fast, affordable, and sustainable Internet for the Indigenous communities that need it most.

Speakers and participants at the 2018 Indigenous Connectivity Summit highlighted several barriers to overcome to ensure rural and remote northern and Indigenous communities can one day access the CRTC's universal service requirements.

"I can't emphasize the importance enough of getting Internet in remotes areas like (Inuvik) throughout North America. It's not something that we can live without... it's a necessity."

–Duane Smith, Chief Executive Officer of Inuvialuit Regional Corporation

## Geographic barriers

The host community of Inuvik, NT is nestled in the north of a territory with 33 communities spanning 1.3 million square kilometres of varied geography. Delegates from Alaska, Yukon, and Nunavut noted they share similar connectivity challenges in terms of geography, to the point that several speakers remarked the landscape made them feel "at home" despite being in a different territory or country.

Broadband infrastructure is expensive, particularly when there are no roads or infrastructure linking communities together. Nunavut, for instance, relies on satellites to bring Internet service to its 25 communities, none of which are accessible by road and span more than two million square kilometres over varied geography. Many residents still have trouble opening an email, let alone trying to use video-conferencing applications for personal, professional, or health reasons.

## Diverse socio-economic realities

Keynote speaker Lyle Fabian noted that there is a large disparity between the haves and have-nots of Internet access in northern communities. He explained that even in communities where broadband Internet speeds were reasonably fast, the high cost of connectivity was still a large access hurdle for many individuals.

He said that among the latter group, community members with bad financial credit have few options for Internet access. Since bad credit prevents some individuals from subscribing to Internet access plans, they will often rely on buying used cell phones and expensive sim cards to access small amounts of the Internet, which can cost as much as \$40 per day.

## Growing bandwidth requirements

Keeping up with the growing need for bandwidth was identified as a major challenge among several speakers representing community networks. For remote communities, advances in online technology are not always a good thing. For instance, Iqaluit Mayor Madeleine Redfern commented that she tried to unsuccessfully download the latest version of Microsoft Office for her computer for 12 days in her community before finally succeeding during a business trip to Ottawa, where it took 12 minutes. She acknowledged the challenge to upgrade this program for more than 2,500 employees who would have to do so at the Government of Nunavut.

## Lack of research

Speakers and participants identified that lack of research to pinpoint the gaps in connectivity between Indigenous and non-Indigenous communities made it difficult to prioritize broadband solutions for those with the most urgent requirements.

Several speakers presented research initiatives to help clarify the existing gaps in fast, affordable, and reliable Internet service within Canada. They believed identifying these areas would help advocacy initiatives to connect those who need it most. However, Cybera's Robin Winsor, who is leading a project to study connectivity in First Nation communities' schools, criticized the idea that they "need to prove" why Indigenous communities deserve to have good Internet in the first place.

Other speakers noted that because decision-makers were often working with incomplete or inaccurate data that didn't match connectivity realities, it often led to counter-intuitive and potentially harmful policy for Indigenous communities. Several speakers proposed that the best way to understand those realities is to travel to rural and remote communities and experience the challenges first-hand.





# Empowerment through connectivity

“For me the model of community-owned infrastructure is a huge key. It’s their economic future.”

–Lyle Fabian, Chief Executive Officer of KatloTech

While many North Americans might not realize it, the traces of our colonial history permeate nearly every aspect of modern society. What many non-Indigenous citizens consider traditional processes for decision-making might not align with longer-held governance traditions in Indigenous communities. This presents barriers for those seeking to adapt to a world that is increasingly dependent on the Internet.



The 2018 Indigenous Connectivity Summit sought to explore what happens when Indigenous communities can connect to the Internet on their own terms and what all stakeholders can do to create an inclusive and enabling environment that fosters more community-based solutions.

## What is a community network?

While the challenges of connecting northern communities are pronounced, the 2018 Indigenous Connectivity Summit featured success stories from North America and abroad to help inspire solutions to ensure Indigenous communities can connect themselves to fast, affordable and sustainable Internet. As one speaker, Matthew Rantanen, remarked, “Interestingly, we have the same lack of services and lack of options for connectivity in the area around San Diego, California as you do in Tuktoyaktuk, NT.”

“It empowers our own people to take charge of the Internet.”

–Mike Jolly, Creecable

There was a widespread consensus among speakers that community networks were an ideal solution

to empower communities to drive their own connectivity solutions. Community networks are communications infrastructure that are built, managed, and used by local communities. They provide a sustainable solution to address the connectivity gaps that exist in underserved urban, remote, and rural areas around the world.

KatloTech, for instance, is an Indigenous-owned company that seeks to work with Quintillion as a carrier that enables Northwest Territories communities to build community networks and be their own Internet service providers.

Notably, the Vice President of Business Markets at pan-territorial Internet service provider Northwestel recognized the value of working in partnership with communities to develop infrastructure that enables community networks to operate.

“I don’t need to own all the customers to participate in that value.”

–Paul Gillard, Vice-President of Business Markets at Northwestel



“Our concept has always been supporting the First Nations we work for and taking the direction from them.”

–Penny Carpenter, Director at KNET

## How do community networks empower northern communities?

While there are serious hurdles to overcome in order to eliminate the digital divide in rural and remote Indigenous and northern communities, ICS delegates successfully proved that every challenge presents an opportunity. Throughout the two-day event, Elders, speakers, and participants testified how communities are empowered when they can connect themselves to fast, affordable, and sustainable Internet.

### Local language and culture revitalization

Similar to the 2017 event, several panel speakers presented cases of how Internet-based technology helped facilitate the development of important tools like dictionaries and apps to teach traditional languages and culture.

Various Canadian speakers also noted the potential of the Internet to help revive interest in traditional language and culture. This was particularly empowering in light of the lasting impacts of residential schools, which caused a generational gap between Elders who spoke their traditional language and youth who would like to learn.

“This region has a recent history of residential (schools), and that is the main reason for our language loss.”

–Crystal Fraser, PhD Candidate and Research Assistant at University of Alberta; Content Developer at Gwich’in Digital Literacy Project

The inclusion of Elders when developing tools and resources was acknowledged as critical to adapting language and cultural teachings appropriately with regards to technology. ICS emcee Darrick Baxter explained how his company, Ogoki Learning Inc., works with Elders to develop Indigenous language learning apps used by teachers and students across North America.

Elder involvement was also seen as crucial to determine what teachings and items should be publicly available and what should be protected. For instance, one speaker recounted how his community found cultural items that were not suited to be included in historical archives of a prominent U.S. university. He said his community contacted the university regarding items that weren’t appropriate to share online, and the university took it down. They since formed a partnership to facilitate subsequent discussions to determine what would and would not be appropriate to share online.



Language and cultural tools were deemed particularly useful for youth living in urban Indigenous populations who weren't always exposed to traditional ways of life, as well as those growing up in areas outside their traditional land. While participants were clear that technology could never fully replace cultural land-based teachings, they agreed that if developed appropriately, it could serve as a useful resource.

Several speakers noted that one of the most common barriers to sharing these tools in communities, however, is the lack of connectivity - particularly when cultural teachings take place in land-based and remote settings.

## Health and education

“We see the Internet as a valuable tool for our community... where a doctor from Santa Fe could be talking to someone in the community of Paulatuk, or someone sitting in Ontario could be teaching a science class.”

–Duane Smith, Chief Executive Officer of Inuvialuit Regional Corporation

The benefits of tele-health and distance education are especially significant for remote communities that don't have road access to hospitals or schools in surrounding communities. Several speakers and participants spoke to the benefits of enabling students to study and live within their communities and in offering tele-health services to help keep families together and literally save lives.

For instance, the popularity of a Nunavut-based Facebook group that allows members to auction hand-made items to bidders around the world has sparked renewed interest among youth to learn a traditional craft as a means to support their livelihood online.

Youth representatives of We Matter gave a powerful presentation of the non-profit organization that provides critical mental health resources and messages of hope towards suicide prevention among Indigenous youth. To combat connectivity challenges, they make their information available through USB drives. They noted the program's reach would improve drastically if Indigenous communities had better access to fast, affordable and sustainable Internet.

## Economy and self-determination

“Having a healthy economic climate will mean our people have time to develop our culture in terms of art, singing, dancing, eating, hunting... things that make us who we are.”

–Patuk Glenn, Community Economic Development Project Manager at Arctic Slope Regional Corporation

Several speakers acknowledged that some Indigenous communities perceived broadband and capitalism to pose cultural challenges within communities. However, they also spoke to the fact that Indigenous people have always been gamers and technologists that developed tools and embraced new ones to support their traditional ways of life.

Economic freedom was identified as one of the main benefits of connectivity that can enhance a community's ability to thrive with cultural ways of life. For instance, one speaker noted how traditional whale hunters had seized the opportunity to use cellular technology to communicate with other hunters to monitor whale activity and ultimately find more success in their hunt.



Furthermore, speakers highlighted that enhancing economic opportunities within communities empowered members to find meaningful income and employment within their communities. One panelist noted that just as communities welcomed the horse to facilitate trade with other communities and cultures, the same opportunities were available on a global scale through the Internet.

“We bring the same economic growth, but over a different horse. We’re riding the Internet and that Internet is bringing us opportunities globally. We’re expanding our ability to take our knowledge and resources to a larger audience and we’re trading on a larger, global field.”

–Danae Wilson, Manager at the Nez Perce Tribe Department of Technology Services

## How do we ensure Indigenous voices are included in the future of the Internet?

“When it comes to the Internet . . . give the power back to the people and stop letting a small group of people make the decisions for everyone else.”

–Linnea Dick, Social Media and Outreach Coordinator at We Matter



It’s clear that when Indigenous communities are part of fast, affordable, and sustainable connectivity solutions, the Internet takes on a more meaningful place in the community. With the opportunities for growth virtually unlimited, it is not a far jump to speculate that Indigenous voices could have an even greater impact to help connect other communities if they were included in the decisions that shape the future of the Internet in Canada.

The Indigenous Connectivity Summit sought to develop a set of

principles on how all citizens can work to ensure rural and remote Indigenous communities are at the heart of solutions to close the digital divide.

### Consultation

“Before we build the solution, there is a duty to consult the communities.”

–Bill Murdoch, Information Technology Manager at Clear Sky Connections

Throughout the event, participants reiterated the importance of developing policies and decisions that enable communities to create relevant connectivity solutions with the people they serve. Several panels were also dedicated to examining ways to help amplify Indigenous voices when it comes to the decisions and solutions that impact our future.

Nearly every participant who spoke on the matter called on the federal government to improve its consultation methods with Indigenous communities regarding federal



telecommunications policies. Furthermore, several Canadian participants noted successful consultations must strive to be as inclusive as possible of different First Nations, tribes, and Indigenous groups, as well as and youth and Elders within these communities, to ensure that as many perspectives are considered as possible. It is also necessary that when conducting a consultation, facilitators should factor in enough time to reach a wide range of communities to get a more diverse response.

On the other hand, one Indigenous participant who lives in the U.S. noted there was also value in appointing a subject matter expert to speak and advocate on behalf of the interests of multiple Indigenous communities and tribes with common goals and values.

Another important aspect to consider is ensuring culturally appropriate approaches are used to consult with Indigenous communities, particularly when seeking to gather information. A Blackfoot Elder from southern Alberta encouraged others to respect cultural protocols, especially when traditional knowledge is involved.

## Advocacy

Several panels gave advice on how to amplify self-advocacy efforts to ensure Indigenous voices are heard and considered when making decisions and developing solutions that shape the future of the Internet.

One speaker said knowing the goal was critical to advancing advocacy. It isn't necessarily about knowing how to achieve it yet, but about getting people in the community to have the conversation, set a goal, and make decisions from the inside out.

Another panelist reiterated the importance of joining with other groups and associations that can help give communities a louder voice in media, but cautioned to be strategic about these partnerships to ensure there is value to working together towards common goals.

In terms of government decision-making, several participants noted that often federal policies are written without consideration for how they are applied in Indigenous communities. As a result, they can be frustrating or even detrimental to communities. One panelist suggested asking Indigenous people to rewrite certain acts for the sake of seeing how different they could look.

Other panelists pointed towards the value of swaying public opinion by sharing personal stories. Political embarrassment was another strategy noted to create pressure among federal agencies to make gestures or amends, particularly during election years.

“Getting your voice heard can open some doors... and then we need to follow up to make sure there is action upon those things.”

–Deb Socia, Executive Director at Next Century Cities

“If you're going to learn about our culture... do it the right way. If you're going to come in... come in, speak with us, live with us and find the right people.”

–Herman Many Guns, Piikani Elder



## Capacity building

“It’s all about the individuals in the communities and the organizations within them that are finding ways to make use of the technologies, so the opportunities are local, and the jobs are local.”

–Brian Beaton, Education Faculty at University of New Brunswick; Treasurer at First Mile Connectivity Consortium

A breakout session at the ICS provided participants with an opportunity to develop suggestions on education opportunities that would empower communities to develop and maintain sustainable connectivity solutions.

### Culturally-appropriate education and resources

“Skills development initiatives should be built by and for Indigenous people to help ensure cultural sensitivity is baked into curriculum... culture and ways of life aren’t reflected in online spaces yet.”

–Denise Williams, Chief Executive Officer at First Nations Technology Council

Having clear ideas of the cultural and Indigenous context as well as community connectivity needs is a critical aspect in identifying the appropriate technologies and solutions that align with community principals. When doing so, it is also wise to identify training opportunities and look for community champions to provide for the needs of the community.

Several participants noted there was a lack of culturally-appropriate resources around digital literacy and the technical aspects of developing community networks. One speaker mentioned that online spaces were primarily designed by non-Indigenous people. As such, Indigenous communities face unique risks in what they could share online. Denise Williams, CEO of the First Nations Technology Council, suggested that the technology sector should be trained on how to receive Indigenous teachings, and that projects with Indigenous communities should include stipulations that ensure communities are the “owners” of research data.

Speakers built on the former by highlighting the importance of teaching culturally-appropriate cyber-security to those most vulnerable to the Internet, such as Elders and youth. One participant explained how a program his organization runs can teach youth the link between cyber-security and culture:

“We have a class called Managing Your Digital Footprint, which is very relevant to working around the land that you’re in. You are actually walking through the Internet and walking around the digital world when you’re online. What do you want to leave behind? Do you want to leave trash behind? Do you want to leave information with your name on it? Do you want to leave a history of what you’ve done and why you’ve been on the Internet? Do you want somebody to be able to follow your tracks?”

If you think about it, (it’s like) walking across your landscape, and maybe (going) out hunting, but also potentially being hunted by a predator, which exist on the Internet. It’s the same concept. You want to be able to apply that to the digital world. You don’t want to leave information about yourself behind. What you say on public social media should be things that you would say in public in your community.”

–Matthew Rantanen, Director of Technology at Southern California Tribal Chairmen’s Association



## Technical training

“You need a backup plan, to a back up plan, to a back up plan.”

–Sally Braun, General Manager at Western James Bay Telecom Network

One of the most recurring issues when discussing challenges around connectivity and the development of community networks was a lack of technical know-how within communities to develop, operate, and maintain solutions.

Nearly every participant who spoke about community networks emphasized the importance of focussing on sustainability. When building community networks, one attendee recommended developing technology solutions that can be maintained with minimal technical skill. This would empower even more people within communities to achieve feasibility at an economic level and be able to maintain it themselves.

In terms of education, one panelist noted the success of her communities to teach their own workers to provide training to people on site and within the communities the network services. Another participant noted they found success in having a repository of content and knowledge that could be shared with communities they work with, in order to give them the digital skills to develop and maintain connectivity solutions.

## Financial management

“It’s making sure that capacity is developed in the community, there are positions available, and making sure there is funding for those positions.”

–Penny Carpenter, Director at KNET

One of the key challenges to sustainability is ensuring a network is financially stable enough to keep upgrading equipment. One participant remarked that relying solely on grants is not a viable option, particularly as many communities don’t have anyone dedicated to writing proposals and seeking out funding opportunities. The same panelist noted the value of charging for connectivity, which helps earn respect for the service and creates a steady cash flow to grow networks without relying on grants and subsidies.



## Future-proof technical solutions

“The technical tools are already there to deal with (connectivity challenges)... but usually the most complex parts are related to getting together to accomplish these things.”

–Nico Pace, Libre Mesh

With the growing need for bandwidth from a world increasingly becoming connected to the objects on and around us, participants acknowledged the need for future-proof solutions with the ability to scale up speed and offer increasing amounts of bandwidth through upgrades.

During a breakout session, one table suggested there is an autonomy that comes from having the ability to build and deploy useful services and tools for the community. At the same time, it is also strategic to use tools and platforms that already exist and consider using them in novel ways.

Another point raised was the need to think outside the box regarding solutions and explore creative ways to find connectivity, such as accessing license-exempt spectrum and television whitespace.

## Strategic partnerships

“You have to know who you want to influence so well that you know what they eat for breakfast.”

–Lia Kiessling, Senior Director of Communications at Internet Society

Proving the adage that there is strength in numbers, ICS participants examined the value of strategic partnerships to advocate for inclusivity and connectivity solutions. The Summit hosted a number of speakers from anchor institutions and non-profit organizations to illustrate how such partnerships can support the connectivity goals of rural and remote Indigenous communities.

Several panelists spoke about the benefit of anchor institutions as partners in connectivity to help bring broadband to communities. One speaker noted that being able to provide access to education and having an impact on its community is an important part of the definition of an anchor institution. For instance, one participant worked in a community where the parents wanted to see their kids stay home to complete education as they saw suicide and murder rates rise when kids left their communities. Through anchor institutions, they were able to establish an Internet high school.

Anchor institutions were also seen as critical to developing or providing access to new infrastructure, including the Mackenzie Valley Fibre Link that runs from northern Alberta to Inuvik, NT. Jiri Raska, the Inuvik Satellite Station Facility manager at Natural Resources Canada noted that due to the Canadian government’s support of community, they have been able to connect to space agencies around the world.

Another speaker mentioned that colleges and universities who have northern studies programs can also amplify community connectivity needs, particularly when lack of it prevents their students and researchers from doing their work, studies and applications.

Finally, several participants noted that partnerships could add value to advocacy efforts that pressure the government to ensure Indigenous voices are heard in policy and decision making, particularly in the federal government. However, one panelist cautioned it is important to be strategic about choosing partners.







# Recommendations to ensure access for all

One of the biggest connectivity challenges in Canada, for those who have access, is that its broadband prices are among the highest in the world.

When the CRTC declared all Canadian households should have high-speed broadband as a basic telecommunications service in 2016, it called on the federal government to develop a national broadband strategy. At the time of the 2018 Indigenous Connectivity Summit, no such plan had been put in place. Nor does a plan exist in the United States.

Since participants of the 2018 Indigenous Connectivity Summit featured delegates from communities who have some of the largest challenges to access, they developed the following recommendations for consideration to ensure all Indigenous people in North America have access to the Internet of opportunity:

1. Ensure Indigenous communities are consulted in developing a national accessibility strategy.
2. Avoid massive, overly ambitious, and restrictive plans. Instead, build a set of principles with a flexible approach that factors in technological advances over time.
3. Consider different technological solutions for different connectivity realities and challenges.
4. Develop open questions as opposed to asking questions that seek to justify a specific agenda.
5. Provide open access to data from telecommunications companies on things like fibre nodes that could help inspire solutions.
6. Make federal funding accessible to all kinds of providers, large and small.
7. Prioritize connectivity solutions to the hardest places to connect first. If not, there will always be people that are left out.
8. Provide special consideration for rural and Indigenous communities.
9. Consider different models of connectivity in relation to rural versus urban areas, especially regarding use of spectrum.
10. Free up more spectrum from companies who aren't using it.



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