

# eNuk:

Using mesh technology to  
support climate change  
monitoring

2018 Indigenous Mapping Workshop

Dr. Daniel Gillis, Nic Durish & Keefer Rourke





# Stay Connected

@eNukLabrador



**Dr. Daniel Gillis**  
@DrDanielGillis



**Keefer Rourke**  
@keeferrourke



**Nic Durish**  
@DurishN

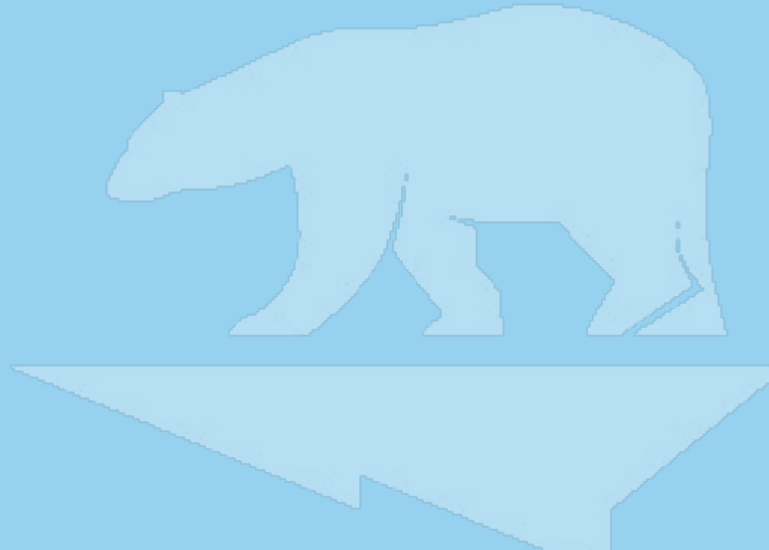
**The University of Guelph resides in the ancestral and treaty lands of the Attawandaron people and the Mississaugas of the Credit.**

**We also acknowledge that Left Inc. resides on the ancestral lands of the Katzie, and Lummi people.**

**Finally, this work would not be possible without the contributions and guidance of the Inuit of Nunatsiavut.**



# Climate Change & the North



# Rigolet, Nunatsiavut

“It’s making sure that we have, that we still have things in the future that we have now and we can still use them the same way. Understanding the fact that things are gonna change, ice is gonna change, weather’s gonna warm up, but make sure that what we can protect now we should continue to protect.”

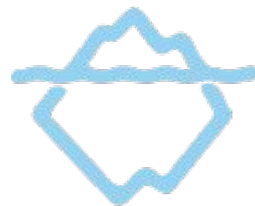


# The eNuk Program





# Health & Environmental Monitoring



# The Digital Divide

A stylized, jagged lightning bolt graphic in a light blue color, positioned on the right side of the slide, extending from the top right towards the bottom right.



# The Digital Divide



**18%**

Of Canada has limited/no  
connectivity

**57%**

Of the rest of the world is  
offline

# The Digital Divide

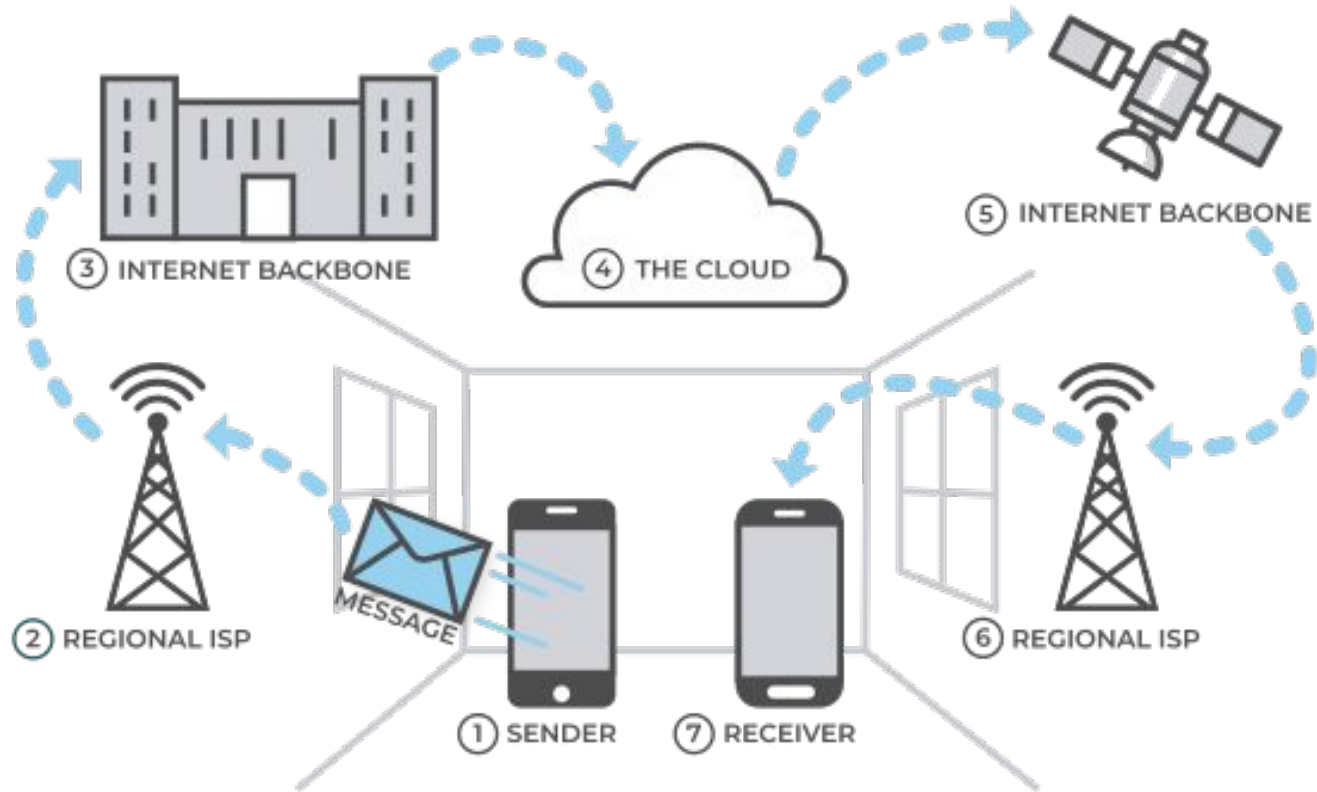
Lack of connectivity affects Inuit ability to:

- Easily collect and disseminate information
- Achieve and maintain self-government and sovereignty
- Manage and mitigate safety challenges and public health risks
- Understand and promote community vitality and wellness

# Improving Connectivity

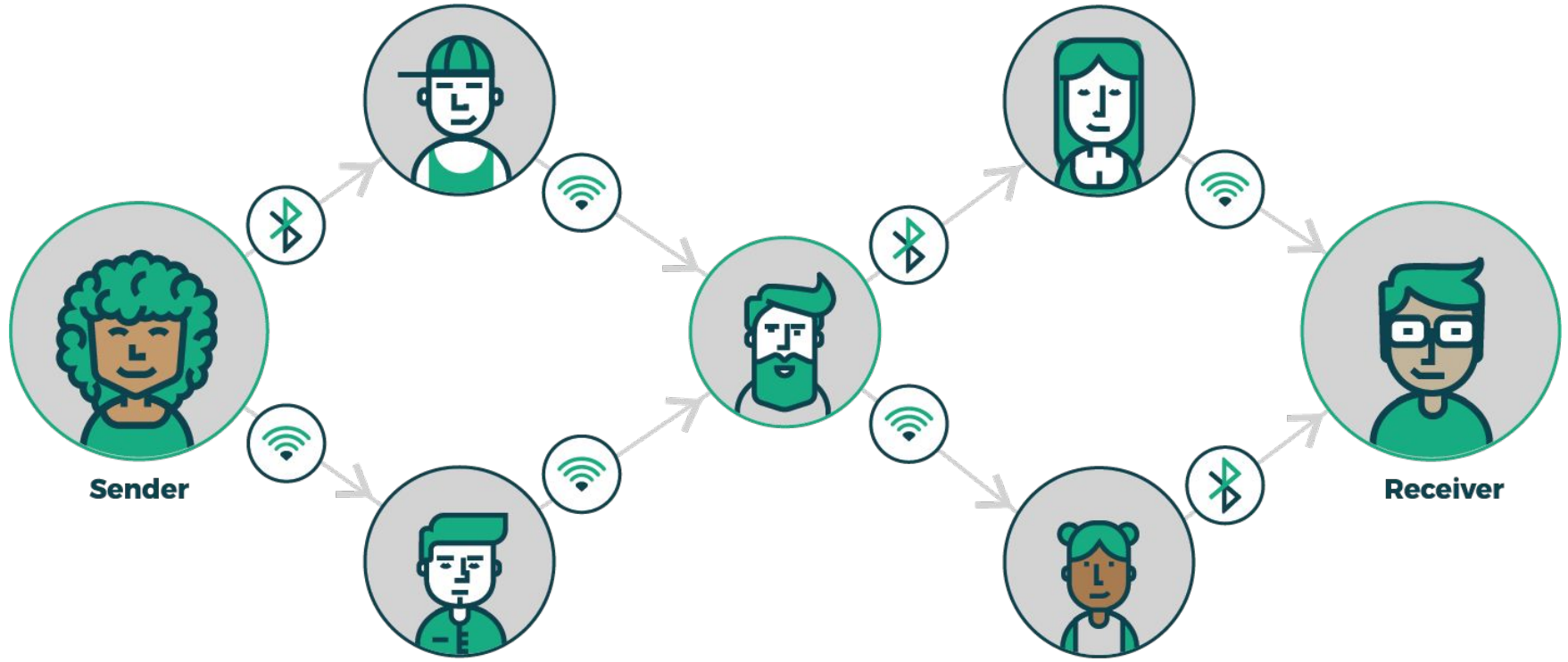


# Conventional Internet

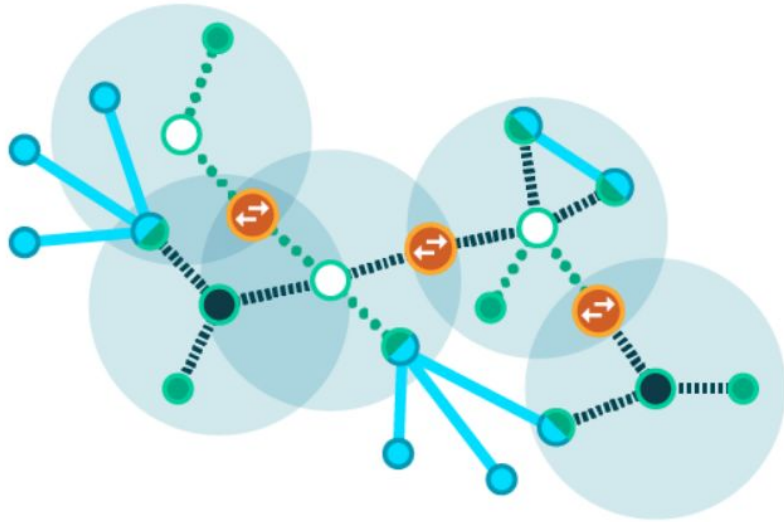


ISP = Internet Service Provider

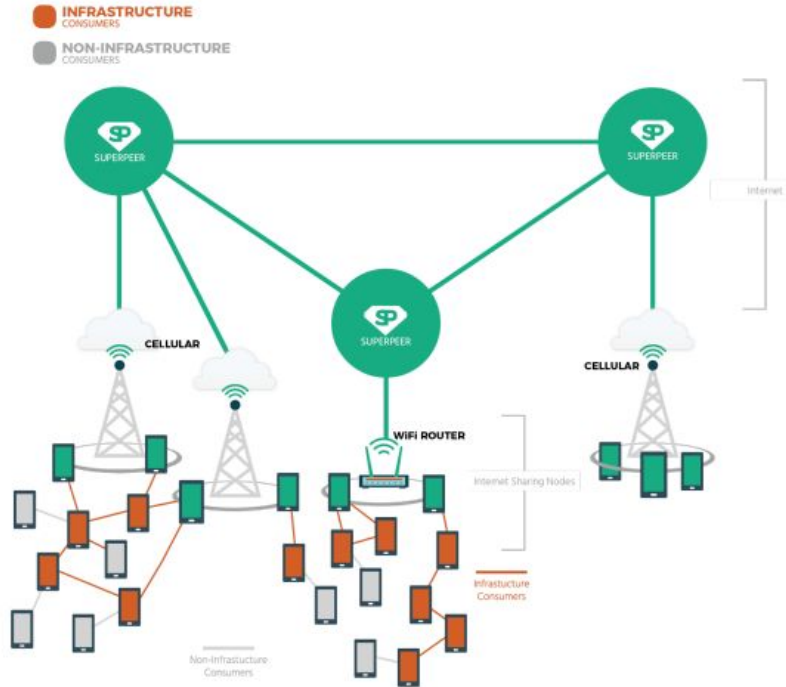
# What is RightMesh?



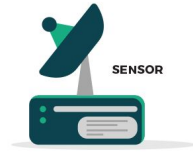
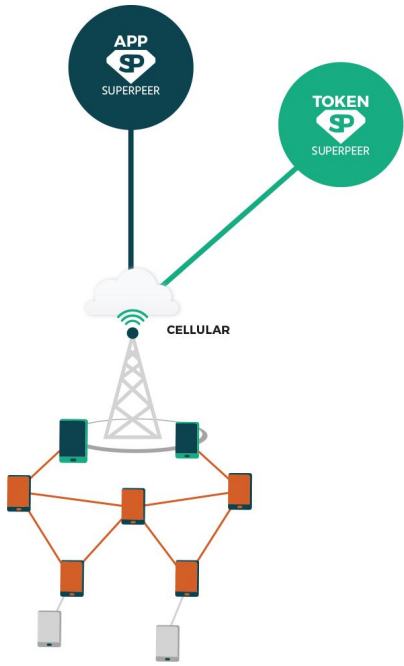
Wireless Mobile Mesh Network



- Multiple radio access technology
- Autonomous network formation
- Peer-to-peer communication
- No infrastructure required



Existing internet infrastructure is leveraged and extended by “Superpeers”



People can join and leave the network as required, enabling automatic data collection and dissemination—even in remote areas.





**“People don’t want to be a part of another program. This program needs to be designed so that it becomes a part of our lives.”**

# Partners & Funding



IMPROVE LIFE.



Health  
Canada

Santé  
Canada



Polar Knowledge  
Canada

Savoir polaire  
Canada



## **PRESENTED ON BEHALF OF**

Dr Ashlee Cunsolo, Dr Sherilee Harper, Dr Jason Ernst, Oliver Cook, Fraser Seymour, Keefer Rourke, Alexandra Sawatzky, Jacqueline Middleton, David Borish, Amy Kipp, Inez Shiwak, Charlie Flowers, Michele Wood, & The Rigolet Inuit Community Government

# Thank you!



**Dr. Daniel Gillis**  
Project Lead

Twitter: @DrDanielGillis  
LinkedIn: in/danielgillis  
Website: danielgillis.ca



**Keefer Rourke**  
Research Assistant

Twitter: @kefferourke  
LinkedIn: in/kefferourke  
Website: krouke.org



**Nic Durish**  
Research Assistant

Twitter: @DurishN  
LinkedIn: in/nicdurish