



# SmartICE Sea Ice Monitoring & Information - Adapting to Climate Change

## Transport Canada Adaptation Webinar Series



**Eric Bing**

Policy Analyst, Climate Change Adaptation and Planning  
*Transport Canada*



**Carolann Harding**

Executive Director  
*SmartICE Sea Ice Monitoring & Information Inc.*



**Andrew Arreak**

Nunavut Operations Lead,  
*SmartICE Sea Ice Monitoring & Information Inc.*



# SmartICE

Enabling resiliency in the face of  
climate change



Hosts:  
Carolann Harding  
& Andrew Arreak

ARCTIC  
INSPIRATION PRIZE



MOMENTUM  
FOR CHANGE



*“Travelling on the  
sea ice is essential  
to maintain our  
way of life”*

Andrew Arreak  
Pond Inlet



A person wearing a dark winter jacket and helmet is standing on a white and black snowmobile. The snowmobile has "ski-doo" and "HYPERCORE" written on it. They are in a vast, flat, snowy landscape under a clear sky. In the background, a massive, jagged iceberg rises from the snow. The logo "SMAR ICE" is overlaid in the top right, with a stylized human figure icon between the words. Below the logo, the text "Technological Innovation" is written in white.

# SMAR ICE

Technological Innovation

Responds to community priorities



# Living with climate variability & change



**Increased fear of travelling on the ice:  
in 2010 75% of people surveyed could no longer predict  
ice conditions and 1 in 12 had fallen through the ice.**

# Mapping & monitoring new hazardous ice conditions



**SMART ICE**  
Technological Innovation



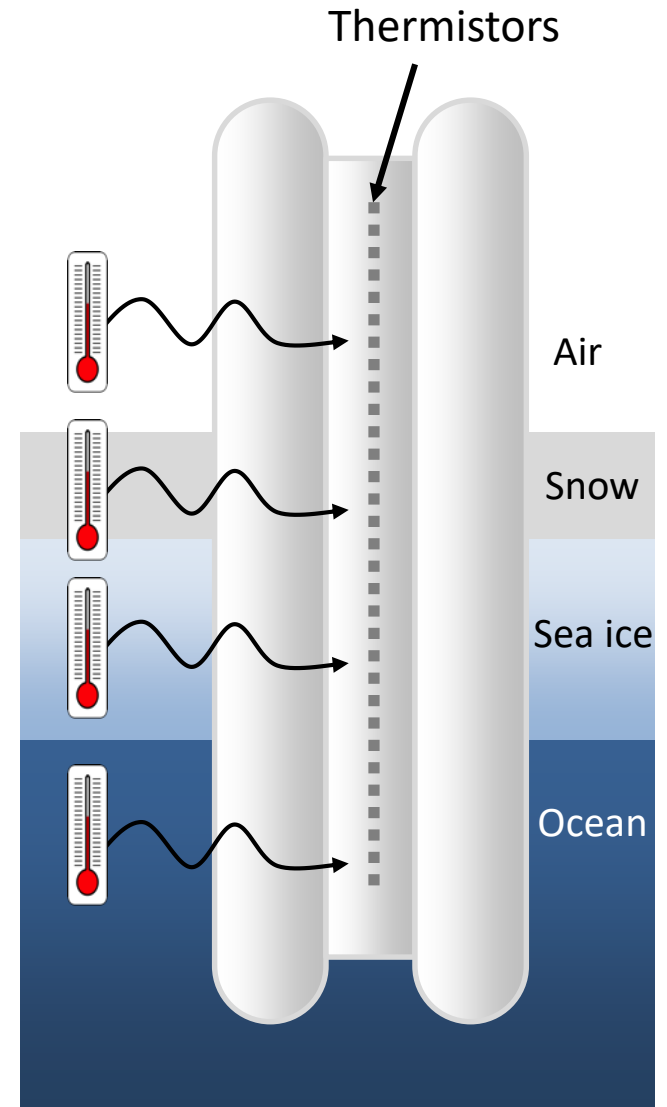
# SMART ICE

Technological Innovation

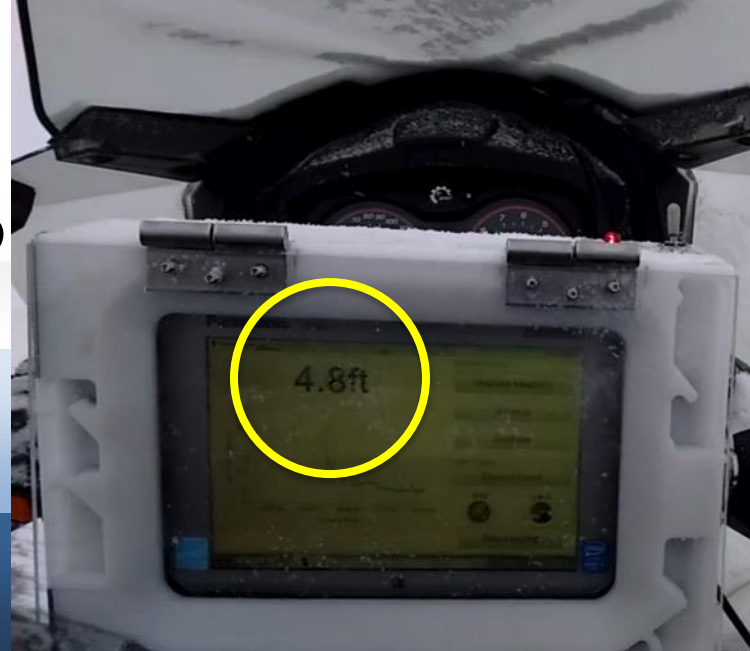
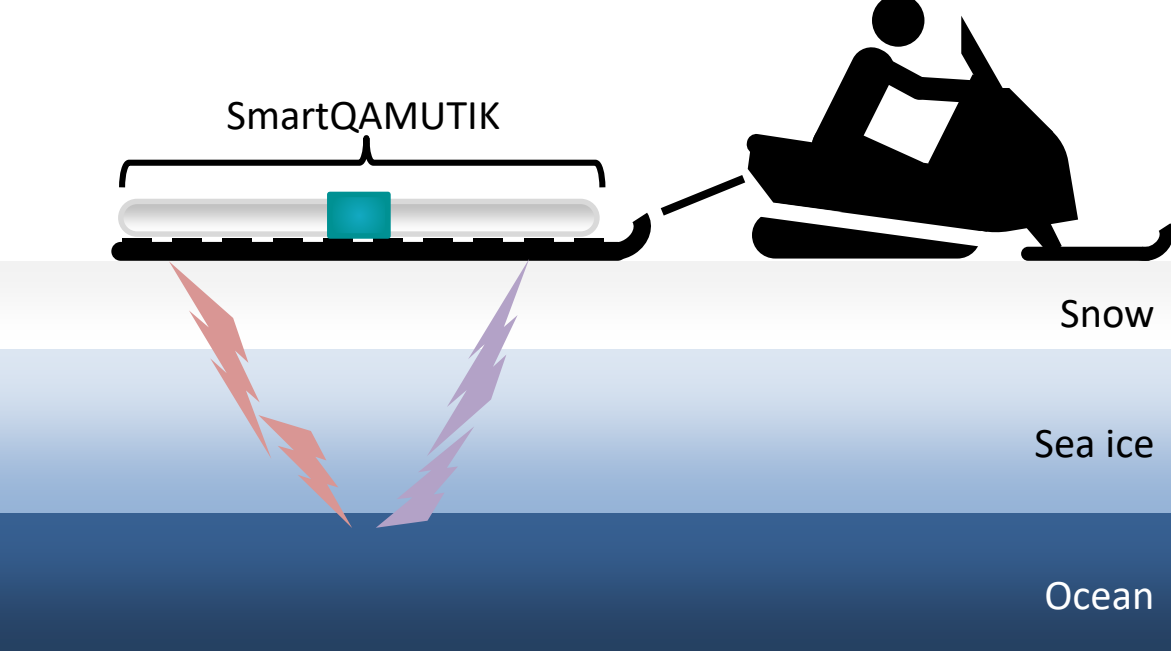


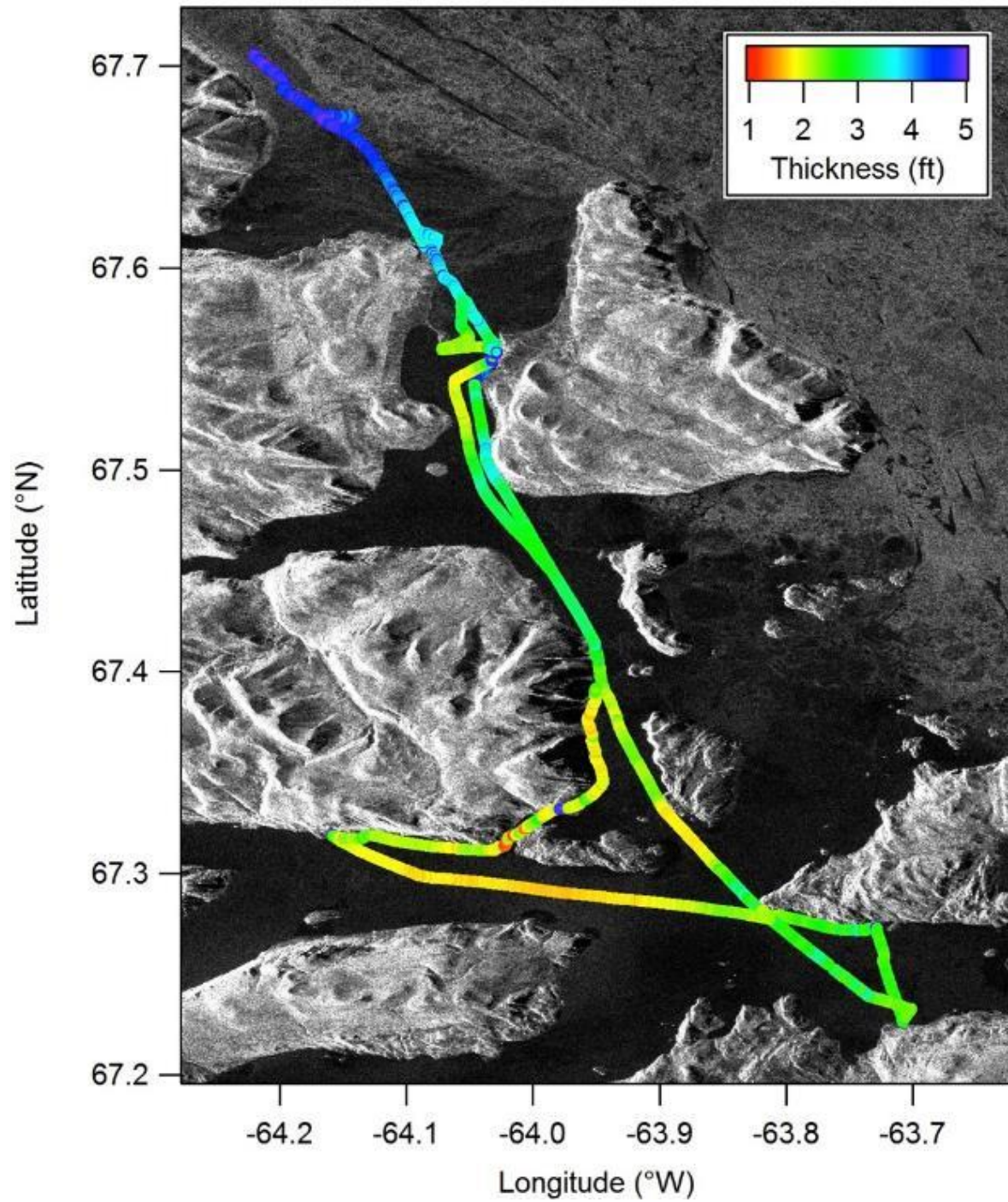
# ***SmartBUOY***

sea-ice thickness sensor



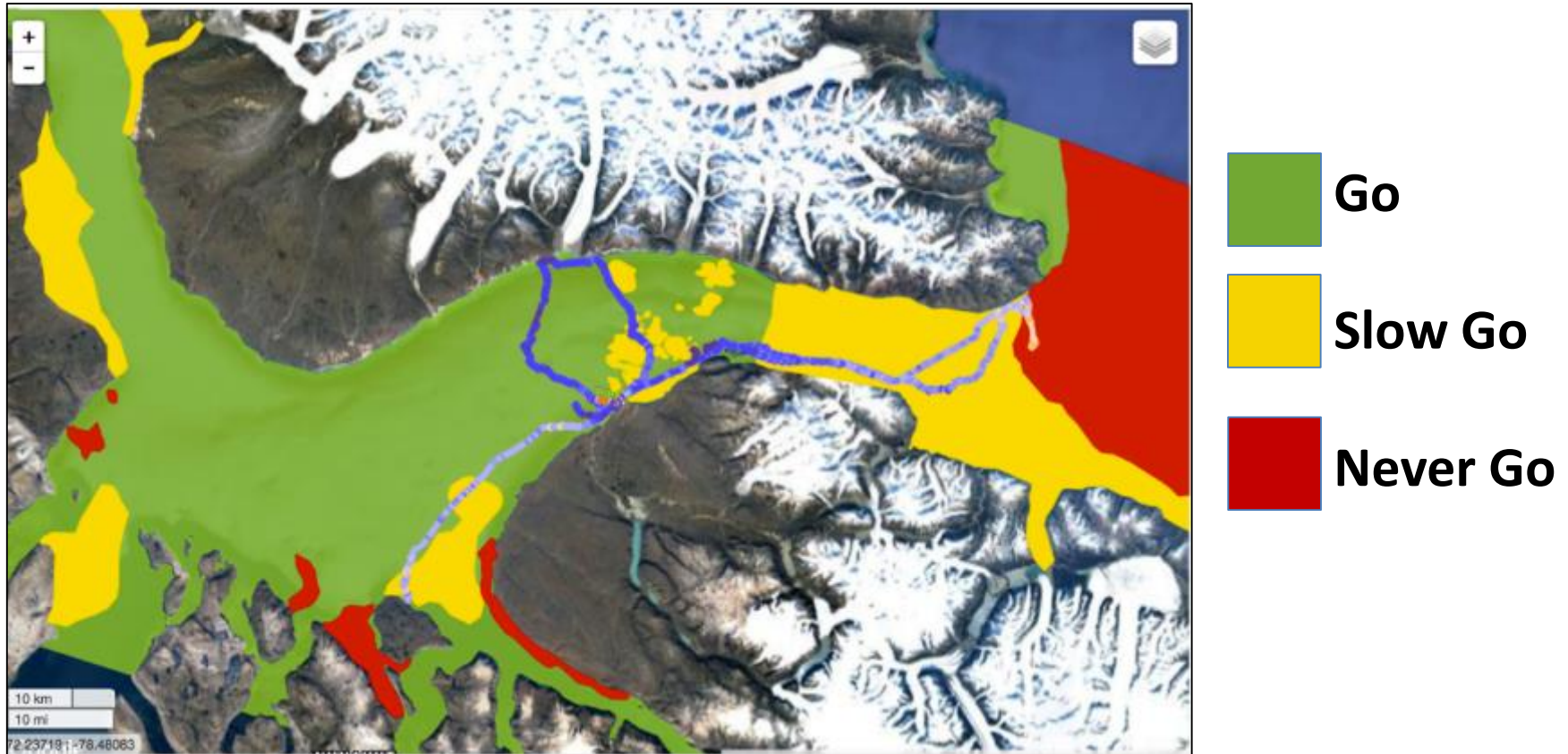




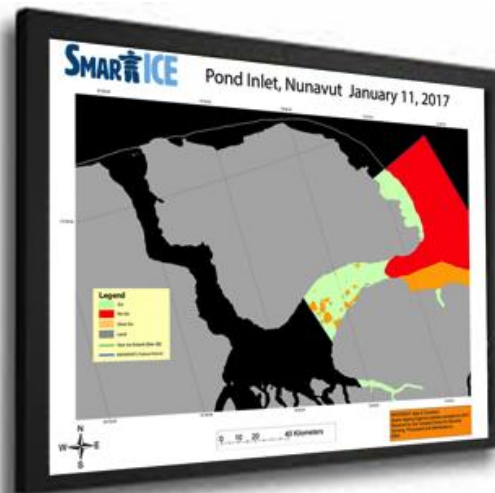
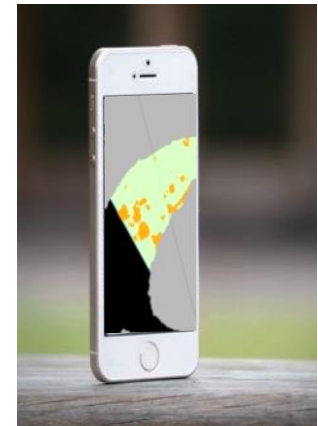




# Combining local knowledge and satellite imagery to produce Inuit-relevant sea-ice travel hazard maps



# Communicating SmartICE information







Technological Innovation

Empowering communities to adapt to  
unpredictable sea ice

**SMAR ICE**

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*Sikumium*

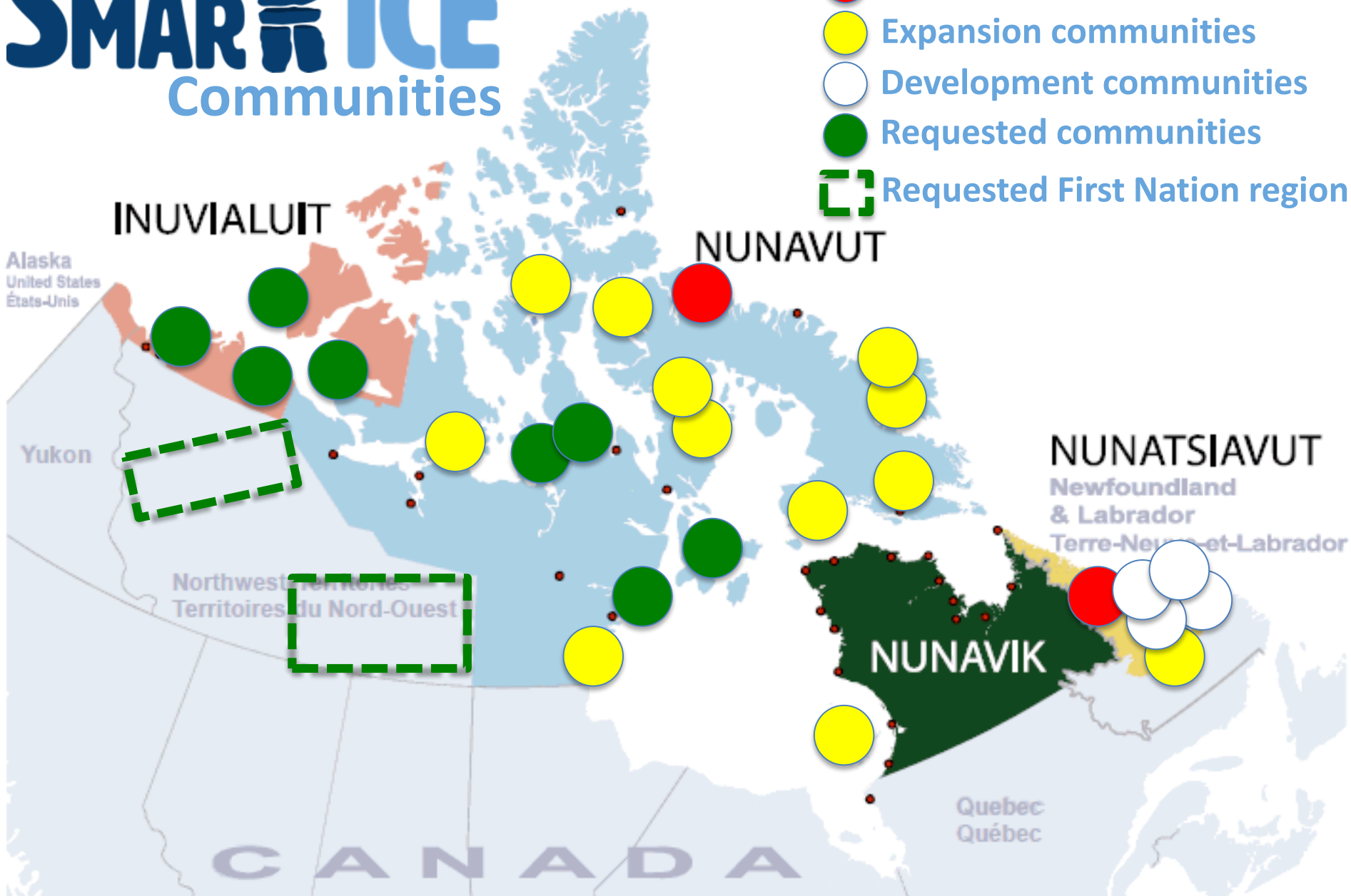
HTO  
Hamlet  
Elder  
Outfitters  
Parks Canada  
Wildlife Officer  
Fisheries  
Young hunter  
Search and Rescue  
Canadian Rangers

Directly involves community in all operations



# SMART ICE Communities

-  Pilot communities
-  Expansion communities
-  Development communities
-  Requested communities
-  Requested First Nation region



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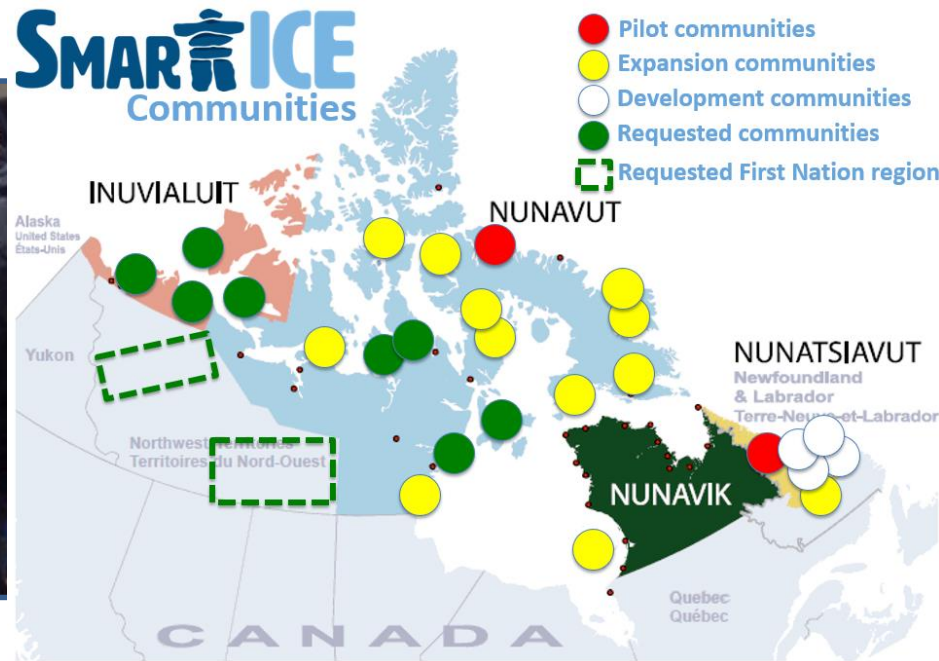


From community partnership to social enterprise





## From feasibility to sustainability



Build a **SUSTAINABLE** social enterprise through servicing commercial clients while fulfilling a public safety need at the community level

# Ice-based Fisheries



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BAFFIN FISHERIES



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OIKIOTAALUK FISHERIES





# Floe Edge Tourism



*Nunavut Tourism*



**ARCTIC BAY  
ADVENTURES**  
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**ARCTIC KINGDOM**



# Winter shipping and sealift



# SMART ICE

Freshwater







**United Nations**  
Climate Change Secretariat



**COP23 FIJI**  
UN CLIMATE CHANGE CONFERENCE  
**BONN 2017**

## **Winner of 2017 UN Climate Solutions Award**

# SMAR<sup>TECH</sup>ICE

...shines light on some of the most **innovative, scalable, replicable** and **practical** examples of what people across the globe are doing to combat climate change





Thank You

Hosts:  
Carolann Harding  
& Andrew Arreak

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INSPIRATION PRIZE



MOMENTUM  
FOR CHANGE



# QUESTIONS?

## UPCOMING WEBINAR

***Incorporation of Climate Considerations: Transportation Infrastructure Design***

Date: March 19<sup>th</sup> 1:00 – 2:30 pm EST

**[Click here to register](#)**

**Thank you for joining us today!**