

***Sikunnguaq* – “the likeness or image of ice in maps”**

Community Involvement and Regional Benefits Statement

Community Involvement

We will follow the community research partnership principles embedded in the *Sikumiut-SmartICE Model*, a cross-cultural approach to research that focuses on community priorities, strengthens youth capacity, and supports Indigenous self-determination. The Model is informed by Inuit societal values and their guiding principles. It was first co-developed by SmartICE’s Community Management Committee (see below) in Mittimatalik (self-named *Sikumiut*) to address the overarching goals of the National Inuit Strategy on Research and foster a decolonized approach to the research process. It now forms the partnership foundation between SmartICE and its affiliated communities across Inuit Nunangat.

In the Sikumiut–SmartICE model, each participating community convenes a community management committee (CMC) or engages a community partner organization (CPO) that govern project activities and provide mentorship around IQ use. CMCs/CPOs ensure that the sea-ice IQ we document and share is accurate, as it provides the foundation for our research strategy regardless of discipline or community ice travel safety product.

Community Consultation

SmartICE CMCs/CPOs typically comprise Inuit sea-ice users, nominated by community organizations (e.g., Hamlet, HTO) for their extensive sea-ice travel experience and include both elder and youth members. They provide direction for SmartICE operations. For this application, long-term CMCs in Mittimatalik (since 2016) and Qikiqtarjuaq (since 2018; self-named *Ikirmiut*, meaning “people of the coast”) have received information (e.g., presentations, briefing notes) about the project and provided letters of support. In Iqaluktuuttiaq (Cambridge Bay), the project was presented to the municipality and the Ekaluktutiak HTO and letters of support are attached or forthcoming. In Uqsuqtuuq (Gjoa Haven), our long-term Sikumik Qaujimajjuti Trainer and Sikunnguaq project co-PI, Leanne Beaulieu, has taken a leave of absence from SmartICE and as a result we were unable to convene a meeting of our CMC (self-named *Qiqiqtaqmiut*, meaning “people of the island”) in time for this permit application. A letter of support will be requested at their next meeting in the first quarter of 2025 prior to any project fieldwork in the community.

Community Benefits

As the community-based organization for the Sikunnguaq project, SmartICE is fully committed to being Inuit-led and informed by Inuit knowledge and values in all aspects of its work. SmartICE provides culturally contextualized training programs that are meaningful and effective in supporting Inuit, especially youth, to thrive and prosper. The upskilling support provided through the Sikunnguaq project will increase employability, as trainees acquire technical skills that are broadly transferable to environmental monitoring and ocean surveillance. For example, a key focus of our co-production and implementation

approaches is on developing the skills of community *Sikulirijiit* (name for SmartICE operators and mappers, meaning “workers who deal with ice”) to operate sled- and drone-mounted ice monitoring technology and to incorporate our new satellite-derived products into their Ice Travel Safety Maps (the Sikumik Qaujimajjuti program). Training and hiring Inuit *Sikulirijiit* are critical to ensuring that community members have confidence in project data products, knowing they were produced with a combination of Inuit knowledge, local observations, and technology. In total, we anticipate training 25 *Sikulirijiit* across our project communities.