

Presentations from Levi 2018 SAO Meeting

2018

Arctic Council

Arctic Council Secretariat

<http://hdl.handle.net/11374/2163>

Disclaimer: This document may not be the final or approved version. It may be a working or draft version, as submitted to one of our Senior Arctic Officials meetings. Drafts are available in order to provide historical perspective on the work of the Arctic Council and the development of our scientific reports and assessments. To find final, approved versions of our reports and assessments, please make note of the title and visit the appropriate collection in our archive. Each collection listed below contains final documents from one of the six Working Groups. <https://oaarchive.arctic-council.org/handle/11374/1>, <https://oaarchive.arctic-council.org/handle/11374/617>, <https://oaarchive.arctic-council.org/handle/11374/126>, <https://oaarchive.arctic-council.org/handle/11374/3>, <https://oaarchive.arctic-council.org/handle/11374/52>, <https://oaarchive.arctic-council.org/handle/11374/4> Any citation of an Arctic Council document must include reference to the author. If no author of a particular document is identified, the document may still be cited; in these cases, the Arctic Council should be listed as the author. Downloaded from the Arctic Council Open Access Repository. <https://oaarchive.arctic-council.org/>

Satellite Navigation and Geospatial Information – Challenges of the Arctic

Martti Kirkko-Jaakkola

Finnish Geospatial Research Institute, National Land Survey of Finland



Outline

1. Background: the ARKKI project
2. Significance of Navigation in the Arctic
3. What are the challenges?
4. How to address them?

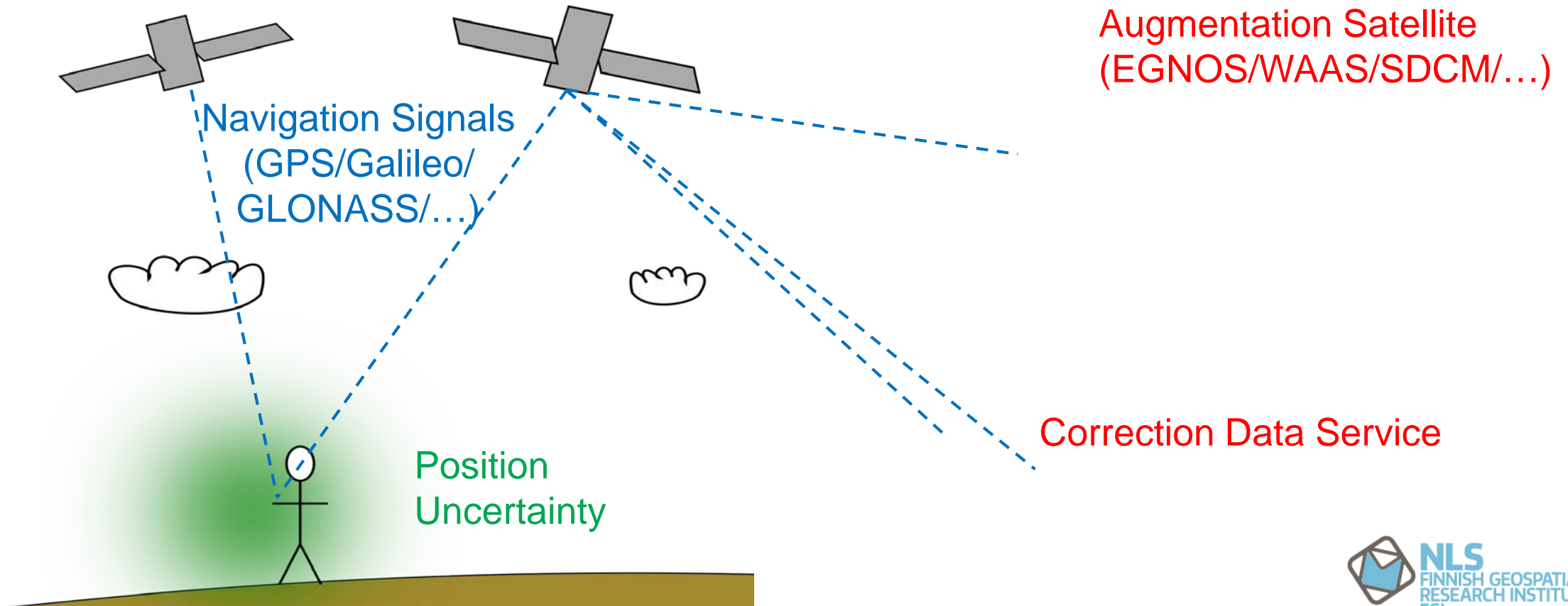
The ARKKI Project in a Nutshell

- A study of
 - The most significant challenges in Arctic navigation
 - Possible solutions for these problems
- Includes an international workshop in Olos, Finland, April 2018
- **Outputs:** Report and Action Plan
- Time frame: 10/2017 – 12/2018
- Funded by Finnish Ministry of Foreign Affairs
- FI Ministry of Transport and Communications responsible for implementation

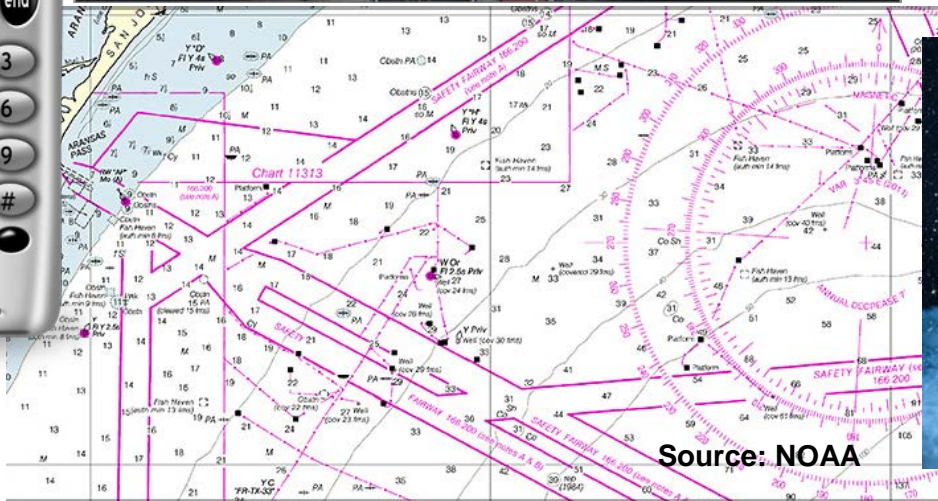
Navigation is of Increasing Significance in the Arctic

- On the road, rail, sea, and air!
- Autonomous vehicles
- Commercial activities – mining, construction
- Challenges present outside the Arctic Circle as well, e.g., in the Gulf of Bothnia
- An important industry in Arctic countries
 - Device manufacturers
 - Indoor positioning
 - Location Based Services

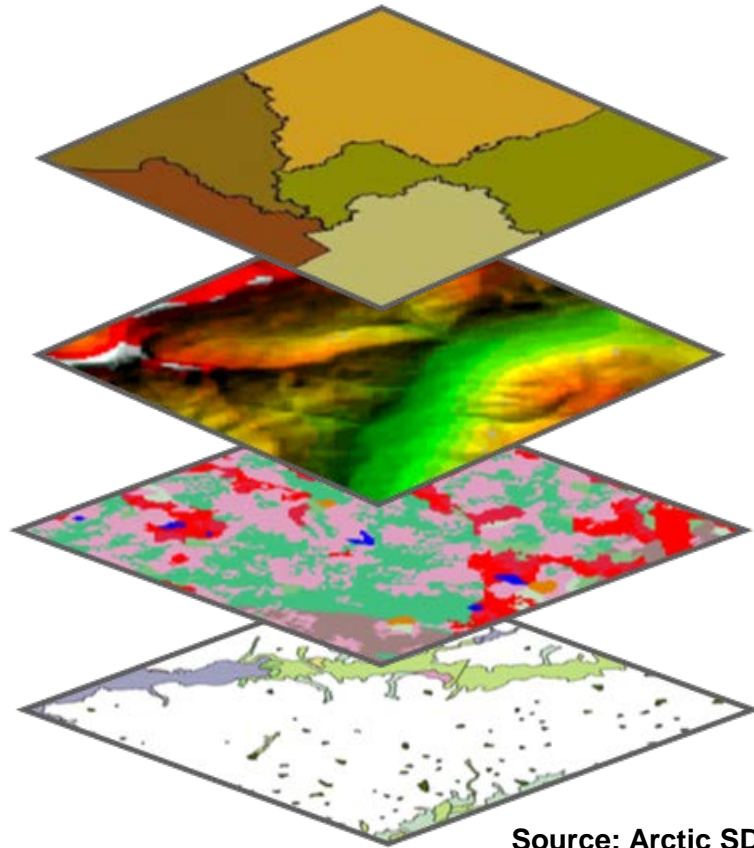
Satellite Navigation in One Slide



Examples of Challenges in Arctic Navigation



The Solution is Unlikely to be a Single Silver Bullet



Source: Arctic SDI

- Extended GNSS assistance services
- Organized crowdsourcing of information
- Telecommunications technology
- Spatial data infrastructures
- Remote sensing
- Experience obtained in the Baltic Sea region
- International collaboration

Which Challenges and Solutions are the Most Significant?

You Tell Us!

Online Survey open till March 26

– any stakeholder or expert input is appreciated!

<http://arkki-project.org/survey>



”Challenges in Arctic Navigation” Workshop

- Olos, Lapland, Finland; April 16–18, 2018
- Approx. 100 participants: scientists, companies, authorities, decision makers
- All transport sectors and Arctic countries included
- Challenges of different user segments addressed in groups
 - Discuss pan-Arctic solutions
 - Constitutes the foundation of the Action Plan
- Visit to R&D infrastructure for Intelligent Transport Systems



Summary

- ARKKI project: identify most significant challenges in Arctic navigation and LBS
- Navigation and Geospatial Data applications are of increasing significance
- Challenges range from satellite coverage to communications and maps
- Transdisciplinary, pan-Arctic solutions are necessary
- Next steps in ARKKI:
 1. Analyze results of User Survey
 2. Workshop in Olos, 16.–18.4.2018
 3. Develop the Road Map



Thank You!

<http://arkki-project.org>