

PREAMBLE:

Arctic Observing Summit 2014

Wednesday 9 April – Friday 11 April

The Arctic Observing Summit is a Sustaining Arctic Observing Networks (SAON) task, led by the International Study of Arctic Change (ISAC) and held biennially. The goals of the AOS are to provide community-driven, science-based guidance for the design, implementation, coordination and sustained long term (decades) operation of an International Network of Arctic Observing systems that serves a wide spectrum of needs. The AOS is a forum for coordination and exchange between researchers, stakeholders and funding agencies involved in long-term observing activities. The AOS provides guidance and recommendations for Arctic observing to decision makers and identify network issues that require SAON attention.

Polar Technology and Innovation Seminar during AOS/ASSW 2014 in Helsinki

In April 2014, a session on Current Issues and the Future of Polar Technology and Innovation was organized by the Forum of Arctic Research Operators (FARO) in collaboration with the European Polar Board (EPB) and IASC as a contribution to AOS and ICARP III. The session addressed the need to promote interaction between the polar science community and innovation and technology development communities. A series of plenary talks followed by a panel discussion highlighted issues such as remotely operated and unmanned aerial vehicles (drones, robotics), reducing the footprint and environmental impact of field data collection, state-of-the-art in deep field communications, needed technologies, and barriers to technology sharing in polar research. Contributions from industrial and commercial stakeholders were also achieved. Over 150 persons attended the session.

This was followed by a posters session, with presentations on technologies for performing science in polar regions, or relevant to polar science, including sensors, instruments, power systems, vehicles and drones, buildings, experiment coordination etc., as well as practical aspects of operating in polar regions.

Some key points from the AOS 2014 technology session:

- Sharing technology and development is important to reduce the cost
- High risk investments into technology are important - there has to be room for failure
- Enhanced cooperation between industry and the scientific community in technology
- Technology is very advanced - but not sufficiently known by the science community
- Collective advocacy to funding agencies is important
- Technology is needed for all year round measurement and in extreme environments
- Financial barriers must be broken
- Language barriers (technology vs science) must be broken
- Policy support is crucial (including permits)
- Science, platforms and detectors can be considered as the corners of a triangle. These three different groups of people must meet and be challenged.
- Necessary to encourage knowledge and imagination, and to facilitate meetings (inspiration, motivation, pressing the boundaries, think out of the box)