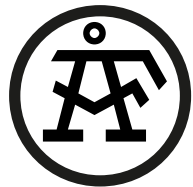


Drones in Arctic Environments

INTERACT

2017-04-06

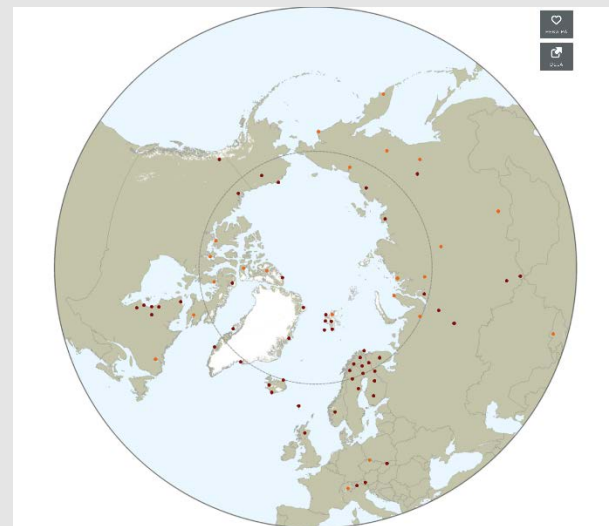


Project background

- Funded by the EU
- 79 terrestrial field bases in northern Europe
- Russia, US, Canada, Greenland, Iceland, the Faroe Islands and Scotland, northern alpine areas.

Main objective

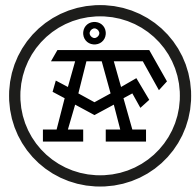
- build capacity for identifying, understanding, predicting and responding to diverse environmental changes throughout the wide environmental and land-use envelopes of the Arctic.
- More info: <http://www.eu-interact.org/>





-
- A photograph showing a snowy, open landscape under a clear sky. In the foreground, a tall, thin antenna tower stands vertically. To the left of the tower, a small red object is visible on the snow. In the middle ground, a small green vehicle is parked. In the background, a low, snow-covered ridge or hill is visible.



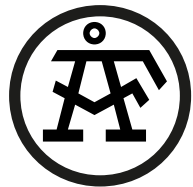


Business and research opportunities

Suggestions for new technology sets for Arctic researchers

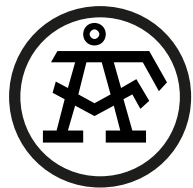
- Increased knowledge on drone technology and sensors used
- Identify sensors for UAV's specifically for Arctic research currently underrepresented
- General rules and legislation with an application on the Arctic environment and their respectively countries
- Produce a best practice scheme for use of drones with sensors at Arctic research stations





Deliverables

- D8.1: SMF Drone Workshop Report (*Month 12*)
- D8.2: Report on drone legislation (*Month 12*)
- D8.3: Report requirement specifications for drones in arctic environments, including drone types, drone projects and sensor technology (Month 18)
- D8.4: Report on recommendations for new sensor development (Month 18)
- D8.5: Guidelines for drone usage in arctic environment (Month 18)
- D8.6: TA Drone Workshop Report (Month 19)
- March 2018: Project end



Project organization



Project manager
Tomas Gustafsson



Project business manager
Tor Ericson



Project specialist
Eskil Bendz



Thesis
David Axelsson



Thesis
Maria Ader



Thesis
Martin Isacsson

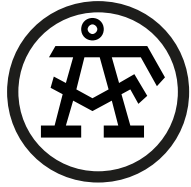
Partner Umbilical Design



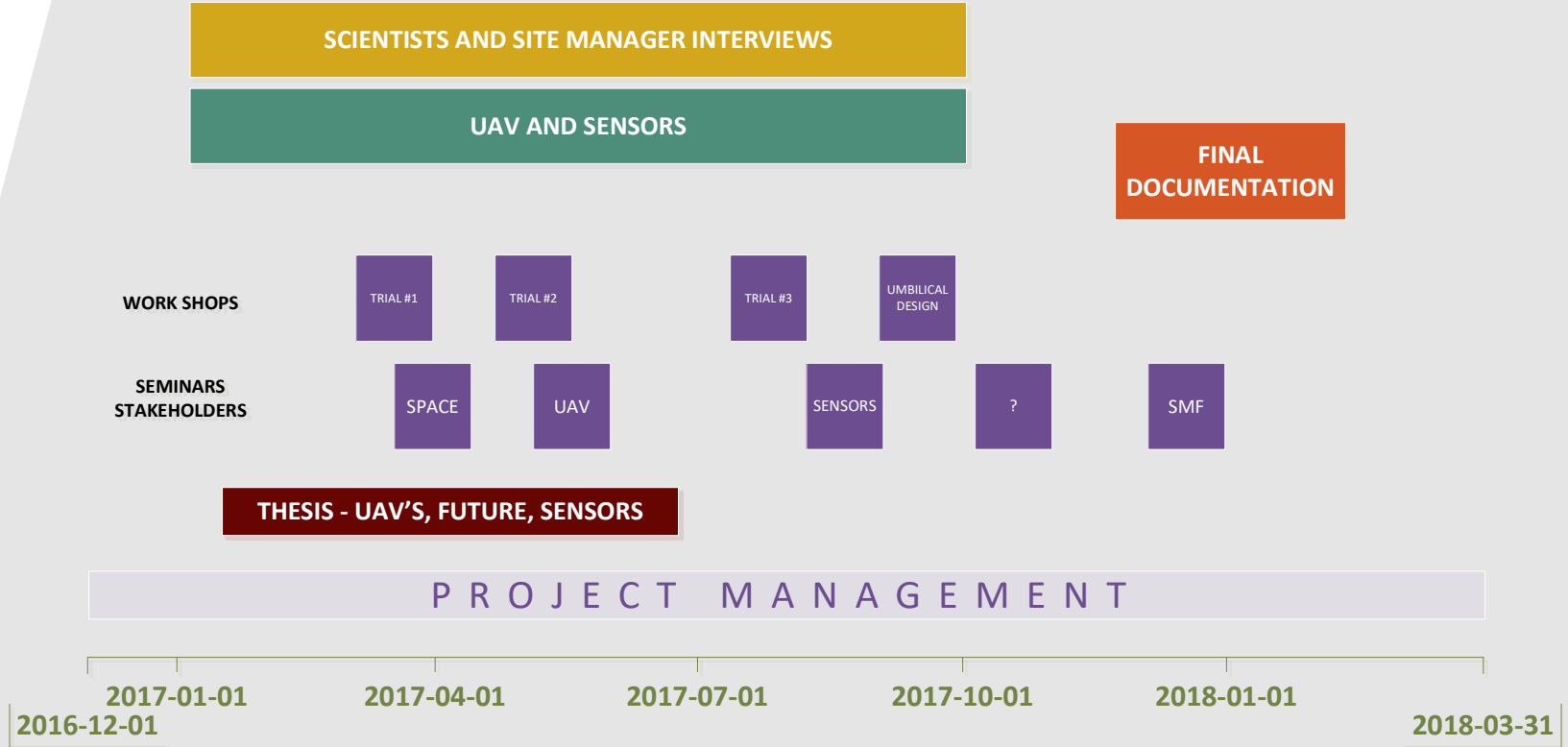
Cecilia Hertz

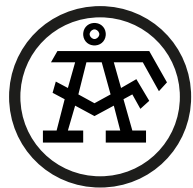


Annelie Sule



Timeline overview

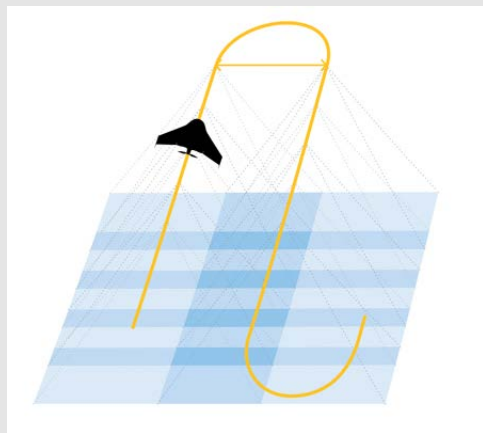


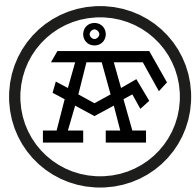


Andra projekt UAV

Laserskanning, fotogrammetri

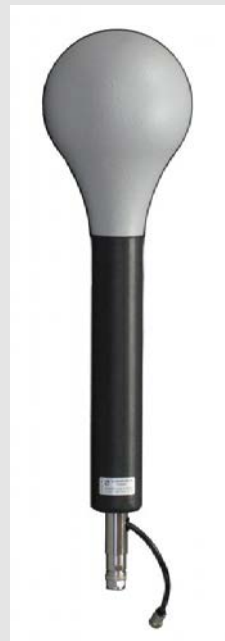
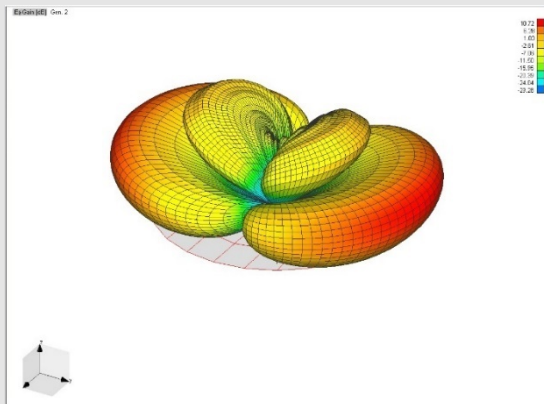
- ÅF har under lång tid genomfört löpande laserskanning och punktmolnshantering åt kunder
- Kombination med ÅF:s gedigna erfarenhet kring inmätningar GNSS.

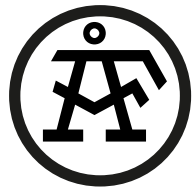




Antennmätningar med UAV

- Typiskt kortvågsbandet 30 MHz
- Inmätning av antenner i syfte att verifiera att tillverkarens krav överensstämmer med specifikationer
- Traditionellt gjort med helikopter, med UAV mycket mer kostnadseffektivt
- Software Defined Radio – billig teknik rimlig prestanda





Kommersiell drönaroperatör

- Folkuniversitetet, 250 Yh-poäng, 50 veckor
- Lunds universitet Trafikflyghögskolan, Ljungbyhed Air och Malmö Yrkeshögskola
- Juridik och entreprenörskap
- Flygteori och tekniskt underhåll
- Hård- och mjukvaruutveckling