

**INTERACT II**

**Station Managers' Forum III**

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**Hintereisferner (host station), venue Kloster Neustift, Varhn, Brixen, Tirol, Italy**

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**19 – 23 March 2018**

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## Summary

The INTERACT Station Managers' Forum meeting III was held 19-23 March 2018 at Kloster Neustift, Varhn, Brixen, Italy. The meeting was attended by 40 participant representing 32 research stations.

Focus of the meeting was on status and continued development of SMF tasks and deliverables, including three workshops (see below):

Task 3.1: Update of existing products (INTERACT Station Catalogue) and new developments (Customised video clips of research stations and INTERACT Street view application using the Mapillary platform).

Task 3.2: Awareness of the scene presented preliminary results of the network survey and a proposed template for standard information about networks/organisations that should be posted on their websites to allow a clear understanding of their activities, target group, outputs, etc.

Task 3.3: Workshop on the development of an 'Arctic Safety course' for research station managers (full day), presentation of existing and envisaged cooperation with other domains (Antarctic, marine and atmospheric communities) and development of a pool of expertise within station management issues as part of the mentoring task to supplement the pool of expertise already developed for science.

Task 3.4: Refinement and comments to draft outline and text sections of the 'Enhanced field work preparation handbook and practical field guide'

Task 3.5: Workshop on 'Reducing environmental impact of Arctic research stations' (full day) with representatives from industry and '0-emission' station Princess Elisabeth in Antarctica.

Task 3.6: The results of a recent transfer to another digital platform was presented by the new developer and operator of the system, Umeå University, a workshop was held to test functionalities and a plan for further development and implementation was presented.

The SMF meeting also provided a forum for other works packages to share information or request input to their specific tasks:

Work package 1: Activities of the Coordinating Office of INTERACT, introduction to the Progeta reporting tool and information about the First reporting Period of INTERACT and relevant deadlines.

Work package 5: Shared information on types of access (Transnational Access, Remote Access and Virtual Access) and their statistics along with outreach activities (including TA ambassadors, establishment of a TA community, blogs), reporting and upcoming calls.

Work package 6: Requested input from station managers on perceived immediate threats that should be included in the 'Red phone', an initiative to develop a coordinated rapid data sampling effort at a regional or circum-arctic scale to provide information allowing a rapid response to sudden events.

Breather presentations by Hintereisferner and M&M Klapa research stations informed about the station's history, facilities and science programmes, and the 'Open floor' provided a platform for presentations of two infrastructure development initiatives (A remote field hut at Arctic Station, Greenland and a proposed unmanned automated measuring station in Svalbard).

## 1. Welcome and agenda (Morten Rasch, Lindsey Nicholson)

Morten Rasch (Chair of INTERACT Station Managers' Forum, SMF) welcomed participants and opened the meeting together with the local host, Lindsey Nicholson, from the nearby Hintereisferner Research Station in Austria.

Number of participants: 40 + three industry representatives for the 0-emission workshop.

Number of stations represented: 32

Number of WPs represented: 6

## 2. WP3 (SMF) tasks and status (Morten Rasch, Elmer Topp-Jørgensen)

Morten Rasch presented the current status of tasks and deliverables within WP3 (SMF). Task leader mentioned in brackets.

### Task 3.1: Operate the INTERACT Station Managers' Forum as an advanced platform (Morten Rasch, UCPH)

- Three Station Manager Fora, incl. agenda and minutes.
- Coordination with all other tasks in workpackage 3.
- Provided platform for other work packages to coordinate with station managers.
- Liaison with Antarctic, Marine and Atmospheric communities.
- Prepared manual for street view captures of research stations - cameras will be distributed among interested stations.
- Prepared draft outline for short customized video clips of research stations.

### Task 3.2: Creating awareness of the scene (Terry Callaghan, USFD)

- Presenting the organizational landscape of arctic research at SMF II.
- Network survey - identifying other projects, programmes networks and organisations of relevance to station managers.

### Task 3.3: First Class Science Support (Elmer Topp-Jørgensen, AU)

- Basic course on arctic safety at SMF II.
- Established cooperation with the Antarctic community at COMNAP meeting in Brno, Czech Republic, in summer 2017.
- Securing cross-disciplinary cooperation through the EU Arctic Cluster infrastructure projects, i.e. INTERACT, EU-PolarNet, European Polarboard and ARICE – ongoing.
- Defined mentoring components for INTERACT – to be developed further at this meeting.

### Task 3.4: Enhanced Field Work Preparations Handbook and Field Guide (Morten Rasch, UCPH)

- Drafts of each product were prepared by Fiona Tummon for discussion at this meeting.

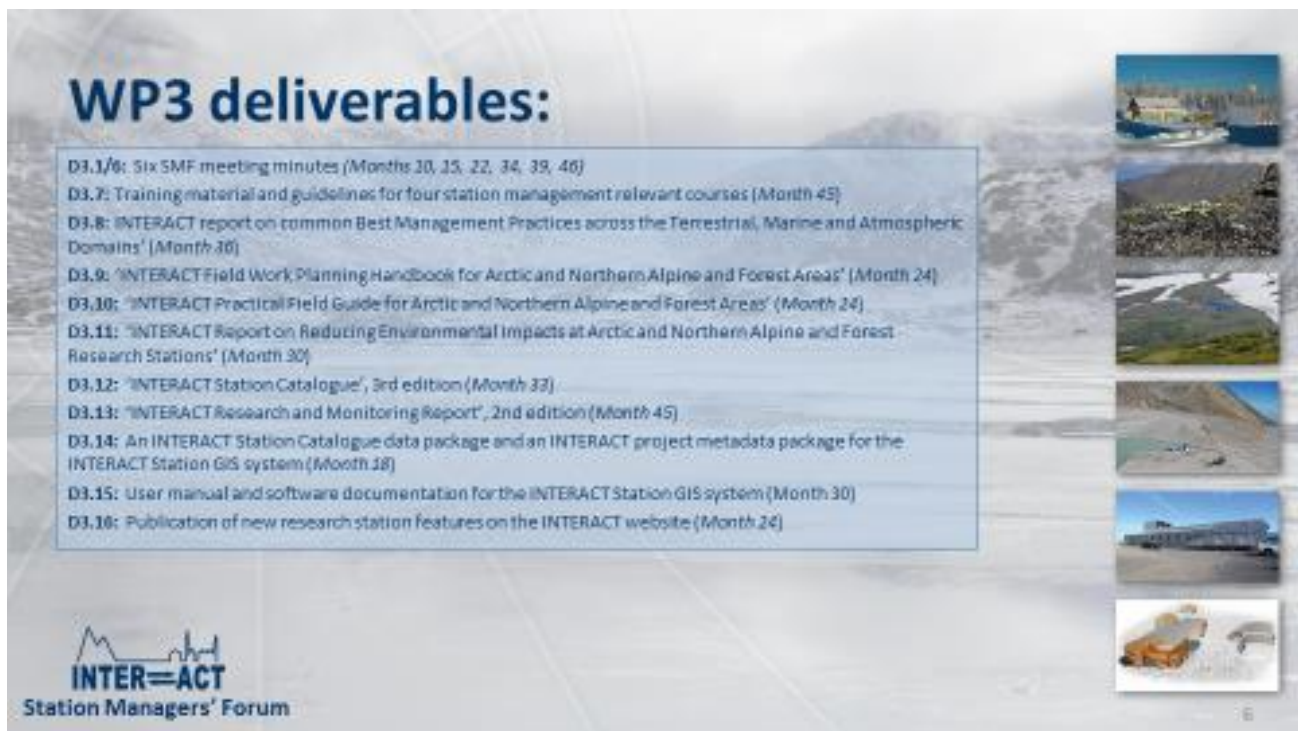
### Task 3.5: Reducing Environmental Impact of Station Management and Science Activities (Nighat Johnson-Amin, IPF)

- Preparation of a 'Reducing the Environmental Impact of Station Management' seminar to be held at this meeting.

### Task 3.6: INTERACT Station GIS (Tomas Thierfelder, SLU)

- Contract with Umeå University to provide the future platform for INTERACT GIS.
- Transfer of INTERACT GIS to Microsoft platform at Umeå University.

- Prepared new version of INTERACT GIS – to be presented at this meeting.
- Preparation of an 'INTERACT GIS' workshop to be held at this meeting.



## WP3 deliverables:

- D3.1/6: Six SMF meeting minutes (Months 10, 15, 22, 34, 39, 46)
- D3.7: Training material and guidelines for four station management relevant courses (Month 45)
- D3.8: 'INTERACT report on common Best Management Practices across the Terrestrial, Marine and Atmospheric Domains' (Month 36)
- D3.9: 'INTERACT Field Work Planning Handbook for Arctic and Northern Alpine and Forest Areas' (Month 24)
- D3.10: 'INTERACT Practical Field Guide for Arctic and Northern Alpine and Forest Areas' (Month 24)
- D3.11: 'INTERACT Report on Reducing Environmental Impacts at Arctic and Northern Alpine and Forest Research Stations' (Month 30)
- D3.12: 'INTERACT Station Catalogue', 3rd edition (Month 33)
- D3.13: 'INTERACT Research and Monitoring Report', 2nd edition (Month 45)
- D3.14: An INTERACT Station Catalogue data package and an INTERACT project metadata package for the INTERACT Station GIS system (Month 38)
- D3.15: User manual and software documentation for the INTERACT Station GIS system (Month 30)
- D3.16: Publication of new research station features on the INTERACT website (Month 24)

**INTER=ACT**  
Station Managers' Forum

### 3. Task 3.1 Coordinating and update of existing SMF products

#### Customised short video clips (Fiona Tummon)





Fiona Tummon presented an outline for a video presentation of an INTERACT station.

#### GENERAL COMMENTS:





- The station videos should be between 2-3 minutes.
- Please ensure to use the common INTERACT intro and outro sections (incl. music). This will be provided to station managers.
- If using other music in the video, make sure to check any issues with copyright – this is REALLY important!
- A video camera, tripod, and possibly also a drone will be provided for your use. Should you have your own equipment, feel free to use that!
- We will coordinate transport of equipment between stations. We will organise a roster for all stations to have a turn.
- A voice-over describing different aspects as noted in each segment would be good (ideally by the station manager to ensure consistency within the video). Alternatively, text can be added if sound quality is an issue.




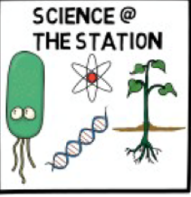


## INTERACT STATION VIDEO STORYBOARD

 <p><b>5-10 seconds</b></p> <p>There will be a standard intro for all station videos, with INTERACT logos and common theme music.</p> <p>This could be where station funders are acknowledged, etc. (although this can also come at the end as well – or both).</p>	 <p><b>5-15 seconds</b></p> <p>If feasible, use a drone to have some nice imagery of getting to the station. This will give some idea of what it takes to arrive at the station as well as a feeling for the surrounding environment.</p> <p>This is a nice place to show some of the beautiful scenery around the station!</p>
 <p><b>5-10 seconds</b></p> <p>A continuation of the previous segment, but moving closer to the station.</p> <p>A voice-over could say a little about the station location – altitude, environment, etc.</p> <p>Again, this is a nice place to show some of the beautiful scenery around the station!</p>	 <p><b>10-20 seconds</b></p> <p>Some words of welcome from the station manager. This should include at least:</p> <ul style="list-style-type: none"> <li>- Size of the station</li> <li>- How many people can be accommodated</li> <li>- When the station is open (season)</li> </ul> <p>The manager should stand outside one of the station buildings, ideally with a nice view of the landscape in the background.</p>

## INTERACT STATION VIDEO STORYBOARD

 <p><b>5-10 seconds</b></p> <p>Some weather-related imagery.</p> <p>A brief description of the type of weather to be expected during the field season (temperatures, amount of precipitation, etc.).</p> <p>Some mention of what type of clothing is necessary might also be appropriate.</p>	 <p><b>5-15 seconds</b></p> <p>Again some imagery of the surrounds of the station. This time with more details about the local environment, e.g. glaciers, wetlands, vegetation types, etc.</p> <p>This could be nicely filmed using a drone.</p>
<p><b>ENVIRONMENTAL FEATURES</b></p>  <p><b>5-10 seconds</b></p> <p>Are there particular features of the environment of which visitors should be aware? E.g. Is there wildlife one needs to watch out for, etc. Mention anything important for teams planning their field work</p> <p>If you can get nice imagery of wildlife, this would be a great place to include it!</p>	<p><b>STATION FACILITIES</b></p>  <p><b>5-15 seconds</b></p> <p>This segment describes what facilities are available at the station.</p> <p>Images from inside the station, e.g. bedrooms, kitchens, etc. (the labs come in the next segment) should be included. Is there electricity, running water, etc.</p> <p>Other images of the station, as appropriate (e.g. showing transport options to get into the field such as snowmobiles, etc.)</p>

## INTERACT STATION VIDEO STORYBOARD

 <p><b>5-15 seconds</b></p> <p>What lab facilities are available? Is there storage space (e.g. deep-freezes etc.)? Is there a workshop for repairs, etc?</p> <p>This segment can show the interior of the station labs and any other relevant equipment available for use in the field.</p>	 <p><b>10-20 seconds</b></p> <p>This segment provides an overview of the science carried out at the station – biology, physics, ecology, etc.</p> <p>Scientists could be shown out in the field, in the lab, or interviewed.</p>
 <p><b>10-15 seconds</b></p> <p>A closing segment where the station manager can encourage people to come to the station.</p> <p>The manager can stand in the same place as the beginning segment, or in another similar location (also with view of the station and/or surrounds).</p> <p>Pan-out to a wide view, moving away from the station - again maybe filmed with a drone.</p>	 <p><b>5-10 seconds</b></p> <p>There will be a standard outro for all station videos, with INTERACT logos and common theme music.</p> <p>This could be where station funders are acknowledged, etc.</p> <p>Also make sure to include contact information here (email address, website, etc.). This information will stay on the screen as the video ends.</p>

## Station catalogue update (Elmer Topp-Jørgensen)

Elmer Topp-Jørgensen presented an outline of the infrastructure catalogue developed in cooperation with EU-PolarNet and COMNAP (Council of Managers of National Arctic Programmes). This was part of an EU-PolarNet product developed for the European Polar Board of European arctic and antarctic infrastructures. New fields were discussed with INTERACT station managers and proposed adjustments identified, including:

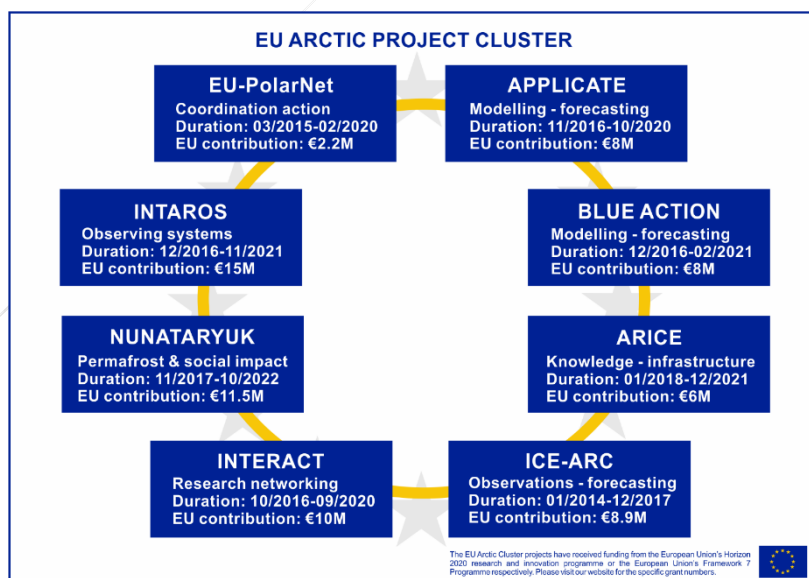
- Type: add 'Long-term monitoring site – no accommodation' and 'Unmanned station, accommodation available'.
- Region: add 'Alpine' and 'Sub-arctic'.
- Location: add 'Country where station is located'.
- Location: Add additional fields to 'Type of surface facility is built on': 'Solid rock', soft substrate – with permafrost, soft substrate – no permafrost.
- Scientific equipment and services: Add 'data access' (no, upon request, virtual access).
- Workshop facilities: add 'Workshop use requirements' (e.g. on own risk, required courses, documented experience, local supervision, local service).
- Permitting issues: 'Need for consultations with local community' (yes, no).
- Human activities: change first field to 'Current human activity'.

## 4. Task 3.3 First class science support (Elmer Topp-Jørgensen)

### Best infrastructure management across domains

The INTERACT Coordination Office and Station Managers Forum are in dialogue with other disciplinary or geographical domains to share best practices of infrastructure management. These includes:

- EU Arctic Cluster.
- EU-PolarNet/European Polar Board, infrastructure catalogue.
- ARICE – Arctic Icebreaker network (cooperation to be developed).
- COMNAP (joint meetings, workshops, infrastructure catalogue).
- FARO (joint meetings, sharing of publications).
- ENVRI-PLUS (cooperation to be developed)



### Mentorship schemes

At the SMF II meeting, participants agreed on components to be included in mentoring within INTERACT:

- Awareness of the Scene (international networks and organisations) – initiated, see below.
- Training courses for station managers (arranged by UNIS) – initiated, see below.
- Pool of expertise (science and station management) – science pool of expertise available on the INTERACT website, Station management pool of expertise developed during this meeting, see below.
- 'Bulletin Board' on the INTERACT website – developed as part of the INTERACT website.
- 'Open floor' at SMF meetings – initiated and open for requests.

### Pool of Expertise:

A proposed list of topics for a pool of expertise for station management was discussed and participants encouraged to sign up as experts of specific fields of competence. It was agreed that the list would be refined based on input from the SMF meeting and distributed to all station managers for identifying experts to the specific fields (not necessarily station managers, but can also be other personnel at the stations that are willing to share expertise).

Suggested additions include:

#### *Management planning*

- Design of in-house monitoring programmes: Add 'Financial planning for research and monitoring programmes'.
- Outreach: Add 'Developing education materials' and 'How to link to secondary schools, high schools and universities'.
- Add: 'Finances/book keeping'.
- Add: 'Writing grant proposals'.
- Add: 'Human resource management'.

#### *Reduction of emissions and environmental impacts*

- Transport: Add 'Alternative transportation solutions'.
- Add: 'Waste management at field camps'.

#### *Safety*

- Add: 'Emergency protocols' to all fields.
- Safety in the field: Add: 'Field safety plan'.
- Add: 'General station safety' and 'Code of conducts' (harassment and discrimination).

#### *Logistics*

- Add: Transport systems – local transport and sharing of logistics.
- Add: UAV/drone systems and operations.
- Add: Food supply – local production.

### **Breather presentation – Hintereisferner (Lindsey Nicholson)**





(Presentation is available on the INTERACT website)

## 5. Task 3.2 Awareness of the scene (Terry Callaghan, Elmer Topp-Jørgensen)

Terry Callaghan presented status of the task that includes three main elements:

1. Up-dating and completing networks table (Arctic and global networks and organisations of relevance to INTERACT) and present selected networks to INTERACT station managers.
2. Exploring INTERACT stations actual and envisioned membership of these networks and organisations.
3. Drafting recommendations for standard information about networks and organisations to be presented on their web site.

Specific tasks includes:

*Refine list of networks, including:*

- Implement relevant potential membership of networks (collect responses from more stations, currently 41 stations have contributed).
- Identify types of "network" to include. There is a need to define the types of networks to be included, including geographical distribution, disciplinary coverage, type of cooperation, etc.
- Identify INTERACT network ambassadors that are willing to share information on how to join specific networks where they themselves are a member (and criteria for becoming a member).
- Publish network list to the Arctic/global community.

*Recommended template for description of scientific organisations/networks*

- Name of organisation/network.
- Acronym.
- Website.
- Geographical coverage (Country, region (e.g. Arctic/North American/Northern Asian/Scandinavian, Atlantic, Pacific), etc.).
- Disciplinary coverage (see e.g. Station Catalogue for categories).
- Standard methodology (yes/no).
- Parameters measured (grouped categories cf. INTERACT Research and Monitoring report).
- Data repository (yes/no).
- Data access (if relevant: link to virtual repository, request to administrator, etc.).
- Membership (countries, institutions, infrastructures, scientists, etc.).
- Criteria for membership.
- Contact for membership (website/e-mail).
- Timeframe (Start date, open ended/end date).

*Solicit nominations for talk from network representatives*

Upcoming activities related to this task:

- Terry and Elmer will send a refined list of networks around (stations can correct submitted information or submit information if this has not already been done).
- Identification of ambassadors and future talks.
  - o Station managers can sign-up to represent a network.
  - o Station managers can inform task leaders (Terry Callaghan /Elmer Topp-Jørgensen) of which networks they would most want to learn about.
- Keep list of networks/organisations updated.

- Station managers should let task leaders (Terry Callaghan /Elmer Topp-Jørgensen) know of any new relevant networks/organisations.

## 6. Task 3.6 INTERACT GIS, incl. workshop (Tomas Thierfelder, Britta Löfvenberg, Per Hörnblad)

The team presented the new version of INTERACT GIS that has been transferred to a new platform by Umeå University IT Department (the future operator of INTERACT GIS). The new version includes, in addition to the station access application module, station catalogue information for all stations and will be developed to also host project metadata for all stations. The benefits to stations and the scientific community have been described in earlier documents and presentations.

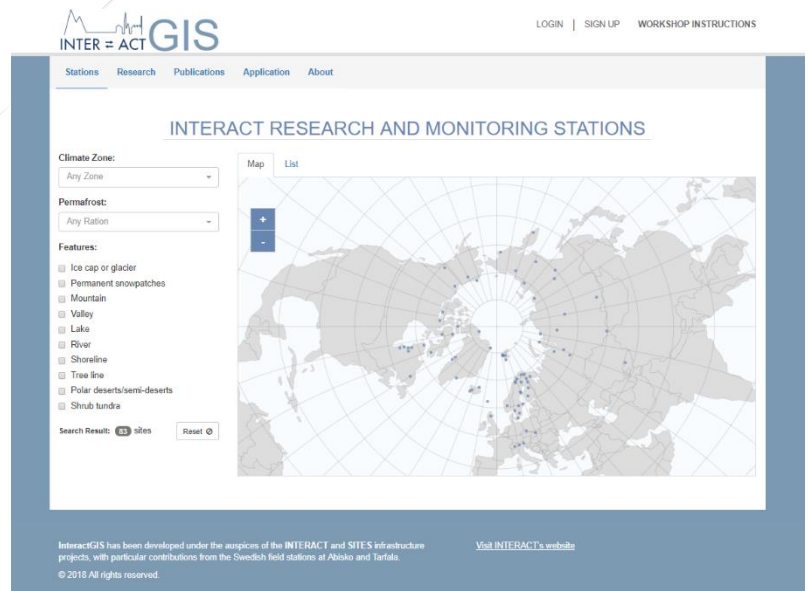
The system will include three main elements:

- Station catalogue information for all stations – allowing station managers to edit the information directly in the system.
- Station access application module (for the stations that want to use this). The system has a core set of metadata, but will, in the next development phase, also include adaptation of the application module to stations with additional needs (in cooperation with stations that have expressed interest in joining the system).
- Project metadata that are either captured through the application module or via an upload function for the stations that have their own application management system.

Some system components are thus going to be used by all INTERACT station managers (station catalogue information and project metadata), while the station access application module will only be used by stations that request to join it.

Upcoming tasks include:

- Finalise the development of all three elements of the system – workshop conducted at this meeting to get feedback on current functionality and station manager needs.
- Adaptation to stations interested in adopting the application system with additional requirements to the application module.
- Develop an organisational structure for the future management of the system, including representation by all stations using the application module, system operators (Umeå IT) and the INTERACT Daily Management Group.



A workshop where participants carried out a test of the system and provided feedback on the functionality was held, and input from there will be used to revise the system. All participants and station managers not represented at the meeting will be encouraged to provide feedback through an online questionnaire with deadline early in April 2018.

## 7. WP5 Transnational Access (Hannele Savela)

Hannele Savela gave a short introduction to the different types of Access:

- Transnational Access.
  - o Free access to 43 research infrastructures and installations.
  - o 6,850 person-days of TA in 2016-2020.
  - o 970 person-days of RA in 2016-2020.
  - o TOTAL TA/RA 7,820 days.
  - o Transnational > Not to national infrastructures.
  - o Max. 90 days per user group.
  - o Annual call in Sept-Oct > decisions in Feb-March.
- Remote Access
  - o Modality of Transnational Access.
  - o Station staff collects the samples according to a research plan provided by the user.
  - o 17 stations, 970 staff-days.
  - o Logistic costs reimbursed.
  - o Same call and application process as for TA.
  - o Call open continuously.
- Virtual Access
  - o Free and open access to data and metadata.
  - o INTERACT Virtual Access single-entry point.
  - o No application process; registration and user attribution.
  - o 11 partners currently offer this service, > 29 by 2020.

This was followed by information about deliverables and milestones of WP 5 and application statistics (more detailed statistics will be provided in the First Periodic Report of INTERACT II).

TA/RA applications:

TA / RA Call	Applications	Stations	Days	ODC (T&S, EUR)
1 <sup>st</sup> TA/RA Call	104 (108) TA	34	4251	792 839
2nd TA/RA Call	81 TA/RA /mix	38	3367	552 865
1st RA Call	3	10	55	7 625
2nd RA Call	6	12	197	15 760
<b>TOTAL</b>	<b>194</b>	<b>-</b>	<b>7870</b>	<b>1 369 089</b>
<b><i>Offered in GA</i></b>	<b>-</b>	<b>43</b>	<b>7820</b>	<b>1 566 936</b>

TA/RA use:

TA / RA Call	Projects	Stations	Days	ODC (T&S, EUR)	Status
1 <sup>st</sup> TA/RA Call	58 (2 RA)	32	1689	417 550*	<i>Accepted (PR1)</i>
2nd TA/RA Call	47 (3 RA, 4 mix)	36	1464	296 711	<i>Accepted</i>
1st RA Call	1	6	30	3 600	<i>Accepted</i>
<b>TOTAL</b>	<b>106</b>	<b>40</b>	<b>3183</b>	<b>717 861</b>	
<b><i>Offered in GA</i></b>	<b>-</b>	<b>43</b>	<b>7820</b>	<b>1 566 936</b>	

A TA user community has been established, in which TA users and interested scientists meet at selected larger international meetings to discuss TA matters and selected scientific themes. TA ambassadors have also been appointed, spreading the word about upcoming TA calls and results. The TA team also coordinate research blogs related to TA and will produce a 2<sup>nd</sup> "InterActive" Edition of INTERACT Stories of Arctic Science book.

Hannele then gave a detailed presentation of TA reporting (e-mails have been sent out to station managers about this and tutorials have been held). Next TA call opens on 3 September 2018 and closes on 12 October 2018.

## 8. Task 3.4 Enhanced field work preparation and field guide (Fiona Tummon)

Prior to the meeting Fiona Tummon had sent out a draft outline of the 'Enhanced fieldwork preparation guide' including a first draft text of some elements. At the meeting, participants were divided into break-out groups to discuss different sections of the 'Enhanced field work preparation guide and practical guide book' to provide feedback on structure and contents.

## 9. Mapillary street view – field test (Task 3.1) (Elmer Topp-Jørgensen, Morten Rasch)

Elmer and Morten presented the Mapillary as a platform for displaying 360 degrees photos of research stations and the surrounding environment. The equipment, software and a guide on how to use it were also presented. Nine cameras and associated equipment were distributed to participants with iPhones for testing and providing feedback on the draft manual.

### Comments included:

- Add information required to login first time an iPhone and a camera is connected (p. 7).
- Add option of connecting camera to computer using a cable (faster transfer and no need for taking out MicroSD card) (p. 13).
- Add option for using Android phone, where this is possible.
- Ensure that software name is correct, several similar apps but with different functionalities.

The INTERACT Street View Manual will be revised and a plan for how to distribute the Street view equipment kits to INTERACT stations will be developed and initiated soon after the meeting.





## 10. Workshop: Reducing environmental impact of research stations (Nighat Johnson-Amin, Johnny Gaelens, Lisa Benedetti)

The workshop had participation from the INTERACT community and industry (water systems, energy control systems, alternative energy) and was led by staff from the '0-emission' Princess Elisabeth Station in Antarctica managed by the International Polar Foundation. The workshop results will be included in a report distributed separately.

## 11. Workshop: Arctic Safety Workshop (Ann Christin Auestad, Audun Tholfsen)

This workshop was held to provide detailed input to UNIS regarding the contents of an arctic safety course targeting managers of arctic and alpine research stations. The results of the workshop will be used in the development of future INTERACT station manager courses and reported on separately in outputs connected to this task.

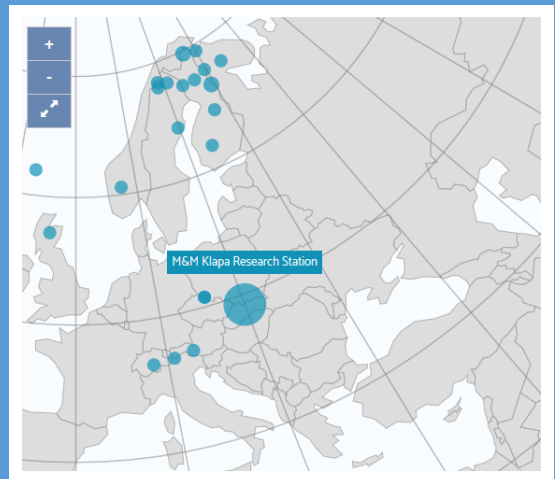
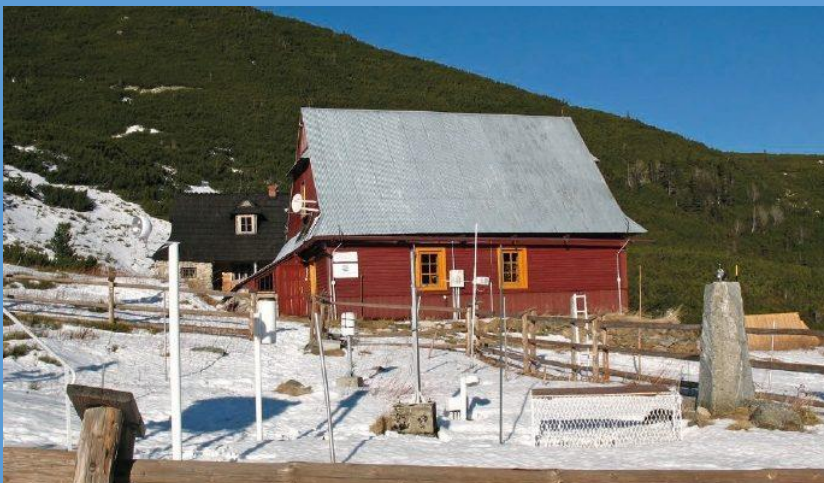
## 12. WP 6: Rapid response to environmental change (Alex Bernardova)

Alex Bernardova presented the aim of the WP, which is to develop an activity plan for initiating rapid data/sample collection for analyses of and responses to extreme events and hazards. The WP will develop the organizational set-up, establish relevant lines of communication and define types of events that can be covered. Events should be of regional to circum-arctic or even global nature (e.g. volcanic eruptions, disease outbreak etc.) and not only relevant for a specific area (e.g. avalanches). Both station managers, scientific networks/organisations and agencies can initiate the coordinated data collection through the INTERACT network of more than 80 research stations in arctic and northern boreal and alpine areas.

In this session station managers were asked to list the type of events and hazards, they found relevant to include in the system. Examples of these are:

- Rapidly expanding species/invasive species
- Volcanic eruptions
- Disease outbreaks
- Spread of radioactivity from nuclear power plant incidents
- Etc.

## Breather presentation – M&M Klapa Research Station (Zofia Raczowska)





(Presentation is available on the INTERACT website)

### 13. WP1 Consortium update and information

Katharina Beckmann and Luisella Bianco presented the overall progress of INTERACT and the activities of the coordinating office. The Progetta reporting tool for reporting milestones and deliverables to EU was also presented and information about the upcoming First Reporting Period was conveyed. Details on how to report will be distributed to all partner institutions.

### 14. Open floor

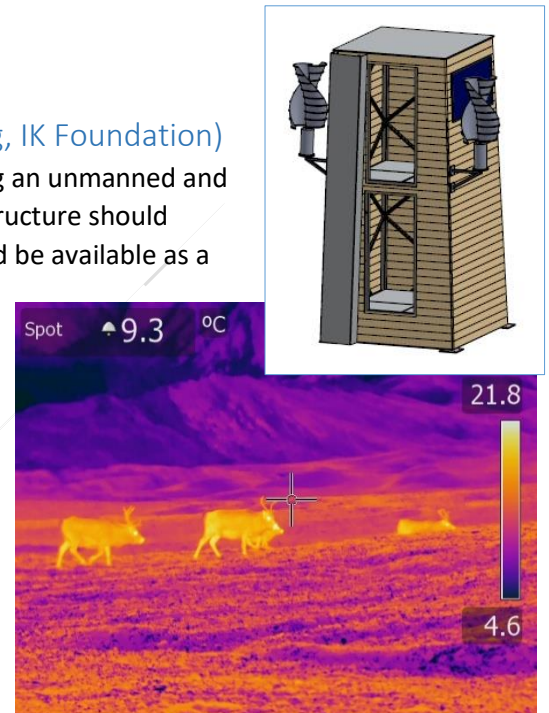
#### A field station for Prins Karls Forland, Svalbard (Arne Ardeberg, IK Foundation)

Arne Ardeberg from IK Foundation presented their plans for establishing an unmanned and automated research infrastructure at a field site in Svalbard. The infrastructure should produce its own energy needs from sustainable sources (wind/solar) and be available as a platform for external scientists.

Currently envisaged measurements include:

- Images of fauna and flora
- Sounds recordings
- Sky/cloud monitoring
- Meteorology/climate

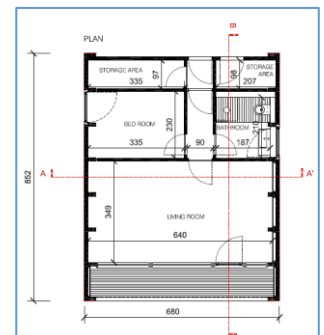
Funding for the infrastructure has been secured, the location has been found during a previous expedition, and now the IK Foundation is awaiting response from the Governor of Svalbard on the application for setting up the infrastructure at the specific location.



#### A new field hut for Arctic Station, Greenland, based on funding facilitated through INTERACT (Morten Rasch)

Morten Rasch presented the opportunities and challenges of being offered a 'free' hut for Arctic Station in Greenland by a private company, with the conditions of contributing to a movie about the building process and installation. Among important considerations are:

- Contractual agreements.
- Equal expectations.
- Conflict of interest might be an issue when working with private companies.



- Different requirements for film crews compared to scientists – often expect more luxury.
- Receiving a hut is time consuming, requires significant planning, contact with authorities, permits and frequent communications.
- ... but, it is also fun and provides opportunities for station development.



## End of meeting

Morten Rasch (Chair of INTERACT SMF) closed the meeting and thanked participants for active participation and constructive dialogue. The next SMF meeting will be held at the upcoming INTERACT Annual Meeting in Salekhard in September 2018.





### SMF III – Agenda

Venue: Bildungshaus, Kloster Neustift, Vahrn, Tirol, Italy 19-23 March 2018

#### **Day 1, Monday 19 March 2018, Station Manager Forum**

14.30 Welcome and agenda (*Morten Rasch, Lindsey Nicholson*)

14.45 WP3 tasks and progress since last meeting (*Morten Rasch, Elmer Topp-Jørgensen*)

15:00 Task 3.1, Coordination and update of existing products (*Elmer Topp-Jørgensen and Fiona Tummon*)

- Customized short video clips of stations (presentation and discussion in plenum of concept)
- Station catalogue update (plenum discussion of new template)

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15:30 – 16:00 Coffee

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16:00 Task 3.3, First Class Science Support (*Ann Christin Auestad, Elmer Topp-Jørgensen*)

- Courses (short about aims of workshop/course at this SMF and plan for future courses) (*Ann Christin Auestad*)
- Best practices across domains (status, ideas and plans) (*Elmer Topp-Jørgensen*)
- Mentorship schemes (status and break-out groups for discussion of pool of expertise for station management) (*Elmer Topp-Jørgensen*)

16:45 Breather presentation – Hintereisferner Research Station (*Lindsey Nicholson*)

17:00 Task 3.2, Awareness of the Scene (*Terry Callaghan*)

- Presentation of network survey
- Presentation of selected networks

17:30 -18:00 INTERACT GIS – Status and short presentation of workshop procedures (*Tomas Thierfelder, Britta Löfvenberg, Per Hörnblad*)

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18:30 Dinner

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19:30 – 21.30 INTERACT GIS workshop for stations being interested – invitation attached (*Tomas Thierfelder, Britta Löfvenberg, Per Hörnblad*)

- INTERACT GIS implementation workshop
- Round-up, questions, and next steps
- End of workshop

#### **Day 2, Tuesday 20 March 2018, Station Manager Forum and Excursion**

08:30 WP5 Access: TA/RA/VA – current status and next steps (*Hannele Savela*)

09:30 Task 3.4, Enhanced Fieldwork Preparations and Field Guide (*Fiona Tummon*)

- Discussion of chapters contents in break-out groups

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10:30 – 11:00 Coffee

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11:00 Task 3.4, Enhanced Fieldwork Preparations and field guide - break out group reporting (*Fiona Tummon*)

11:30 Task 3.1, Mapillary Street-view field test (*Elmer Topp-Jørgensen, Morten Rasch*)

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12:00-13:00 Lunch

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13:00 Excursion to Ice Man Museum, Bolzano (*Morten Rasch, Elmer Topp-Jørgensen*)

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18:30 Dinner

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### **Day 3, Wednesday 21 March 2018, Reducing the Environmental Impact of Arctic Research Stations**

#### **Seminar**

08:30 Introduction, short film about Princess Elisabeth Station and The Zero Emissions Quest (*Nighat Johnson-Amin, IPF*)

09:00 Challenges to adopting the Zero emissions approach for arctic stations (*Nighat Johnson-Amin, IPF*)

09:30 Technical systems – renewable energy and grid stability in small installations – PE case study (*Johnny Gaelens, IPF*)

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10:30 – 11:00 Coffee

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11:00 Water treatment challenges off-grid – PE and ISS case studies (*Dries Demey, QINETIQ*)

11:40 Q&A

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12:00-13:00 Lunch

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13:00 Technical systems – rolling out new communication and data management strategies to reduce energy use (*Thomas Petracca, EOMNIA*)

13:40 Q&A

14:00 Technical systems – intelligent power management and automation to reduce energy use (*Franck Pagnoux, SCHNEIDER ELECTRIC*)

14:40 Q&A

15:00 Strategies for waste management in remote locations – adapting the Antarctic model (*Nighat Johnson-Amin, IPF*)

15:40 Q&A

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16:00 – 16:30 Coffee

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16:30 Practical Workshop - How to calculate your energy needs (*Johnny Gaelens, IPF*)

17:30 Open session – other stations can share their experiences with environmental impact reduction and renewable energy technologies (*Moderated by Lisa Benedetti, IPF*)

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18:30 Dinner

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### **Day 4, Thursday 22 March 2018, Arctic Safety Workshop**

08:30 Welcome and presentation of status of Arctic Safety Centre (*Ann Christin Auestad*)

08:45-12:00 Morning session

- Introduction to the day (*Audun Thølfesen*)
- Best practice field work (*Audun Thølfesen*)
- Presentation of pre-work (*Audun Thølfesen*)

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12:00-13:00 Lunch

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13:00 Early afternoon session

- Introduction and expectations for group work (*Audun Thølfesen*)

- Break-out groups to develop an outline for the proposed safety course

16:00-17:00 Late afternoon session

- Plenum presentation of break-groups results
- Plenary discussion to further develop the course outline and next step (*Moderated by Audun Tholfsen and Ann Christin Auestad*)

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18:30 Dinner

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### **Day 5, Friday 23 March 2018, Station Manager Forum**

08:30 Breather presentation – M&M Klapa Research Station (*Zofia Rączkowska*)

08:45 WP1, Consortium update and information (*Margareta Johansson, Katharina Beckmann, Luisella Bianco*)

- News from INTERACT coordination office
- First reporting period
- New externally funded JRA: Unmanned Research Station (IK Foundation)

09:30 Feedback from Mapillary Street View test and comments to manual (*Elmer Topp Jørgensen*)

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10:00 – 10:30 Coffee

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10:30 WP6, Red Phone (*Alex Bernadova*)

11:30 Open floor and any other business (*Morten Rasch, Elmer Topp-Jørgensen*)

- A Field Station for Prins Karls Forland (*Arne Ardeberg*)
- A new field hut for Arctic Station based on funding facilitated through INTERACT (*Morten Rasch*)
- Other business

12:00 End of meeting (*Morten Rasch*)

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12:00-13:00 Lunch

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## Appendix 2. Participant list



### INTERACT SMF III Participant list

First name	Last name	Email	Institution	Research Station
Alex	Bernardova	alex.bernardova@gmail.com	University of South Bohemia	Czech Arctic Research Station in Svalbard
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