KEPLER Deliverable Report

Report on Deliverable D6.3

Deliverable name	Plan for dissemination and exploitation			
Scheduled delivery	**month:**	03	**date:**	March 2019
Actual delivery	**month:**	04	**date:**	April 2019
Report type	Internal report			
Lead author	Nick Hughes (MET Norway)			

Contributing authors

Nick Hughes (MET Norway), Elaina Ford (UKRI-BAS)

Context of deliverable within Work Package

This deliverable outlines some of the key dissemination activities that will be undertaken during the project, that will be used to communicate the outcomes of the project, as well as identifying and building dialogue with key interested stakeholders.

Explanation of delays

This report was submitted a few days late due to travel and reviews.

Report

Overview

The KEPLER participants have an extensive range of stakeholder contacts, both within the end-user communities but also at the international research and regulatory authorities levels. This report outlines the key stakeholders in the project and the dissemination routes that will be used to communicate with them. This links into D6.1, the communication plan which outlines the main forms of communications this dissemination will take.

We will collaborate with local communities, and regional and national Government institutions in the Arctic through our participants (SNOW, ULund, METNO, DMI). The local communities and government institutions provide the stakeholder requirements that are necessary for a relevant and useful evolution of Copernicus services. Local knowledge has to be acquired and put into action. Local volunteer groups play an important role in a region with limited infrastructure for routine

Co-funded by the Horizon 2020 programme of the European Union

in-situ monitoring. The capacities and competencies of all levels of national Governments of the countries which make up the Arctic provide relevant experience and these groups will be engaged with where possible. International conventions and agreements, including among others the UN institutions such as the World Meteorological Organization (WMO) and the International Maritime Organization (IMO), will be looked into to see how Copernicus can address these requirements. National governments need increased understanding of competencies and practises of monitoring data provision and services, as the basis for their own decision-making and for development and implementation of their own services.

KEPLER incorporates the operational monitoring of the national ice charting agencies via the European Ice Services (METNO, DMI, FMI and SMHI), the Copernicus services providers for satellite-based observations (METNO, NERSC, DMI, AWI) and forecast products (MERCATOR OCEAN, ECMWF, METNO, NERSC, AWI, OASYS, ILAB) and participants experienced with organising in situ observation campaigns (ULund, UKRI-BAS, AWI). The need for exchange of knowledge and systematic experiences will be addressed through the activities listed below.

Industry innovators are involved in the consortium (OASYS, ILAB, and NORUT). The KEPLER project highlights the need for improved interaction between operational monitoring and Copernicus services, and the institutions and companies engaged in research and development, testing and production of services and products. The industry innovators will provide a focus on capacity gaps, and use professionals' experiences of existing Copernicus services to develop new products that meet user needs and expectations (WP1). They will also receive direct interaction with stakeholders through events (see below).

Stakeholders

The main stakeholders identified at this point are listed in the table below. This will continue to be developed throughout the project, building on connections and from dissemination events held.

Organisations that have given KEPLER Letters of support are shown in bold text.

Type of stakeholder	**External stakeholders, external experts, and end-users to be invited to KEPLER events**
Energy Industry	AkerBP, Eni Norge AS, OMV Norge, Statoil, Total E&P Norge
European Institutions	EU, EEA, EMSA, ESA, EUMETSAT
International Groups	European Polar Board, IASC, SCAR, World Economic Forum, World Ocean Council, EU Arctic Cluster, **IABP**, **IPAB**

Co-funded by the Horizon 2020 programme of the European Union

National Space Agencies	Polar Space Task Group (PSTG), Canadian Space Agency, NASA JPL, Norwegian Space Centre
Satellite Operators	DLR, eGEOS, MDA, JAXA, **ICEye**, **KSAT**
Operational Forecast Centres	NOAA NWS Alaska, Environment Canada, UK Meteorological Office, Meteo France
Operational Sea Ice Monitoring	IICWG, **WMO/IOC JCOMM ETSI**, **WMO Global Cryosphere Watch**, **GEO Cold Regions (GEOCRI)**, International Ice Patrol, **Argentinian Ice Service**, Canadian Ice Service, US National Ice Center, **AARI (Russian Ice Service)**, **BSH (German Ice Service)**
Research	APPLICATE, ARICE, ASIP, **Barcelona Supercomputing Center**, **Bjerknes Center for Climate Dynamics**, Blue Action, **CIRFA**, **Chalmers Technical University**, WMO WCRP CliC, EU-PolarNet, IMR, **INTAROS**, INTERACT II, Norut, NUNATARYUK, SEDNA, YOPP, **APEC**S, C3S, CMEMS, Polar View, ESA Polar-TEP, ESA SICCI, ESA Arctic+, UiO (Sebastian Westermann, permafrost), DTU-Space.
Research Infrastructure	**ICOS**, **SIOS**, SAON, GTN-P
Local Communities	NOAA NWS Alaska, Canadian Ice Service, IARC, North Norway European Office, NVE
Search and Rescue	**JRCC-NN**, ARCSAR (H2020 CSA with 21 partners)
Shipping	**Fednav**, Fertoing Russia, Greenland Pilot Service, **Navtor AS**, Northern Sea Route Administration, **Polaroil/KNI,** Royal Arctic Line, Arctia Ltd, **Vento Maritime**, **Finnish Transport Agency**, **Fleetrange**
Insurance	**DNV-GL**, **Lloyds Register EMEA**
Tourism	**AECO**, IAATO, Hurtigruten, Ponant Cruises

Co-funded by the Horizon 2020 programme of the European Union

Stakeholder engagement activities

A variety of stakeholder engagement activities will be undertaken during the project. These will be reviewed at the end of the project to determine the effectiveness of stakeholder interactions.

Ongoing activities:

- social media input - Twitter, Facebook and LinkedIn
- website - content and news updates
- newsletters

See Task 6.1 and D6.1 (communications plan) for more details.

Event based activities:

- **ARCSAR project kick-off meeting,**
  26-28 February 2019, Rome, Italy

  KEPLER activities were discussed with the Search-and-Rescue (SaR) community by MET Norway as part of the kick-off meeting for the ARCSAR (Arctic Security and Emergency Preparedness Network) project.

- **Arctic Shipping Forum,**
  2-5 April 2019, Helsinki, Finland

  KEPLER scientists to present talks and host discussions with stakeholders and Copernicus users. Our flyer in the programme is shown right.

  The KEPLER booth will encourage dialogue using interactive posters and will also provide promotional materials to participants.

- **ESA Living Planet Symposium,**
  13-17 May 2019, Milan, Italy

  An introduction to the project and a request for input from the remote sensing community will be presented in session "D2.02: EO for the Sustainable Development Goals (1)" on 14 May 2019.

Co-funded by the Horizon 2020 programme of the European Union

- **WMO JCOMM Expert Team on Sea Ice, 13-15 May 2019, Geneva, Switzerland**

  KEPLER partners MET Norway, FMI and DMI will be attending, and will present KEPLER activities in relation to the international regulatory environment for the provision of maritime navigation and safety information.

- **9th International Workshop on Sea Ice Modelling, Data Assimilation and Verification, 17-19 June 2019, Bremen, Germany**

  This workshop builds on a series of successful workshops organized by the IICWG Data Assimilation Working Group to advance international capabilities for automated sea ice analysis and prediction on timescales from hours to a season. In conjunction with the Year of Polar Prediction (YOPP) organized by the WWRP-PPP and GOV, a particular need has been identified regarding the development of more mature and meaningful methods for sea ice verification. The focus of the workshop is to discuss cross-cutting issues in sea ice modelling and data assimilation and how deficiencies of current systems can be more efficiently diagnosed and addressed.

  Day 1 will kick off with three presentations about KEPLER, for high visibility early on in the workshop to kick off dialogue from the 75 workshop participants. Details about the meeting and the agenda can be accessed at *https://www.awi.de/en/science/climate-sciences/sea-ice-physics/main-research-foci/forecast-of-sea-ice-properties/iicwg-da.html*

- **International Ice Charting Working Group (IICWG-XX), 23-27 September 2019, Copenhagen, Denmark (M6.1)**

  KEPLER partner DMI is hosting, and MET Norway are involved in the organizing committee.

Events that are still at a very early planning stage, and for which we have limited information on the agenda, are listed below. We will endeavour to insert KEPLER into the agenda where possible.

- **Arctic Circle, October 2019, 2020, Reykjavik, Iceland**
- **Arctic Frontiers, Tromso, Norway, 2020 (M6.3)**
- **IAHR - International Association for Hydro-Environment Engineering and Research 2020 (M6.5)**
- **Arctic Science Summit Week (ASSW) including Arctic Observing Summit (AOS) workshop, Akureyri, Iceland. March 31st- 2nd April 2020 (M6.8)**
- **ESA Cryospheric Remote Sensing Summer School, date TBC.**

Co-funded by the Horizon 2020 programme of the European Union

Open Access

KEPLER encourages, where possible, the use of Gold Open Access (no embargo) on any peer-reviewed scientific publications produced by the project. This can be either through prioritising a fully open access journal (e.g. The Cryosphere), or through payment of open access for the article in an otherwise closed journal. Where this is not possible or practical, Green open access will be utilised, where the paper will be added to relevant repositories after an embargo period as set by the journal. Repositories would include institutional own repositories, OpenAire, Google Scholar (where KEPLER will hold an account), and ResearchGate. The papers will be added to the KEPLER website when this is allowed by the journals.

Acknowledgements

All dissemination activities will be referenced with the acknowledgement text:

"This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 821984."

Project members will use KEPLER project branding and include logos of the EU flag, Copernicus, and ESA where appropriate.

References

n/a

Related Publications and Dissemination Output

n/a

Co-funded by the Horizon 2020 programme of the European Union