



Seventh Framework Programme FP7-SPACE-2010-1
 Stimulating the development of downstream GMES services

Grant agreement for: Collaborative Project. Small- or medium scale focused research project

Project acronym: **SIDARUS**

Project title: **Sea Ice Downstream services for Arctic and Antarctic Users and Stakeholders**

Grant agreement no. 262922

Start date of project: 01.01.11

Duration: 36 months

Project coordinator: Nansen Environmental and Remote Sensing Center, Bergen, Norway

D10.41: Business Plan

Due date of deliverable: 31.12.2012

Actual submission date: 06.05.2013

Organization name of lead contractor for this deliverable: NERSC

Project co-funded by the European Commission within the Seventh Framework Programme, Theme 6 SPACE		
Dissemination Level		
PU	Public	
PP	Restricted to other programme participants (including the Commission)	X
RE	Restricted to a group specified by the consortium (including the Commission)	
CO	Confidential, only for members of the consortium (including the Commission)	

ISSUE	DATE	CHANGE RECORDS	AUTHOR
1.0	06/05/2013	Version 1.0	S. Sandven

SIDARUS CONSORTIUM

Participant no.	Participant organisation name	Short name	Country
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3	Collecte Localisation Satellites SA	CLS	FR
4	University of Bremen, Institute of Environmental Physics	UB	DE
5	The Chancellor, Masters and Scholars of the University of Cambridge	UCAM	UK
6	Norwegian Meteorological Institute, Norwegian Ice Service	Met.no	NO
7	Scientific foundation Nansen International Environmental and Remote Sensing Centre	NIERSC	RU
8	B.I. Stepanov Institute of Physics of the National Academy of Sciences of Belarus	IPNASB	BR

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SUMMARY

This document is the first version of the Business Plan for the downstream services developed in SIDARUS. Sea ice services that exist today are mainly public, produced by national ice centres or other governmental institutions. The services, which are part of the GMES marine services, are either free-of-charge or available at low cost through subscription or other charging mechanisms. It is expected that the services developed in SIDARUS will mainly be free-of-charge (public) services, but also supplemented by user paid (commercial) services. The services developed in SIDARUS will be provided by four of the partners: met.no, NERSC, CLS and UB. These institutions provide a number of services in various geographical regions, as described in the various SIDARUS reports. The market for commercial ice services is very dependent on the general development of oil and gas exploration in the Arctic. At present, this market is relatively small, but it can increase in the future with increasing industrial, offshore and shipping activities in the Arctic.

Introduction

The overall objective of SIDARUS is to develop and implement a set of sea ice downstream services in the area of climate research, marine safety and environmental monitoring. In order to achieve this goal a plan for implementation of services based on products developed in SIDARUS has to be prepared before the end of the project.

SIDARUS is a project to develop GMES Downstream services, based on the present marine core services provided by MyOcean. GMES will be transferred to its operational phase from 2014 under the name Copernicus. Many European institutions working with operational oceanography will contribute to the Copernicus Marine Service system, including several of the SIDARUS partners. The services will provide a number of global and regional scale, marine environmental information products (based on observations and predictions) to a broad range of institutional, national, European, intergovernmental and public users, commercial service providers and the general public. A European Centre for Ocean Monitoring and Forecasting (ECOMF) is planned to be established to coordinate and provide these services.

ECOMF will be responsible for the delivery of the “core” component of the Copernicus Marine Service. The scope of the mission is consistent with, and complementary to, the mandates and roles of institutions involved in development and execution of operational oceanography at national level in Europe. It is also consistent with the mandates and activities of other Copernicus stakeholders, including European and intergovernmental agencies.

The services to be delivered by ECOMF is compliant with Copernicus rules and principles. Consequently, it is delivered free of charge at point of use, openly available to all who want to use it, consistent with the Inspire Directive principles (discover, view, download and transform), and responsive to requests from its users.

The core information delivered by ECOMF consists of products of the highest level of quality and accuracy, covering the global ocean and European regional seas at the resolution required by intermediate users and downstream service providers.

In particular, the ECOMF catalogue includes, for the marine Essential Variables: (i) observational data products derived from satellite and *in-situ* observations; and (ii) analyses, re-analyses and predictions. These products will be available in real-time [analyses and forecasts] and as reprocessed and re-analyses of the past state of the oceans.

Downstream service from SIDARUS and other GMES projects will be consistent with and follow the principles of Copernicus. This implies that the boundary separating the information and core service delivered by ECOMF from downstream services will be clearly defined and agreed with the downstream service providers in the next 2 – 3 years when ECOMF has been established.

Sea ice services that exist today are mainly public, produced by national ice centres or other governmental institutions. The services, which are part of the GMES marine services, are either free-of-charge or available at low cost through subscription or other charging mechanisms. It is expected that the services developed in SIDARUS will mainly be free-of-charge (public) services, but also supplemented by user paid (commercial) services. The services developed in SIDARUS will be provided by four of the partners: met.no, NERSC, CLS and UB. These institutions provide a number services in various geographical regions, as described below. The other partners are mainly involved with research and development work related to new sea ice products.

Met.no

Met.no operates the Norwegian national ice service, producing daily ice charts for the European sector of the Arctic. Met.no uses many types of satellite data to produce ice charts, including new SAR-derived products from AWI, NERSC and others. Met.no also has a key role in the GMES Marine Core Services for the North Atlantic and Arctic. The ice charts are part of the public services provided free-of-charge by met.no. The users are mainly shipping companies, fishing vessels, offshore companies, governmental agencies and the general public. Funding of services will be partly the ice service's budget and partly by ECOMF (through the Copernicus programme)

NERSC

NERSC is a research institute with development of operational oceanography as a main activity. NERSC cooperates with met.no in providing the GMES marine core services for the Arctic (Arctic Marine Forecasting Center). In SIDARUS, NERSC develops SAR ice classification products and ice-ocean forecasting service for the European sector of the Arctic (Fram Strait, Barents Sea, Kara Sea). These services will be free-of-charge under the assumption that the input data are free-of-charge, which is the expected data policy in Copernicus. Funding of services will be partly by ECOMF and partly by internal projects.

CLS

CLS is provider of ARGOS-based services on global scale. In SIDARUS CLS provides combined products using ARGOS and sea ice data for specific areas where users deploy trackers on seals, polar bears, etc. The users are environmental institutions with responsibility for monitoring marine mammals. CLS also provides iceberg monitoring and forecasting services for sailing races in the Antarctica. These services are customer-paid and therefore not available free-of-charge for the public.

University of Bremen

UB develops and disseminates sea ice information products from satellite data free-of-charge both in Arctic and Antarctic. In SIDARUS, UB develops two services: sea ice albedo and meltpond product and ice thickness product from passive microwave data. Both products are based on freely available satellite data and services are provided free-of-charge. Funding of services will be partly by internal budget and partly by projects.

Preliminary conclusion

The market for commercial ice services is very dependent on the general development of oil and gas exploration in the Arctic. At present, this market is relatively small, because the need for specialized services providing more detailed information than what is available from the existing free-of-charge services is limited. In the future this market is expected to grow, and services will include use of new observing systems from aircraft and in situ platforms. Such systems are needed to provide specialized data that the commercial customers will require. Satellite-only services will to a large extent be free-of-charge as a consequence of the data policy of Copernicus.

A more detailed market description and financing models for sea ice services will be presented in version 2 of the Business Plan (due in month 36)

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