



Minutes of Kick-off meeting: Minutes from combined project review meeting and steering committee meeting.

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LOTUS Kick-Off Meeting, 26-27 February 2013

Technical University of Denmark, National Space Institute (DTU Space), Elektrovej 327, 2800 Kgs. Lyngby.
Meeting Room 129 in Building 328.

Participants:

- REA:** Virginia Puzzolo (VP) (26/3)
- Starlab:** Alejandro Egido (AE), Laura Moreno (LM), Marco Caparrini (MC) (26/3)
- CLS:** Pierre Thibaut (PT)
- DHI:** Henrik Madsen (HM), Jacob Tornfelt Sørensen (JTS), Marc Etienne Ridler (MER)
Patrick Dich Grode (PDG)
- DTU:** Elisabeth Beck Knudsen (EBK) (27/3), Heidi Villadsen (HV), Karina Nielsen (KN),
Lars Stenseng (LS) (26/3), Maulik Jain (MJ), Mette Nisted (MN) (26/3),
Per Knudsen (PK), Peter Bauer-Gottwein PBG)

Agenda:

Tuesday 26 February

Introductory session (9:30-10:30):

1. Opening and welcome (DTU)
2. Practical information (DTU)
3. Round-table (all)
4. Information from the Project Officer (REA)
5. LOTUS project overview (DTU)

Work package overviews (11:00-15:00):

6. WP1 Processing SRAL SAR mode waveforms over ocean (STARLAB)
 - a. Overall objectives
 - b. Description of key tasks and resources
 - c. Work plan and status
7. WP2 Processing SRAL SAR mode waveforms over land (DTU)
 - a. Overall objectives
 - b. Description of key tasks and resources

- c. Work plan and status
- 8. WP3 Definition of new data products and processing chains (CLS)
 - a. Overall objectives
 - b. Description of key tasks and resources
 - c. Work plan
- 9. WP4 Production of demo data and assessment (DTU)
 - a. Overall objectives
 - b. Description of key tasks and resources
 - c. Work plan
- 10. WP5 Applications of new GMES data in value-adding ocean services (DHI)
 - a. Overall objectives
 - b. Description of key tasks and resources
 - c. Work plan
- 11. WP6 Applications of new GMES data in value-adding land services (STARLAB)
 - a. Overall objectives
 - b. Description of key tasks and resources
 - c. Work plan
- 12. WP7 Dissemination and exploitation (DTU)
 - a. Overall objectives
 - b. Description of key tasks and resources
 - c. Work plan
- 13. WP8 Management (DTU)
 - a. Overall objectives
 - b. Description of key tasks and resources
 - c. Work plan

Project management session (15:30-17:00):

- 14. Data needs and access (DTU)
- 15. Project management (DTU+REA)
 - a. Formal reporting
 - b. Informal correspondence
 - c. Advisory board
 - d. Consortium agreement

Wednesday 27 February

Work sessions (9:30-12:00):

- 16. WP1 Processing SRAL SAR mode waveforms over ocean (STARLAB)
 - a. Overview and status
 - b. Contributions by partners
 - c. Deliverables up to +9
- 17. WP2 Processing SRAL SAR mode waveforms over land (DTU)
 - a. Overview and status
 - b. Contributions by partners

- c. Deliverables up to +9
- 18. WP3 Definition of new data products and processing chains (CLS)
 - a. Overview and status
 - b. Contributions by partners

Closing session (12:00-12:30):

- 19. AOB
- 20. Review of action items
- 21. Next meeting
- 22. End of meeting

Minutes:

Tuesday 26 February

Introductory session (9:30-10:30):

1. Opening and welcome (DTU)
PK opened the meeting and welcomed the participants. Subsequently PK gave a short presentation of DTU and DTU Space.
2. Practical information (DTU)
PK gave some practical information regarding refreshments and facilities.
3. Round-table (all)
The participants presented themselves, i.e. name, affiliation and role in the project.
4. Information from the Project Officer (REA)
VP gave an update on the program and a brief status of the four projects in the 5th call that are concerned with the Sentinel satellites. A joint session and get-to-getter are planned at the ESA Living Planet Symposium in Edinburgh. VP is also member of the GMES board and will link relevant services to LOTUS as part of the dissemination and to enhance the exploitation of LOTUS findings.
5. LOTUS project overview (DTU)
PK gave an overview of the LOTUS project, its objectives, structure and work plan.
PK also gave an update on the consortium. Partner 3 DMU is no longer in the consortium. Philippa Berry left DMU and will most probably become employed at Newcastle University (NU). NU wishes to develop competences building on the expertise of Philippa Berry.
PK suggested that NU should enter the consortium in order to benefit from their contribution since LOTUS still needs the expertise of Philippa Berry. In the meantime, DTU have taken over the responsibilities of DMU as WP2 leader as well as in contributing to WP1 and WP2 tasks.
VP recommended that the contract amendment needed to include NU, including the revision of the DoW, should be prepared when the situation regarding the employment of Philippa Berry at NU is clarified. VP also recommended that the consortium, in the meantime, utilises its full competences to follow up on the DMU contributions.
Action: It was decided that PK as soon as the situation wrt NU is clarified should prepare the revised DoW and the contract amendment and send it to the steering committee for approval for submission to REA.

Work package overviews (11:00-15:00):

6. WP1 Processing SRAL SAR mode waveforms over ocean (STARLAB)

EA gave an overview of WP1 describing its overall objectives, key tasks and resources, work plan and status. The work to be done in this work package will be subdivided per sub-themes. The sub-themes include:

- Open ocean [lead by CLS, with the support from STARLAB]
- Polar ocean [lead by DTU, with envisaged support from DMU]
- Coastal zone [lead by STARLAB, with the support from CLS]

Task 1.1 "State of the art review" is lead by STARLAB, ongoing and in progress. Task 1.2 is lead by CLS and will start at +2 (1 March 2013). In this Task 1.2 "Scientific Requirements Consolidation" it was identified that DHI wasn't envisaged to contribute. It was decided, however, that DHI as WP5 leader on ocean applications should do that. More on details on WP1 and its progress will follow in the technical session the day after. D1.1 and D1.2 will benefit from similar work done in frame of the ESA project called Cryosat Plus for Ocean. AE and LM point out that after the proposal submission, new studies showed the difficulties in providing snow water equivalent. It is therefore proposed that the investigation will be focused on the estimation of snow depth with the Sentinel 3 SRAL, over the Great Northern Plateaus.

Deviations from plan: Recent re-organisation of the contributions of STARLAB has caused minor delays in Task 1.1 which, in turn, may cause minor delays in the deliverable D1.1. D1.1 is expected to be delivered at T0+4.

This delay will have an impact on T1.2. The tasks should be do-able in one month after reception of D1.1.

7. WP2 Processing SRAL SAR mode waveforms over land (DTU)

PK gave an overview of WP2 describing its overall objectives, key tasks and resources, work plan and status. The work to be done in this work package will be subdivided per sub-themes. The sub-themes include:

- River and lake levels [to be lead by DMU (currently DTU), with the support from CLS]
- Soil moisture [to be lead by DMU (currently DTU) with support from Starlab]
- Snow water equivalent [lead by STARLAB]

Task 2.1 "State of the art review" is ongoing and in progress. DTU has contributed on behalf of DMU on retracking for River and lake levels. Philippa Berry has contributed on soil moisture. Task 2.2 is lead by DHI and will start at +2 (1 March 2013). In this Task 2.2 "Scientific Requirements Consolidation" it was identified that DTU wasn't envisaged to contribute. It was decided, however, that DTU (PBG) should collaborate with DHI. More on details on WP2 and its progress will follow in the technical session the day after.

Deviations from plan: The situation may cause minor delays in Task 2.1 which, in turn, may cause minor delays in the deliverable D2.1 so that it will be delivered at T0+4 as D1.1. Again VP recommended that the consortium utilises its full competences to follow up on the DMU contributions.

8. WP3 Definition of new data products and processing chains (CLS)

PT gave an overview of WP3 describing its overall objectives, key tasks and resources, work plan and status.

PT identified some unclear points of deliveries in the chains for producing the demo data. Those issues were clarified in the presentation of WP4 and during the technical session the next day.

Level-2, level-3 and Level-4 ocean data products will be defined in this WP. It is much more unclear concerning the land data products in particular for L3 and L4 products that have never been defined (contrary to what is done for ocean products for many years).

9. WP4 Production of demo data and assessment (DTU)

PK gave an overview of WP4 describing its overall objectives, key tasks and resources, work plan and status.

PK described that the main contributors to WP1 and WP2 (STARLAB and DMU) were supposed to develop their software and implement the recommended methodologies in those WPs. In WP3 CLS should develop and implement specifications and processing chains for compiling information into Level-2 and Level-3 data products. In WP4 STARLAB and DMU should process the waveform data for the demo data sets. Subsequently, CLS should produce the higher level demo data sets. Interactions between CLS, Starlab and DMU (or NU) will be necessary in order to define the interfaces of WP1 and WP3 on one side and WP2 and WP3 on the other side.

No software deliverables are foreseen.

10. WP5 Applications of new GMES data in value-adding ocean services (DHI).

JTS gave an overview of WP5 describing its overall objectives, key tasks and resources, work plan and status.

It was discussed to which extent the LOTUS project should develop applications of data from other Sentinel-3 sensors. VP recommended that LOTUS would focus on SAR mode data from the altimeter. PK concluded that LOTUS will focus its activities on the use of Sentinel-3 SAR mode altimeter data and use Cryosat-2 SAR mode data for those purposes. LOTUS may use conventional low resolution mode altimeter data from Cryosat-2 and other satellite mission to demonstrate the potential of Sentinel-3 altimetry. When appropriate, and in conjunction with altimetry, LOTUS may include other types of data such as ocean colour and sea surface temperatures. VP informed that WP5 may be revised to accommodate those directions during the upcoming revision of the DoW.

11. WP6 Applications of new GMES data in value-adding land services (STARLAB)

LM gave an overview of WP6 describing its overall objectives, key tasks and resources, work plan and status.

It was noted the Task 6.4 “Hydrological modelling and data assimilation” will start at +12.

It was discussed whether Sentinel-3 altimetry would be able to improve the monitoring of soil moisture and snow water equivalents because auxiliary information from e.g. SAR and other sensors as well as in-situ data, might be needed. It was suggested to focus LOTUS on river and lake levels. Regarding the snow water equivalent, as mentioned for WP2, the retrieval of this parameter entails high difficulties. In order to be consistent with the previously stated points, the algorithms developed within WP2, will be used to assess the added value provided by Sentinel 3 radar altimeter in the snow depth product development.

Also WP6 may become revised as WP5 – see WP5 minutes above. It would need to be discussed at the next meeting.

12. WP7 Dissemination and exploitation (DTU)

PK gave an overview of WP7 describing its overall objectives, key tasks and resources, work plan and status. Task 7.1 "Project web site" is ongoing and in progress. A demo website has already been established at <http://www.fp7-lotus.eu> providing information about the project.

VP emphasised the importance of this WP7 and asked the WP leader, with help from VP, to identify relevant contact persons in the various GMES/Copernicus services. Also, it should be clarified how SMEs would be engaged. The constitution of the Advisory Group should reflect the dissemination needs and support the exploitation.

13. WP8 Management (DTU)

PK gave an overview of WP8 describing its overall objectives, key tasks and resources, work plan and status.

Project management session (15:30-17:00):

14. Data needs and access (DTU)

No issues related to data access were identified. The partners may use the data they already have access to in the developments within the LOTUS project.

PT pointed out the fact that the data availability over the test areas has to be checked. PT has already done a request at the end of 2012 to Dr. T. Parinello (Cryosat Project Manager) in the frame of the "FBR data request for CS-2". PT has no answer at that time from T.Parinello. PT has to confirm that ESA gives access to these data set. If the starting point for processing is L1B then ESA products are already available (See discussion on WP1 and WP2 below)

15. Project management (DTU+REA)

PK and VP reported on some general conditions related to formal reporting and informal correspondence. The first periodic reporting will take place at T0+18. At T0+9 a technical review will be carried out. VP and PK will plan the first technical review.

The Steering Committee (SC) of the consortium includes the coordinator and one representative from each partner. AE, PT, and HM were identified as representatives.

The Advisory Board needs to be established and invited to participate in next project meeting. To ensure that the developments in the LOTUS project progress consistently with the developments of the Sentinel-3 mission including data processing and data flows a EUMETSAT representative may be invited. Also, to ensure a successful take up in the GMES marine and land services, representatives from MyOcean-2 and the GMES Initial Operations (GIO) land Pan-Eu and Global land services may be invited to join the advisory board. Furthermore, to facilitate further involvement of SMEs Giovanni Ceconi from Thetis in Italy may be invited to join the Advisory board.

The role of ESA was discussed. VP informed that ESA had been invited to appoint an expert to participate in the technical review. Jerome Benveniste was suggested as a possible reviewer. W. Wagner was also proposed as an external expert for soil moisture. VP and PK will follow up on the advisory board as well as on the ESA representation.

With respect to the Consortium agreement, it needs to be signed by the new partner replacing DMU.

Wednesday 27 February

Work sessions (9:30-12:00):

16. WP1 Processing SRAL SAR mode waveforms over ocean (STARLAB)

The working session on WP1 was lead by AE who gave an overview of the work package. AE outlined a suggestion for the structure of the state of the art review, D1.1, including: The concepts of SAR altimetry, sensor characteristics, and an overview of waveform re-tracking.

Subsequently, AE, PT and MJ gave status reports on the technical contributions to the Task 1.1. PT questioned if the starting point of the processing should be the ESA level 1b product or the FBR product in order to produce level 1b data independent of ESA. By starting with FBR data the level 1b product can be optimized for the different surface types, e.g. Ocean, coastal zone, and inland water as opposed to sea ice in the ESA level 1b product. The issue related to the mispointing of Cryosat was pointed out by both AE and PT. This must be taken into account in the future processing.

As discussed the previous day D1.1 will be delivered at T0+4.

Considering Task 1.2 it was recalled that JTS should become involved. It was decided to initiate the work based on the user survey carried out in the CP4O project.

17. WP2 Processing SRAL SAR mode waveforms over land (DTU)

The working session on WP2 was lead by PK who gave an overview of the work package. Subsequently, KN gave status reports on the technical contributions to the Task 2.1.

Until the role of Phillipa Berry in WP2 is sorted out, DTU starts the processing of waveforms over rivers and lakes. The starting point is the level 1b product delivered by ESA. DTU intends to develop on the re-tracking system LARS (Lars Advanced Re-tracking System). Hence, building a re-tracking system that includes automatic waveform classification and subsequent selective re-tracking.

The sub task regarding soil moisture was briefly discussed based on input from Phillipa Berry. The immediate progress related to this task is not well defined and will depend critically on the future role of Phillipa Berry.

STARLAB is leading the sub task regarding estimation of snow water-equivalent. Due to time limitations no input was presented for this task.

As discussed the previous day D2.1 will be delivered at T0+4. Considering Task 2.2 it was recalled that PBG should become involved. It was decided to initiate the work based on the work in Task 1.2.

18. WP3 Definition of new data products and processing chains (CLS)

The working session on WP3 was lead by PT who gave an overview of the work package.

Closing session (12:00-12:30):

19. AOB

None.

20. Review of action items

21. Next meeting

The next meeting was planned to be held at DMU that no longer is part of the project. It was decided to have the next meeting at T0+9 in Brussels at REA.

22. End of meeting