Title	**MEMPHIS project clarification/kick-off meeting - Minutes of the Meeting**
Date:	April 21st, 2015
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Recipients:	Participants + members of the Consortium

LIST OF PARTICIPANTS

Institution	Participant name	Signature
ESA	Philippe Bally (PB)	
	Margaret O'Sullivan (MOS)	
	Salvatore Pinto (SP)	
ALTAMIRA INFORMATION	Alain Arnaud (AA)	
	Fifamè Koudogbo (FK)	
CNR_IRPI	Fausto Guzzetti (FG)	
	Alessandro Cesare Mondini (AM)	
Terradue	Fabrice Brito (FB)	

CHANGE RECORD FOR THIS DOCUMENT

Version	Date	Sections	Description of changes
01.0	21/04/2015	all	Creation of the document
02.0	28/04/2015	Section 4	Integration of inputs provided by CNR_IRPI

ACRONYMS AND ABBREVIATIONS

ALTA	ALTAMIRA INFORMATION
CNR	Consiglio Nazionale delle Ricerche
ESA	European Space Agency
DEM	Digital Elevation Model
IRPI	Istituto di Ricerca per la Protezione Idrogeologica
PSI	Persistent Scatterer Interferometry
SAR	Synthetic Aperture Radar
SLC	Single-Look Complex
SPN	Stable Point Network
TRDUE	Terradue

REFERENCE DOCUMENTS

Reference	Date	Title
DR1	16/12/2014	141216_MEMPHIS_AI_739_Proposal_v1. pdf
DR2	18/04/2015	Contract 4000xxxxxxx – Altamira.pdf

AGENDA

1. INTRODUCTION

The attendees to the meeting introduced themselves. In particular, AA explained that FK will join the list of ALTAMIRA key personal. MOS was concerned about this and stated that ESA should have been aware of any changes of Key Personal and that the CV of FK should be provided asap.

➔ *Action A- 1: Provide CV of FK to ESA*

PB also introduced SP who is involved in the ESA platform development. His feedback will also be valuable for the KO and project definition.

PB asked about the role of Greek IGME and NKUA in the Consortium. ALTA explained that they are related to the extrapolation sites. They are users, not in charge of any technical development but that their expertise will be valuable as they participate to the evaluation of the demonstrator. Greek IGME and NKUA have ancillary data that they will use in the framework of the project.

2. INTRODUCTION TO THE GSP PROJECT

PB described the GSP project and its objectives. The following points were stressed:

- The Consortium should propose something innovative based on EO. The main aim is the mainstreaming of the solution by the user community. No high-level research is required and the products do not need to be applicable in all fields. The main idea is to do less but more systematically. If successful, the solution could be transferred to the value-added element.
- The Consortium should also analyse the in-orbit capabilities and make recommendations to ESA for future missions and applications.

PB added that to demonstrate that the concept could be functional the Consortium should consider also the possibility to implement the demonstration tests on the ESA platform rather than on the TRDUE one as initially planned.

PB also commented that in the framework of the former GMES Terrafirma, a service/product was delivered to users. In the framework of the Thematic Exploitation Platforms TEP, ESA want to propose a toolbox to the user. The GTEP aims at being used as a toolbox, and should not be conceived as an e-service. The platform will be put at the disposal of the user community processing tools but no final products. PB also suggested that for ALTAMIRA, as a commercial company, participate to the platform will give more visibility and perhaps allow that new clients are reached.

PB finally did a short demonstration of the functionalities of the current version of the GTEP to the members of CNR-IRPI, in particular, those who did not know the platform.

3. PRODUCTS AND DEMONSTRATION SITES

PB regretted that that the proposal did not describe in detail the products that would be delivered in the project framework. FK indicated the proposal pages where the outputs are described.

The following points were further discussed:

- PB explained that for the landslide application, it is important to propose a simple solution that could work everywhere. He foresaw that landslide inventory generation will be valuable as standalone for a final user but it may also be used to feed already existing models.
- PB also asked how ground deformation derived from PSI analysis will be used for landslide inventory. FG explained that in the framework of the FP7 LAMPRE project, they updated their models for landslide characterization and developed one application in which the motion map can be integrated. This latter will be used as preliminary inputs for the current project.
- PB asked to give more visibility on the outputs and potential service. With this aim, a prospectus may be prepared by the Consortium in preparation of the User workshop, due at T0+4. FG mentioned the brochure that was prepared for dissemination purpose in the LAMPRE framework and told that it could be used to prepare the GSP new prospectus.

Latter, CNR_IRPI indicated the localization of the Collazone test site which is affected by landslides. CNR-IRPI confirmed to ESA that the available ancillary data will be made available for the project duration. PB asked to check also if it is the case for the seismic case. FK answered that INGV have provided a list of ancillary data that can be use during the project.

➔ *Action A- 2 : Check with INGV that ancillary data will be made available for the project duration.*

To answer to PB question about their clients, FG answered that they are working a lot with the Italian Civil Protection (CP). He moreover explained that the Civil Protection sometimes received maps from the Copernicus EMS. In many cases, the maps are nevertheless of poor quality (rough resolution and incorrect thematic attribution) and the Civil Protection usually finally asks for updates to CNR_IRPI, as a Competence Centre for the Italian CP. PB told that he considers CNR-IRPI a good candidate to be product provider within the EMS Copernicus Risk & Recovery.

PB then considered the case of the extrapolation sites. He said that in the framework of ESA-World Bank EOWorld, landslide maps over a test site located in the Caribbean were delivered to World Bank. The World Bank welcomed the products and gave a really positive feedback.

PB agreed with the demonstration sites proposed by the Consortium but would like to consider the possibility to change the extrapolation sites, in case a more suitable one is thought by ESA.

FK answered that in principle, the extrapolation sites could be modified, but it is important to keep the Greek users in the loop and discuss this point with them.

➔ *Action A- 3: Discuss with the Greek users the possibility to change the extrapolation sites*

The discussion then considered the integration of hydro-meteorological models in the framework of the landslide hazard. PB mentioned the model proposed by Florian Pappenberger, as part of studies on Flood Risk Management, Flood modelling, and Flood Forecasting conducted at ECMWF.

➔ *Action A- 4: Contact Florian Pappenberger to get a better knowledge of the studies ongoing on ECMWF on hydro-meteorological models*

FG explained that they have developed their own hydro-meteorological models at CNR_IRPI which look at rain measurements and forecasts to predict where landslides may occur. This prediction is mainly based on empirical rainfall thresholds for the possible occurrence of rainfall induces landslides. AM suggested that a link could be done to the S1 and S2 catalogue in order to be able to directly check if acquisitions before and after the predicted landslide events are available. The semi-automated processing of those images would allow to check if the event actually occurred.

In order to give visibility to the project and attract users, PB asked to prepare a prospectus for the user workshop, describing the type of solution proposed for each application. The prospectus should be constructed as a stand-alone document which could be further used beyond the life of the current project. FG agreed to use the dissemination material prepared within the LAMPRE for input to the prospectus on landslide application.

The Consortium and ESA agreed that the prospectus should be delivered before the User Workshop that will be organized at T0+4; the date of KO+2 is agreed.

- ➔ *Action A- 5: Prepare user prospectus for landslide application.*
- ➔ *Action A- 6: Prepare user prospectus for seismic application.*
- ➔ *Action A- 7: Disseminate prospectus to users before the workshop.*

FK finally added that besides the PSI analysis, ALTA and CNR_IRPI also plan to apply dual-pol techniques to detect changes induced by landslides. PB asked about the data that will be used. FK explained that ALOS-2 or RADARSAT-2 were foreseen. It was finally decided to check if ALOS-1 datasets could be acquired via the CEOS Pilot on seismic.

- ➔ *Action A- 8: Get information on the procedure to get data via the CEOS Pilot on Seismic.*

4. DISCUSSIONS OF THE POINTS FOR CLARIFICATION/NEGOTIATION

4.1. Point 1: List of processors and licensing

MOS noted that ALTAMIRA has provided a table with the SW listed. PB underlined that the table does not give enough information on the possible restrictions that ESA could encounter in using it.

- ➔ *Action A- 9 : Update the table of the SW list.*

4.2. Point 2: Cephalonia & Zakynthos extrapolation site

PB highlighted that only 2 demonstration sites were required by ESA and that the Consortium proposed four. ESA appreciates it but would like to have the possibility to propose test sites that could be more valuable to the user community. In his opinion, the extrapolation sites that are proposed are not innovative and have already been studied, also in the framework of former ESA projects. He mentioned a test in the Caribbean that may also be of interest for the World Bank.

ESA thus agreed on the location of the demonstration sites but none of the extrapolation sites is agreed at this point.

➔ *Action A- 10: Discuss with the two Greek Users to know whether they have ancillary data on other test sites located worldwide*

➔ *Action A- 11: Select the AOIs that will be considered for extrapolation sites before the User Workshop.*

PB also asked if the non-EO GPS data available for the demonstration will be made available on the platform during the duration of the project. CNR agreed that those data will be available for the Italian landslide sites.

➔ *Action A- 12: INGV should confirm that they will make non-EO data will be made available for the tectonic demonstration site.*

Discussions then focused on the SW for ground deformation that will be developed for the need of the project. PB asked about the differences with the SPN or Global**SAR**™ and why not to directly implement it of the ESA platform.

- ALTA explained that some routines of the classical SPN chain will be extracted in order to measure ground deformation over large scale. FK stressed that while SPN is an operational SW, the new developments have an R&D nature and are not mature enough to be run by a third person (user). AA specified that Global**SAR**™ is a trademark and represents a set of algorithms developed by ALTA for ground deformation analysis; SPN and offset tracking are part of Global**SAR**™.
- FB also stressed the fact that it is important to keep in mind that all the developments of the present project are part of R&D activities. The modules are prepared for demonstration activities and not for operations.

PB also suggested that a Demonstration delivery should be added to the list of deliverables. The Consortium agreed but insisted on the fact that they will demonstrate that the service can work on the platform during the project and that the aim of this R&D activity is not to make an operational tool.

➔ *Action A- 13: Deliver the demonstration tool to ESA as complement to the D4.1 Report of trial cases.*

Moreover CNR_IRPI agreed on the fact that they will update their SW so that they are able to support Sentinel-2 data. PB confirmed that Sentinel 2 is planned to be launched in June. He suggested to the Consortium to contact Benjamin Koetz at ESA to get sample data.

➔ *Action A- 14: Get in contact with Benjamin Koetz to get S2 sample products.*

4.3. Point 3: Data Procurement Plan

The consortium has prepared a preliminary data procurement plan detailing the data that will be used in the project. SP noted that the Consortium did not give any information on the way they plan to get the datasets.

FG moreover stressed the fact that for the landslide application, it is important to rapidly select the extrapolation site as the data procurement should consider whether the hazard is seasonal (as it is the case for Collazzone) or not.

➔ *Action A- 15: ALTA and the Consortium should update the Data Procurement Plan.*

➔ *Action A- 16: For each data type of the procurement plan, mention the procedure that will be used to get them.*

FK explained that mainly data of the Third Party Mission (TPM) have been selected and that the normal procedure via the ESA investigation portal will be used. It turned out that this procedure could take long time. The best solution to get the data rapidly could be to commit to use the ESA platform; the data required for the project being available on the platform.

FB responded that TRDUE would like to avoid interdependencies between the different ESA activities. He stressed that one of the strength of the proposal was to have been presented without any dependencies on other initiative.

SP understood the point but explained that anyway, if the datasets are required from the beginning of the project, acquire them via the platform, by implementing the demonstration on it, is the most suitable condition.

The consortium thus agreed to implement the demonstration on the ESA platform.

➔ *Action A- 17: TRDUE will initiate a User Request to ask for data availability via the GTEP.*

4.4. Point 4: WAP over Greece

PB confirmed that this point was already discussed in the meeting and that the situation is clarified for ESA.

4.5. Point 5: Implementation of the demonstrations on the ESA platform

The consortium agreed that the demonstrations that will be performed during the GSP will be implemented on the GEP. Terradue guaranteed that this change does not introduce any new risk as their platform and the ESA one are based on the same kind of technology. Moreover as discussed in the Point 3 of the clarification, this will guarantee the access to EO data.

➔ *Action A- 18: Update the answer written on the doc untitled 150402_ALTA_Response to Annex 1_Points for clarification_AO_1-8130_14_F_MOS.pdf.*

4.6. Point 6: Implication of DLR from the start of the project

FK explained that they have spoken with DLR who has agreed to participate in the project from its start even if their main work package starts at the end of the project. She explained that in the initial budget, two trips were planned for DLR, the 1st review meeting and the final meeting. ALTA has asked DLR if they would agree to also participate in the User Workshop that will be held at T0+4.

➔ *Action A- 19: ESA asked DLR to provide their first draft on ideas for future mission at T0+4. This should be agreed with DLR.*

MOS pointed out that it was not clear in the proposal whether a final presentation will be prepared for the final meeting. This was confirmed by the consortium.

4.7. Point 7: Effort planned for the workshop organization

To answer the question asked by ESA, ALTA has updated the Gantt Chart in order to make better appear the time that will be spent for the preparation of the User Workshop.

PB explained that this does not indicate clearly enough that time will be dedicated for the user workshop preparation. ALTA confirmed that 2 persons will dedicate one month to this task.

4.8. Point 8: Permission issues related to the project deliverables

PB explained that the point highlighted by ESA is related to the project deliverables and not to the input data. ESA asked the Consortium to confirm that they will not be any permission issues associated to the dissemination of the Project Deliverables.

A reserve was anyway expressed concerning the Deliverables associated with WP5400 (Roadmap for potential new missions) and for which DLR is in charge. The possibility to deliver two versions with two levels of permissions is mentioned and should be further discussed with DLR.

➔ *Action A- 20: Ask DLR about permission issues associated with the deliverables of the WP5400.*

4.9. Point 9: Organisation of an additional Workshop with industrial of DRM during the project duration

To this point, the Consortium proposed to merge this workshop with the Final Meeting. PB explained that the objective of ESA is to set up a common meeting between the GSP Landslide and the GSP Flood. The meeting will be related to the WP5000.

The Consortium agreed to attend this workshop that will be organized by ESA at TO+12, just after the Review Meeting.

➔ *Action A- 21: Check if DLR can attend this meeting by travelling to ESRIN instead of Barcelona at TO+12*

4.10. Point 10: List of the Background IPR

The Consortium provided an updated version of the Table 4.1 of the proposal. MOS told that the table is quite too long and that she expected the Consortium to use the template provided in the Draft Contract that was sent on 18-03-2015.

➔ *Action A- 22: Update the B/IPR using the template provided in page XX of the Draft Contract.*

5. DRAFT CONTRACT

The Draft Contract was sent on 18-03-2015 to ALTA.

At the end of the meeting, the items highlighted by ESA were reviewed together with ALTA.

It was decided that this Clarification/Negotiation meeting was also stating for the project Kick-of Meeting. The Minutes of the meeting will be prepared by ALTA and provided to ESA for review.

➔ *Action A- 23: Prepare the minutes of the meeting*

The Consortium agreed that the project final report will be delivered at TO+17, to allow ESA enough time for its review.

➔ *Action A- 24: Deliver project final report at TO+17.*

6. LIST OF ACTIONS

Actions	Description	Responsibility	Due to	Status
A-1	*Provide CV of FK to ESA.*	ALTA	TO+1w	Done
A-2	*Check with INGV that ancillary data will be made available for the project duration.*	ALTA	TO+1	Pending
A-3	*Discuss with the Greek users the possibility to change the extrapolation sites.*	ALTA	TO+1	Pending
A-4	*Contact Florian Pappenberger to get a better knowledge of the studies ongoing on ECMWF on hydro-meteorological models.*	ALTA	TO+1	Pending
A-5	*Prepare user prospectus for landslide application.*	ALTA/CNR_IRPI	TO+4	Pending
A-6	*Prepare user prospectus for seismic application.*	ALTA/INGV	TO+2	Pending
A-7	*Disseminate prospectus to users before the workshop.*	The Consortium	TO+2	Pending
A-8	*Get information on the procedure to get ALOS-1 data via the CEOS Pilot on Seismic.*	ALTA	TO+1	Pending
A-9	*Update the table of the SW list.*	The Consortium	TO+1	Ongoing
A-10	*Discuss with the two Greek Users to know whether they have ancillary data on other test sites located worldwide.*	ALTA	TO+1	Pending
A-11	*Select the AOIs that will be considered for extrapolation sites before the User Workshop.*	ESA	TO+2	Pending
A-12	*INGV should confirm that they will make non-EO data will be made available for the tectonic demonstration site.*	INGV	TO+1	Pending
A-13	*Deliver the demonstration tool to ESA as complement to the D4.1 Report of trial cases.*	The Consortium	TO+12, TO+15 and TO+18	Pending
A-14	*Get in contact with Benjamin Koetz to get S2 sample products.*	ALTA	TO+2	Pending
A-15	*ALTA and the Consortium should update the Data Procurement Plan.*	The Consortium	TO+1	Pending
A-16	*For each data type of the procurement plan,*	The	TO+1	Pending

	mention the procedure that will be used to get them.	Consortium		
A-17	*TRDUE will initiate a User Request to ask for data availability via the GTEP.*	TRDUE	TO+2w	ongoing
A-18	*Update the answer written on the doc untitled 150402_ALTA_Response to Annex 1_Points for clarification_AO_1-8130_14_F_MOS.pdf*	The Consortium	TO+2w	ongoing
A-19	*ESA asked that DLR provide their first draft on ideas for future mission at T0+4. This should be agreed with DLR.*	ALTA	TO+1	Pending
A-20	*Ask DLR about permission issues associated with the deliverables of the WP5400.*	ALTA	TO+1	Pending
A-21	*Update the B/IPR using the template provided in page 18 of the Draft Contract.*	ALTA	TO+2w	Done