

## Summary

The Coordinator expresses her satisfaction for the results presented so far, but she considers the past year as a 'training' phase, requiring a further integration and co-operation effort; she also stresses that all participants must solve the metadata issue: also if data are heterogeneous they must be described in order to allow discovery.

**MetaData:** It's time to start exploiting what has been proposed by CNR and provide MD of dataset to be used; data will be hosted by distributed nodes but MD must be provided to CNR catalogue. Please provide the reference person for each unit interacting with Gloria Bordogna at CNR.

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Polito	Emere Arco	emere.arco@ithaca.polito.it
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Unipd	Francesca Fissore	fissore.francesca@unipd.it
Polimi	Daniele Oxoli	daniele.oxoli@polimi.it

**Data:** Furthermore, each unit has to check available data according to its theme of which it is responsible (see below), trying to mine what can/cannot be obtained and under which circumstances. Fundamental datasets are: displacement maps, soil consumption maps, land cover maps, topographic database maps, maps related to transportation and mobility. A short report of every unit about this topic is welcome.

Each unit takes care, manages, stores and distributes data of the theme for which it is responsible, so as to increase quality and homogeneity in data and MD treatment, i.e.

displacement maps for all involved cities -> CNR Naples

static data (by topographic database or OSM) -> UniPD

land cover/soil consumption -> ISPRA

impedance maps -> UniRome

mobility -> PoliTo

crowdsourced data -> PoliMi

**Displacement maps:** Up to now we have the maps on Naples (historical). The maps have to be provided as service in such a way to start studying their best visualization. Historical deformation time-series over the area of Naples, already delivered and available to the partners' project, can be used to start this activity. Naples and PoliMI has to collaborate on that. The person of reference for PoliMI is Candan Eylül Kilsedar. Moreover, the Naples unit will derive the historical ERS-ENVISAT deformation maps of the remaining four cities (Milan, Padua, Turin and Rome). A suitable schedule is as follows. Milan data will be provided by July 2018, and the remaining ones subsequently. Sentinel-1 mean displacement maps and the relevant time-series will be provided during the third year of the project.

**Land cover/soil consumption maps:** All units must check land cover maps (taking into account a list to be provided by POLIMI) and verify if higher resolution maps are locally available. ISPRA will homogenize those maps and reuse them for deriving additional maps useful for interpreting and analyzing the soil consumption. A list of available products will be shared by ISPRA with all the partners in order to allow suggestions about local data availability from each unit (if applicable). Moreover ISPRA will work with PoliMI on the visualization of the soil consumption maps already provided for the five cities and the related indexes. CNR IREA Naples units will also do some tests for the exploitation of Sentinel-1 SAR backscattering maps for the study of soil consumption in urban areas.

**Transportation data:** All units must check available data in their own city (at least topo data). Data must be made available in the cityscape models of the cities. All units are requested to work with Padua unit with respect to this topic.

**Mobility/Impedance data:** Up to now we have only the case of Turin and some experiment in Milan. POLITO will work to check available data sources, trying to reach a common baseline. The work done in Turin has to be extended in the other cities. Rome will work on the impedance maps.

**Crowdsourced data:** PoliMI is collecting tweets in the five cities and will start soon analyzing them. Up to now there is 3 months data. The analysis will be made with respect to POI for mobility as well as citizen perception for relevant topics of the PRIN Use Cases.

Again, PoliMI is developing an app for collecting data about Land Cover (aim is to gather information about soil consumption but the app is a bit more general). The app will be shared before with ISPRA and then, after testing, provided to all the units for the collection of data.

Finally PoliMI is working on validation of crowdsourced data (mainly OSM data)

## Data Model:

The cityscape will be modeled in CityGML, whose characteristics must be evaluated with respect to all data relevant to the project. UniPD will check layers to be considered for our use cases and will propose the most suitable modeling.

## Architecture: server side

Server side (CNR + Turin): a reference person + 1 server must be present in each unit, having support from CNR Milan. Each unit sends to Gloria Bordogna and the coordinator the name of this person. Data has to be provided as OGC services. The most suitable service will be decided by the leaders (CNR and Turin) and the single units.

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## Architecture: client side

PoliMI started analyzing the visualization options, proposed some examples and asked the floor if we want to consider both 2D and 3D visualization (in case of time, this goes to 3D and 4D) or we want to consider only virtual globes, i.e. 3D (or 4D if time is involved). The assembly decided that it is better to go with 3D visualization. Some issues related to transport (tunnels, overpasses, etc) and the adaptability of CityGML format to existing virtual globes have to be checked before taking the final decision. If 3D is chosen and CityGML is supported by Cesium, it will be the preferred API, if not NASA Web WorldWind API will be used. Moreover, the best choice is probably to work not on one general purpose viewer but on more viewers, according to the use cases; e.g. one viewer for mobility/impedance and one for displacement/soil consumption. Another issue discussed is temporal navigation, and next time some proposals will be considered.

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Polimi	Candan Eylül Kilsedar	candaneylul.kilsedar@polimi.it

## Actions for the future/Internal meetings/ Call for Papers and events

### Actions for the future

**Boccardo (PoliTo)** presents further developments in the light of the Space Economy (RAA - ZTL strategy); connected mobility; autonomous vehicles, which give room to advanced, high quality geomatics

### Internal meetings

Next internal meeting will be in June-July in Padua or Turin. A doodle for fixing the date will circulate soon (PoliMI will send it).

### Call for papers and events

- A special session is to be prepared: ASITA 18 could be an option; the leaders of the unit will think about that and discuss of line (my mail) this and other possibilities.
- Italian RS Society conference in Firenze -> papers will be published on EU journal of RS
- FOSS4G in Dar Es Salaam (<http://2018.foss4g.org/>, abstract deadline, 500-800 words, 15 February 2018) → papers will be published on the International Archives of Photogrammetry and Remote Sensing

- ISPRS Technical Commission IV Symposium in Delft (<http://www.isprs.org/tc4-symposium2018/>, abstract deadline: 30 April 2018, 500-800 words for publishing on the Archives of Photogrammetry and Remote Sensing or full paper 30 March 2018 for publishing on the Annals of Photogrammetry and Remote Sensing). Please be aware that there is a session (chaired by the coordinator) about Big Data and Urban studies. Therefore please consider to submit!
- Special issue on Goeinfo in CS deadline end of march (contact Bordogna)