

SIBYL

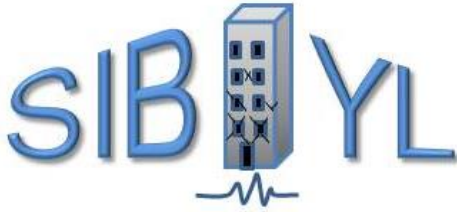
(Seismic monitoring and vulnerability framework for civil protection)

Agreement number: ECHO/SUB/2014/695550

Deliverable DA1: Kick-off-meeting report
Version 1.0 February 2015

Project start date: 01.01.2015 End date: 31.12.2016

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Minutes of the Sibyl Kick off meeting

Potsdam 28.1.2015

Participants

Stefano Parolai (GFZ)
Massimiliano Pittore (GFZ)
Dino Bindi (GFZ)
Marc Wieland (GFZ)
Bojana Petrovic (GFZ)
Tobias Boxberger (GFZ)
Yury Petrina (TU Berlin)
Annabell Mostböck (TU Berlin)
Kyriazis Pitilakis (AUTH)
Eugenio Chioccarelli (AMRA)
Iunio Iervolino (AMRA) through Skype
Florian Weber (THW)

General overview and administrative duties

The meeting opened with a welcome by the project coordinator. Katja Radzinski (GFZ) supported by Nadja Hultsch (GFZ) illustrated some legal aspects of the consortium and in particular focused on the internal consortium agreement that must be signed and sent to EU by 31.3.2015.

Stefano Parolai provided a financial overview of the project and informed the participants about the information provided at the project launch meeting in Brussels on the 20.1.2015.

Exposure analysis

Massimiliano Pittore outlined the activities to be carried out within Task B. Pitilakis asked that a clear definition/structure/architecture of the software platform all components should be run on be provided. For instance: QGIS front-end + plug-in structures + DB back-end. It was therefore decided that a 2 pages description of the work should be provided in a couple of weeks in order that the participants can indicate possible adjustment to the plan and some re-addressing of the activities.

Florian Weber (THW) suggested focusing on residential buildings. Particular emphasis was placed on concentrating on the pre-event phase and to better clarify what could be the actions (depending on scale and site) for the post-event one. The decision on the scale issue is also emphasized by Pitilakis. Florian Weber also pointed out that THW, especially for its operations outside Germany, would be interested in the generalization components of the project, and in the combination of top-down and bottom-up analysis for residential areas.

He moreover appreciated the set-up of a permanent involvement of scientists from the consortium and representatives of the Civil Protection authorities interested in the technical developments within the project.

Engineering Analysis

Yuri Petrina illustrated the activities to be carried out in Task C. It was decided that Petrina should circulate in the next days a scheme of the steps to be taken in its proposed procedure in particular to the AMRA and AUTH group. New input and adjustments to the procedure should come from the integration with the experience of these 2 groups, in particular taking into account recent EU and the RELUIS projects in which they participated. The taxonomy of SYNER-G project should be used.

Kyriazis Pitilakis showed in which tasks and how AUTH will contribute. He also raised several issues that have led to the resolution taken as described in the following.

The project "IDEA" (improve damage assessment to enhance cost-benefit analysis), funded by DG-ECHO, should be studied. Other relevant projects include:

- SIMURAI (test case: Avellino)
- SYNER-G (for vulnerability assessment)
- RELUIS (specific vulnerability studies in Italy)

In situ building assessment

Task D was presented by Eugenio Chioccarelli. It was requested to clarify how this activity could be integrated with the work done in Task B and C. We all agreed that the activities are compatible, but that the integration will be easier once in Task B a common vocabulary between the groups will be found.

Non Destructive Testing (NDT) could be done by TU-Berlin in collaboration with BAM Berlin (Institute for Testing of Materials)

For the hazard assessment it is initially suggested to adopt the SHARE approach, with rock-type spectrum + site amplification functions according to EC8 or other relevant propositions (for example by Pitilakis et al., 2013)

Petryna proposed an approach based on global damage measure.

It was asked how to link it to the vulnerability models which will be developed by Iunio. (SYNER-G as well).

Also, can drift-based approaches comply with FEMA specifications?

General discussion

Stefano Parolai illustrated the task E and F. A long discussion followed where the following main resolutions were taken:

- 1) The first field investigation will be carried out in September at two more buildings in the Aristotle University campus test site
- 2) The second one will take place a month later in Cologne (THW will support the identification of a building for the inspections and the necessary permissions)
- 3) A third test site will be in Italy (likely in spring 2016). Different sites are under evaluation (Friuli, Irpinia, Emilia, L'Aquila). In general, most preference was shown for a site in Friuli. Eugenio will investigate its feasibility through contacts with the Italian Civil Protection.
- 4) Which intensity measure should be chosen? PGA and SA(T) have been proposed as basic solutions.
- 5) Pitilakis raised the topic of seismic hazard model. Even though the project is not

explicitly addressing seismic hazard assessment, it must be considered both for exemplification and training purposes, and also as a component of the application environment. Mostly scenario-based assessments are expected within the project, but the possible use of PSHA should be verified. A further discussion on this topic is sought.

- 6) Following a suggestion by Florian Weber, with the investigation at this site, a training course for risk and disaster managers could be attached. BBK from Germany should also made active part of this project. National civil protections should be invited.
- 7) The question was raised on how to carry out a cost benefit analysis of the proposed framework. This could be done in 2 steps. By one side one could perform a comparison of cost between the proposed and standard approaches for getting the basic information necessary for a rapid vulnerability assessment. On the other side, how much would having a cheap approach with respect to nothing help in preparedness and support resilience. There are also the issues of how to quantify costs and benefits, and the qualitative versus qualitative approaches.
- 8) Most engineering approaches will target RC structures, but masonry is still a big part of the residential building stock in many of the considered test sites. How to accommodate this into the big picture? This is a problem which should be answered soon.
- 9) The web page is set up. (<http://www.sibyl-project.eu/welcome/>) will soon include an internal domain where we will exchange data (like the presentations) and a page with the project personnel. The logo will be distributed through the participants for their results presentations.
- 10) Capacity building activities will be done just before (2 days?) the field investigations (theory) and during them. THW representative F. Weber suggests two levels of capacity building:
 - “Concept” training / briefing for management levels in Civil Protection. An example of a possible context is the “Academy for Crisis Management, Emergency Planning and Civil Protection”, managed by BBK. Therefore, the explicit involvement of BBK is moreover desired, although there has been no response to recent efforts to contact them.
 - Technical training as a module in the already established Civil Protection training program. More information is needed in order to properly shape the additional “Sibyl” module. This can also be included in a specific crisis-management curriculum.
- 11) Furthermore, integration of the proposed approach and technologies into the European Civil Protection Mechanism should be explored.

- 12) For the meeting in December in Thessaloniki, the National Civil Protections should be invited. A first day of the meeting could be dedicated to training and to presentations of National Civil Protections. The second part more technical and internal. GFZ has funds for this for THW and BBK, will need to see how AUTH and AMRA can do the same for the Greek and Italian CP. However, Pitilakis comments that before training activities can be done, net progress will need to have been made.
- 13) A brochure or flyer of the project should be prepared. It is suggested to invite the media during the field experiments and to the meetings.
- 14) Standard dissemination activities will be done, for example, international engineering and seismological meetings.