

# **SIBYL**

**(Seismic monitoring and vulnerability framework for civil protection)**

Agreement number: ECHO/SUB/2014/695550

## **Report on the SIBYL Civil Protection Workshop**

**L'Aquila, Italy, 30<sup>th</sup> to 31<sup>st</sup> May, 2016**

Project start date: 01.01.2015

End date: 31.12.2016

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## **Abstract.**

A workshop was held in L'Aquila, Italy, from the 30<sup>th</sup> to 31<sup>st</sup> May, 2016, by members of the SIBYL consortium to outline and demonstrate the various tools and general progress of the project to members of the civil protection community and other interested potential end users. The participants included representatives of the Greek, Italian and German civil protection agencies, as well attendees from the L'Aquila commune, the Abruzzo region, and the University of L'Aquila. The workshop was considered a success with the participants providing feedback to the project members. A questionnaire was distributed to the participants try to understand better where SIBYL is situated with respect to the needs of civil protection practitioners, the outcomes of which will be considered when they are returned.



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## **Introduction.**

As part of dissemination and capacity building efforts within the SIBYL project (Task E Training and capacity building), a workshop was held in L'Aquila, Italy, from the 30<sup>th</sup> to 31<sup>st</sup> May, 2016. The purpose of this event was to outline and demonstrate the various tools and general progress of the SIBYL project to members of the civil protection community and other interested potential end users. The attendees included representatives of the Greek, Italian and German (THW) civil protection agencies, the L'Aquila commune, the Abruzzo region, and the University of L'Aquila.

The workshop was organised into two days (see the agenda presented in the appendix). The first day was mainly concerned with talks introducing the project and outlining the work being undertaken, including the tools (hardware and software) under development, and the field work already completed. Some demonstrations were also carried out, in particular the GFZ-REM (Remote Environmental mapping) suite of tools.

The second day involved demonstrating the methods and equipment used in the monitoring and gathering of information (Figure 1), making use of buildings damaged during the 2009 L'Aquila earthquake.

During the course of the meeting, a questionnaire (see the appendix) was distributed to the attendees (versions were produced in English, German, and Italian) with the aim of seeing how they saw the SIBYL project's developments within the context of the state-of-the-art in their home country. The consortium is currently following up on this matter.



**Figure 1:** Demonstration of the GFZ-MOMA under development/being expanded upon during the SIBYL project to the attendees of the civil protection workshop.



## Outcomes of the meeting

The consortium believes that overall, the workshop was a success, with the CP representatives who participated showing great interest in the developed tools and their applicability in practice. In particular, it should be noted that this was the first time during the course of the project when CP representatives from all three partner-countries participated in a project meeting, where they shared their experience and vision of the problems under consideration.

For example, Mr. Christos Mamarikas (CP of Decentralized Administration of Macedonia-Thrace) made the following comments:

- Closer cooperation with end-users will need to take into account the administrative structure of civil protection in order to ensure the optimal applicability of the tools.

Regarding the developed tools and methodologies, two points were raised:

- An integrated vulnerability assessment methodology should be established that can be implemented as a tool by the practitioners.
- The tools should be applicable at both building-specific and urban scales.

Further feedback from the CP community is, however, still required. One suggestion is to establish a test period where the practitioners could implement the tools and provide information regarding their needs and requirements. The guidelines for the tools that are ready for use should also be provided.

A final point concerns the buildings that were surveyed during the workshop. The building investigated as a demonstration also suits the purposes of SIBYL very well (Figure 2) and the acquired information adds to that already gained during the project (10 buildings have been investigated so far). It is expected that combining the results of the structural survey with those of the vibration measurements will produce very interesting results.



**Figure 2:** Some images of the building surveyed as part of the demonstration of the methods under development within SIBYL.

**Appendix 1      Agenda of the workshop**



## AGENDA FOR THE SIBYL CIVIL PROTECTION WORKSHOP

Palazzo Fibbioni (sala Rivera)

Via S. Bernardino, 4, 67100, L'Aquila, Italy

30<sup>th</sup> to 31<sup>st</sup> May, 2016

### Day 1

Presentation of the SIBYL project and its tools

10:00 Registration

10:15 Welcome and general overview of the project (Stefano Parolai, GFZ, Coordinator)

10:30 Rapid data collection and integration (Max Pittore, GFZ)

11:00 Rapid and low-cost in-situ building vulnerability assessment

Thessaloniki field work (Sotiria Karapetrou, AUTH)

Cologne field work (Yury Petryna, TUB)

12:00 Real-time monitoring during a seismic sequence (Iunio Iervolino, AMRA, Tobias Boxberger, GFZ)

12:30 *Lunch*

13:30 Presentation and demonstration of the tools

GFZ REM system (Max Pittore, GFZ)

Outdoor demonstration of the MOMA (Max Pittore, GFZ)

15:30 *Coffee break*

15:45 Continue demonstrations

GFZ RRRVS system (Max Pittore, GFZ)

Real-time array processing and building monitoring (Tobias Boxberger, GFZ)

17:00 Response of the CP representatives

17:30 Close

19:30 *Dinner*

## **Day 2**

Demonstration of instrumentation to CP representatives

9:30 Meet at the example building for explanation of the day's exercises

10:00 Demonstration of the tools

Building assessment

Arrays

12:00 Closing discussions

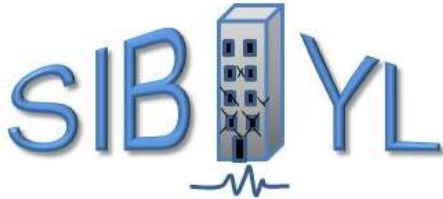
12:30 *Lunch and end of meeting*

## Appendix 2: Attendees of the workshop

Name	Organisation
Donatella Biasiad	Comune L'Aquila
Daniela Roncom	Comune L'Aquila
Silvio Rotilio	Comune L'Aquila
Maria Basi	Regione Abruzzo
Mauricio Cascoti	Regione Abruzzo
Peter Görden	THW, Germany
Stefano Parolai	GFZ Potsdam
Tobias Boxberger	GFZ Potsdam
Massimiliano Pittore	GFZ Potsdam
Ralf Bauz	GFZ Potsdam
Yuri Petryna	TU Berlin
Sergey Tyagunov	TU Berlin
Eugenio Chioccarelli	AMRA
Sotiria Karapetrou	AUTH
Christos Mamarikas	CP Macedonia-Thrace
Eugenio Vendome	Comune L'Aquila
Matteo Titani	University l'Aquila
Aeleua Antonacci	University l'Aquila
Andreas deLeo	University l'Aquila
Rocco Alaggio	University l'Aquila

**Appendix 3: Questionnaire distributed to attendees of the workshop**

Note that versions of this questionnaire were produced in English, Italian and German.



**QUESTIONNAIRE FOR CIVIL PROTECTION REPRESENTATIVES  
SIBYL WORKSHOP ON TOOLS FOR RAPID VULNERABILITY AND  
BUILDING DAMAGE ASSESSMENT.**

**L'AQUILA, ITALY, 30TH – 31ST MAY, 2016**

Dear Civil Protection Representative,

During this workshop of the SIBYL (Seismic monitoring and vulnerability framework for civil protection) project, different tools and innovative methodologies will be presented by the consortium to you. It is also believed within the consortium that there is a need for an assessment of the status of Civil Protection authorities with respect to the state-of-the-art in terms of the SIBYL activities.

This questionnaire sets out to give Civil Protection representatives the opportunity of providing information about this, within the context of their own national contexts. While the primary theme involves seismic vulnerability and damage assessment, any comments that may relate to other hazard types would also be welcome. The resulting comments will help the SIBYL consortium to refine, if necessary, both the direction of the development of tools and methods within the project, as well as to identify existing gaps in both research and exploitation, allowing in turn the development of future proposals.

We appreciate your contribution and look forward to your comments.

Thank you for your cooperation.

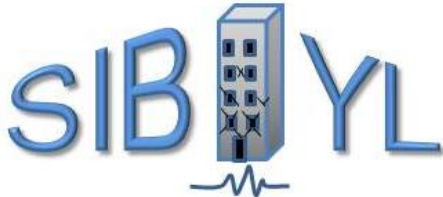
Yours sincerely,

Prof. Dr. Stefano Parolai

Coordinator, the SIBYL project.







**QUESTIONNAIRE FOR CIVIL PROTECTION REPRESENTATIVES  
SIBYL WORKSHOP ON TOOLS FOR RAPID VULNERABILITY AND  
BUILDING DAMAGE ASSESSMENT.**

**L'AQUILA, ITALY, 30TH – 31ST MAY, 2016**

**Please describe your tasks in the field of earthquake preparedness in terms of the SIBYL activities. What kind of decision support is required?**

**What methods and tools do you currently use for the seismic vulnerability assessment of existing building stock?**

**What are your expectations from SIBYL in terms of methods, tools, software etc.?**

**What is background and proficiency level of your representatives who are involved in the vulnerability assessment and will work with our methods and tools?**

**How much time, on average, is available for the vulnerability assessment of a single building (a group of buildings)? What are your priorities in terms of accuracy, time, costs?**

