

COST TU1402: Quantifying the Value of Structural Health Monitoring
Contribution to the 1st Workshop, 04.-05.05.2015, DTU, Denmark

Italian Activities on Standardization in SHM

Andrea E. Del Grosso

Polytechnic School, University of Genoa, Italy

and

D'Appolonia S.p.A., Genoa, Italy

- A Working Group on SHM has been officially established by UNI in the framework of the activities of the Structural Engineering Committee (associated to CEN TC 250)
- WG Members
 - Engineering Companies (D'Appolonia S.p.A.)
 - Universities (Trento, Padua)
 - Steel Construction Industries Association
 - Concrete Construction Industries Association
 - Software Houses Association
 - Italian Welding Institute
 - National Institution of Engineers (CNI)
- WG Coordinator : Andrea Del Grosso, D'Appolonia
- WG Secretariat : Clara Miramonti, UNI
- Liason with the Committee on Mechanical Vibrations

Terms of Reference

- Prepare a Draft for Structural Health Monitoring Guidelines to be approved by the Committee
- Guidelines shall be applicable to civil engineering structures (buildings, bridges)
- Guidelines shall cover all aspects of SHM, including utilization of SHM results
- Draft shall be ready in fall 2015

Activity Performed to-date

- Assignments to the WG have taken long time due to bureaucratic reasons
- Review of existing documents
- General discussions on scope and extent of Guidelines
- Glossary terms (initiated)
- Table of Content
- 1/3 of text written

GUIDELINES PRINCIPLES

- It has been recognized that the Italian construction industry needs national reference documents for a correct implementation of the SHM principles
 - The Italian market is characterized by a large number of small companies only offering installation of sensors and providing measurements
 - Potential Users are not aware of the advantages of SHM
 - Designers are not familiar with SHM techniques
- The document is intended to provide guidance to adopt SHM techniques during design, construction and operation phases

OUTCOMING COMMENTS

- The need for a glossary as extended as practical has been recognized
- The idea is to perform a translation of the most relevant items contained in the existing Glossaries
- The Guidelines shall contain an Introductory Paper illustrating scope and advantages of SHM, possibly listing the most relevant international references
- Cost/benefit considerations shall be taken into account at the system design stage

TOC

- General Subjects
- Normative References
- Monitoring Systems Design Requirements
- Measuring Strategies
- Design of Monitoring Systems
- Monitoring Systems Installation
- Monitoring Systems Operations & Maintenance

TOC (Continued)

- Designing Monitoring Campaigns
- Processing of Monitoring Data
- Condition Assessment and Damage Detection Methods
- Reliability Assessment of SHM results
- Utilization of SHM techniques in the management of constructed facilities
- SHM and Structural Design

TOC (Continued)

- Case Studies
 - Buildings
 - Bridges
 - Other
- Appendices
- Glossary
- Related Standards
- Bibliography

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Next events:

- . ISHMII-7 Turin, Italy
- . IWSHM Stanford, USA