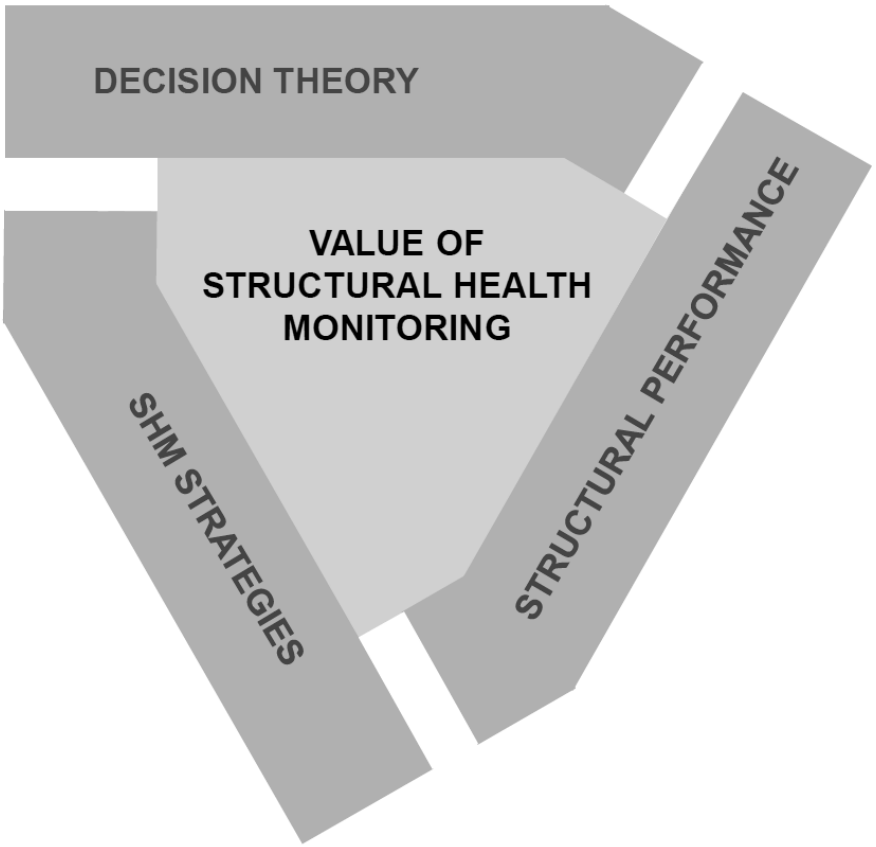
Workshop on Quantifying the Value of Structural Health Monitoring

Proceedings of the 1st Workshop, 04.-05.05.2015, DTU, Denmark

COST Action TU1402: Quantifying the Value of Structural Health Monitoring



Editor: Sebastian Thöns, September 2015

EUROPEAN COOPERATION
IN SCIENCE AND TECHNOLOGY

ISBN: 978-8-77-877426-2
DTU Civil Engineering Report: R-336

1 Summary

The Workshop on Quantifying the Value of Structural Health Monitoring constitutes the major event throughout the starting phase of the COST Action TU1402 in the early months of 2015. The Action has already received a tremendous interest throughout European industry and research resulting in a substantial growth of the Action in the starting phase.

The COST Action TU1402 enhances the benefit of Structural Health Monitoring (SHM) by novel utilization of applied decision analysis on how to assess the value of SHM – even before it is implemented. This improves decision basis for design, operation and life-cycle integrity management of structures and facilitates more cost efficient, reliable and safe strategies for maintaining and developing the built environment to the benefit of society.

The objectives of the 1st Workshop are to disseminate the aims and ideas of the COST Action TU1402 and to progress in building a common understanding within the Action network. Further aims according to the Scientific Work Plan are to progress in (1) the clarification of the theory on quantifying the value of SHM, (2) the formulation of the theory for applications and (3) a categorisation of SHM strategies and structural performance models. For these aims, consecutive plenary sessions involving all working groups (WGs) are organised which are followed by parallel Working Group sessions.

65 participants from 23 countries representing researchers, structural engineers, SHM engineers and infrastructure operators and owners took part in the workshop. The aims and the ideas of the Action were discussed and connected to the individual challenges of the Working Groups (WGs) and to the expertise of the Action network. This workshop contributed substantially to the progress according to the Scientific Work Plan, facilitated the individual detailed WG planning and initiated a number of working and networking activities.

The proceedings of the 1st Workshop contain paper contributions for WG1, WG2 and WG4 covering the theoretical framework, SHM strategies and structural performance modelling both in research and in application. Further contributions in the form of presentations and posters as well as the session videos can be accessed via the Action website: http://www.cost-tu1402.eu/.

WG 1 Session: Theoretical Framework
Chairs: M.H. Faber, D. Val

WG 2 Session: SHM Strategies and Structural Performance
Chairs: M. Chryssanthopoulos, G. Lombaert and M. Döhler

WG 4 Session: Case Study Portfolio
Chairs: H. Wenzel and J. Köhler