



COST Action  
TU I402

Quantifying the Value of Structural Health Monitoring



# Final Conference Opening

Sebastian Thöns

Technical University of Denmark, Denmark

BAM Federal Institute for Materials Research and Testing, Germany

# TU1402 Final Conference

We are at the location where it started.

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- Thöns, S. (2011). Monitoring Based Condition Assessment of Offshore Wind Turbine Structures. PhD thesis written at BAM in Berlin and defended March 3, 2011 at ETH Zurich
- (Pozzi, M. and A. Der Kiureghian (2011). Assessing the Value of Information for Long-Term Structural Health Monitoring. Health monitoring of structural and biological systems 2011, San Diego, California, United States, March 7-10, 2011.)
- Submission of TU1402 proposal in 2013

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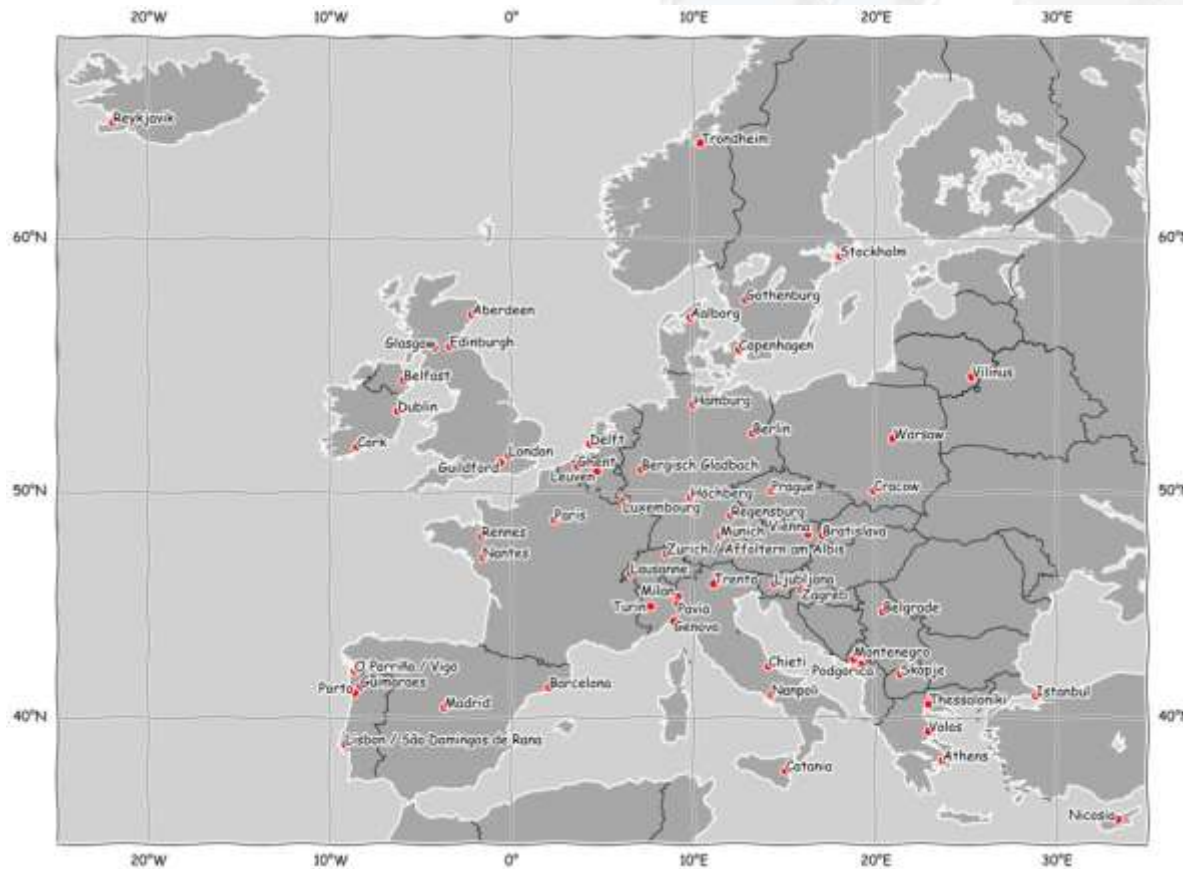
# COST Action TU1402

The scientific networking project COST Action TU1402 has strived to improve the decision basis for design, operation and life-cycle integrity management of infrastructures by quantifying the value of Structural Health Monitoring (SHM) - even before it is implemented.

- Funding: European Cooperation in Science and Technology (COST) as a part of Horizon2020
- Project period: 13.11.2014 - 30.04.2019
- Partner: Joint Committee on Structural Safety (JCSS: [www.jcss.co](http://www.jcss.co))



# COST Action TU1402: Network



We are 130 participants from 29 European countries: researchers, engineering consultants, representatives from industrial enterprises, representatives from infrastructures operators and authorities.



# COST Action TU1402: Network



The international network comprises:

- Prof. Mark Stewart, University of Newcastle, Australia
- Prof. Dagang Lu, Harbin Institute of Technology, China
- Prof. Michael D. Todd, University of California San Diego, USA
- Prof. James L. Beck, California Institute of Technology
- Prof. Armen Der Kiureghian, President of American University of Armenia, Professor of Civil Engineering at the University of California, US

# COST Action TU1402: Activities



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- Workshops and Conferences: 16 + 2 more to come
- Training Schools: 2
- Scientific Missions: 17+4 more to come
- Conference Special Sessions: 11
  - 2019: IABSE (Guimarães, Portugal), ICASP (Seoul, South Korea)
  - 2018: IABMAS (Melbourne, Australia), IABSE (Nantes, France), EWSHM (Manchester, UK), IALCCE (Ghent, Belgium)
  - 2017: IWSHM (Stanford, USA), ICOSSAR (Vienna, Austria)
  - 2016: MSSCE (Copenhagen, Denmark), EWSHM (Bilbao, Spain)
  - 2015: ICASP12 (Vancouver, Canada)
- Special Journal Issues: 1+3
  - Structural Engineering International, Engineering Structures, Structural Health Monitoring, Structural Safety (in preparation)
- Publications: 60+ conference and journal publications; 5+ workshop reports

All activities are documented on [www.cost-tu1402.eu](http://www.cost-tu1402.eu).





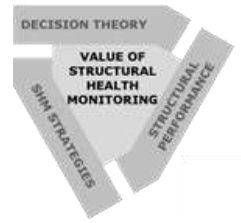
# COST Action TU1402: Achievements

1. We have provided the scientific evidence for the “tremendous economic and life-safety benefits”<sup>\*)</sup> of SHM.
2. We have built up the scientific field of Value of SHM analyses.
  - Provision and extension of a framework ... for the quantification of the Value of SHM
  - Provision and development of models, methods and tools ... for the quantification of the Value of SHM.
  - Development of case studies ... for the quantification of the Value of SHM.
  - Development of a JCSS guide for scientists ... for the quantification of the Value of SHM.
3. We have prepared the industrial utilisation of Value of SHM analyses
  - Development of case studies
  - Development of (JCSS) guides for practising engineers and for infrastructure operators

<sup>\*)</sup> Sohn, H., C. R. Farrar, F. M. Hemez, D. D. Shunk, D. W. Stinemates, B. R. Nadler, and J. J. Czarnecki, 'A Review of Structural Health Monitoring Literature: 1996–2001', (2004).







Coming together is a beginning; keeping together is progress; working together is success.

Henry Ford (1863-1947)