



COST Action  
TU I402

Quantifying the Value of Structural Health Monitoring



# WG 5: Development of Guidelines

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Final TU1402 Workshop

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# Introduction

- Guideline documents are needed to facilitate the implementation of the principles and the methods developed. Therefore, guidelines focusing on practical applications based also on the example cases are being developed:
  - a) background document as a chapter in the JCSS probabilistic model code (PMC).
  - b) Guideline on value of information for practicing engineers
- The guidelines are developed based on and with interaction through the network of the action members to standardisation activities such as e.g. JCSS, EUROCODES, ISO, IABSE, RILEM, fib, ECCS, CIB and an international SHM standardisation initiative as well as several national codes committees.

# 1. Aims

- To implement results and recommendations from WG1, WG2, WG3 such as methodologies, tools, SHM strategies
- To reflect results from the various case studies of WG4
- To integrate the aforementioned aspects in two documents
  - a) part of JCSS Probabilistic Model Code
  - b) guideline for practicing engineers
- To illustrate them in the case studies
- To present them in conference audiences (IABSE, IALCCE, ICASP, fib)

## 2. Achievements

- Consideration of SHM in a broad term (SHM, DT, NDT, proof loading)
- Description of the decision process
- Definition of various performance indicators (up to risk informed)
- Decision support criteria for the selection of the SHM strategy
- Verification of Value of Information
- Integration into state-of-practice procedures
- Standardization (pre-standard, background documents) emphasizing on applicability, proportionality and flexibility
- Compatibility with EU regulations and ISO standards

## 3. Dissemination

- in the TU1402 website
- as draft reports and factsheets
- as publications (conference, journal)
- during meetings of committees such as fib, IABSE
- at the innovation days in Lisbon
- in social media (Linkedin, researchgate)
- during various seminars at universities
- implementation in course materials

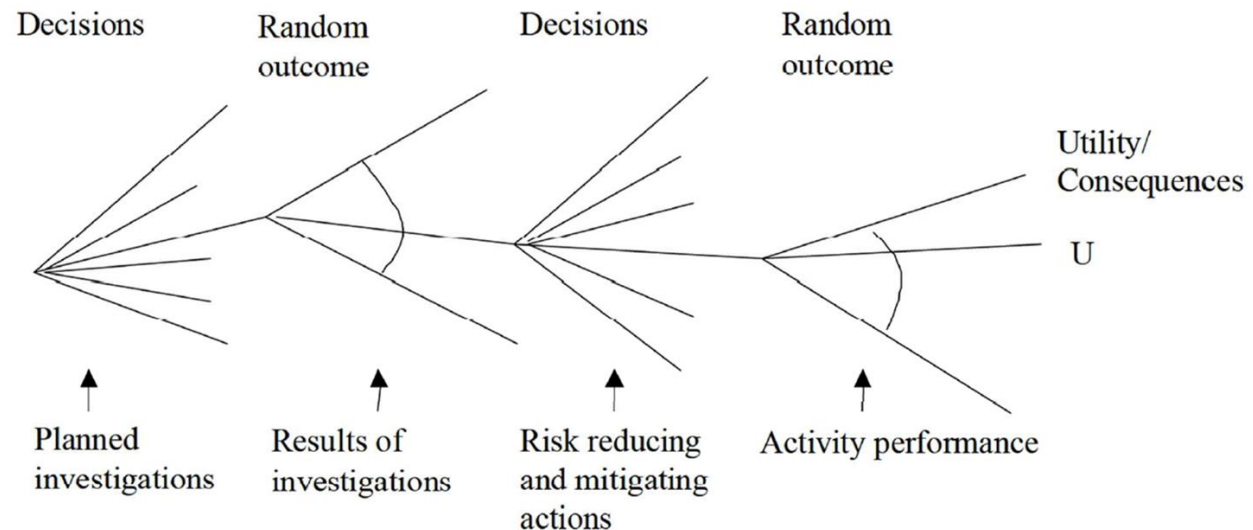
## 4. Concept for finalisation

- Summary of case study results (categorisation, evaluation, reflection)
- Discussion of drafts within WG members, association committees
- WG5 meeting before the final conference
- Presentation to practical engineers
- Internal and external evaluation



## 5. Lessons learned

- Summary of case study results (categorisation, evaluation, reflection)
- Uncertain parameters (obstacles?): consequence costs, measurements, alarm levels
- Simplifications needed for applicability, proportionality and clarity reasons
- Demonstration to practical engineers and overall assessment (interaction with industry)





## 6. Conclusions

- Preparation of 2 background documents with terminology and compatible flowcharts
- Criteria for the development and interaction with the other WG
- Discussion and presentations at various selected occasions
- Focus on quantification of information and decision strategies
- Cost vs benefit and actions to be highlighted
- Presentation to practical engineers – reporting - feedback

# Outreach

project results to be further used and included in:

- a) consultancy services,
- b) committee work (ISO, JCSS, fib)
- c) education of students and young engineers.

