





Research Support Fund

1. European cultural heritage

1.1 Protection of historical immovables, focused on industrial and folk architecture A/CZ0046/2/0013 ASSESSMENT OF HISTORICAL IMMOVABLES 1 April 2009 – 31 December 2010

End Recipient: Czech Technical University in Prague (CTU), Klokner

Institute

Partner: UMB, Institute for Mathematics and Technology, Aas

Project leader: Assoc. Prof. Jana Marková Project manager: Miroslav Sýkora, Ph.D.

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Information on the sub-project

Grant support

- The Research Support Fund (RSF) specific support (block grant) financed by the Financial mechanisms of European Economic Area (EEA) and Norway (FMs EEA/Norway) and the Czech state budget www.eea-researchfund.cz
- → the aim is to reduce social and economic disparities within EEA
- Priority of the grant project 0046: 1. European cultural heritage; 1.1 protection of historical immovables, focused on industrial and folk architecture
- Sub-projects support cooperation of research institutions from the Czech Republic and donor states (Norway, Iceland, Lichtenstein)



Information on the sub-project

Main goals, target group

- Main goals:
- * development of the general methodology for the complex assessment of heritage structures (particularly industrial buildings and bridges)
- * operational tools and background information for decisions concerning the protection, conservation, renewal and extended use of historical immovables

- Target group: researchers, designers, practicing engineers, cultural heritage management, other specialists involved in preservation of

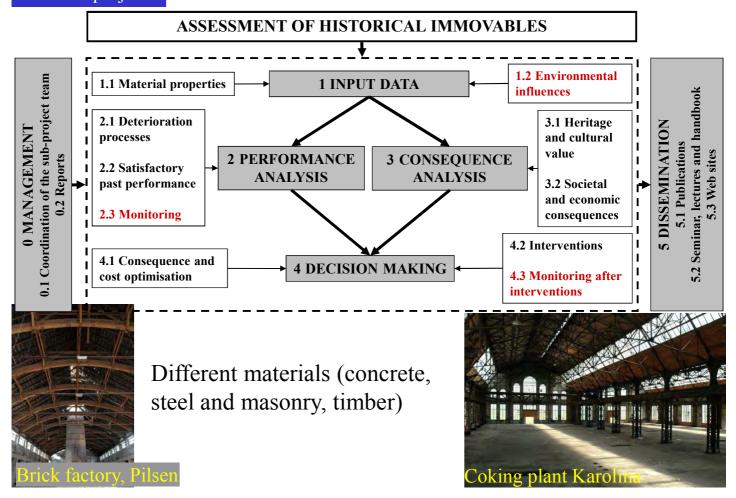


Information on the sub-project

Methodology

- The innovative methods based on probabilistic approaches and optimisation techniques applicable to heritage structures made of different materials (concrete, steel and masonry + timber stave churches)
- Quantitative assessment:
 - users' safety
 - protection of a cultural and heritage value
 - consequence analysis
 - actual conditions including unfavourable environmental effects
- → relevant input data including information on material properties and environmental influences
- → visual inspections and testing, rarely monitoring
- → fuzzy and vague information

Activities



Information on the sub-project

Schedule

1 3	2009									2010											
Month/Activity	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21
0 MANAGEMENT																					
0.1 Coordination of the sub-project team																					
0.2 Reports																					
1 INPUT DATA																					
1.1 Material properties																					
1.2 Environmental influences																					
2 PERFORMANCE ANALYSIS																					
2.1 Deterioration processes																					
2.2 Assessment based on satisfactory pas																					
2.3 Monitoring																					
3 CONSEQUENCE ANALYSIS																					
3.1 Heritage and cultural value																					
3.2 Societal and economic consequences																					
4 DECISION MAKING																					
4.1 Consequence and cost optimisation																					
4.2 Interventions																					
4.3 Monitoring after interventions																					
5 DISSEMINATION																					
5.1 Publications																					
5.2 Seminar and handbook																					
5.3 Web sites																					

1. Information on the sub-project

Results

- Each activity scientific paper in a journal indexed at the Web of Science or Scopus or in selected Czech journals (at least accepted for publication) 4 papers
- 6 contributions to "prestigious" international conferences
- Seminar (CZ), lectures (NOR) and handbook
- background materials for Annex I to ISO 13822 on the assessment of heritage structures
- 5 simple software tools
- project web sites

Target group: researchers, designers, practicing engineers, cultural heritage management, other specialists



