



On-site investigation techniques for the structural evaluation of historic masonry buildings

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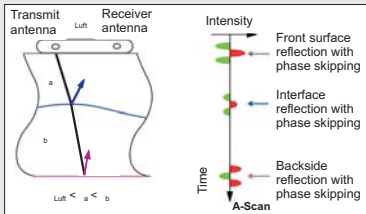


Fig. 1: Principle of impulse radar, reflection at different interfaces

Project status

Funding over a period of 36 months through the 5th Framework Programme *Energy, environmental and sustainable development*

Project start and kick-off meeting in November 2001

Project objectives

Improvement of current NDT and MDT techniques for better analysis, prediction and early prevention of environmental damages of Cultural Heritages to avoid higher costs in strengthening and repair intervention

Development of methodologies for effective integration of different techniques for the diagnosis allowing more frequent assessment of Cultural Heritages with lower costs

Contribution to future standards of building assessment, by developing guidelines for the application and integration of the techniques according to the type of materials and buildings as an information tool for end-users

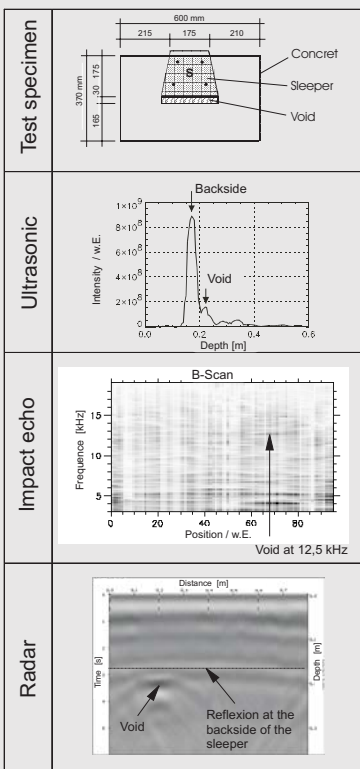


Abb. 2: Comparison of investigation methods

Project work packages

- WP 1 Project management
- WP 2: Dissemination and exploitation
- WP 3: Requirements of end-users and performance specifications
- WP 4: Methodology development for inspection
- WP 5: Methodology development for assessment
- WP 6: New data acquisition systems
- WP 7: NDT system modifications and optimisations
- WP 8: Integration
- WP 9: Structural models
- WP 10: Application and evaluation
- WP 11: Recommendations / Guidelines



Abb. 3: investigation on pedestals at the "Altes Museum" in Berlin



Abb. 4: Radar investigation at the pedestal

Consortium

The Consortium consists of 14 European partners from 5 different countries. The consortium is well balanced bringing together all the needed expertise and including partners with complementary roles: equipment designers (BAM, MALA), developers of NDT methodologies (BAM, POLIMI, UNIPI), NDT users (GC, UNIPD, ZAG, UCLM, IRDI, PROVVR), experts for structural models (UCLM, UNIPI) and owners of Cultural Properties (SLG, RT, JCM, PROVVR, IRMA).



- Sweden: -Mala Geoscience AB (MALA)
- Germany: -Luther Memorial Foundation (SLG)
-Federal Institute for Material Research and Testing (BAM)
- Slovenia: -National Building and Civil Engineering Institute (ZAG)
-Institute for Research in Materials and Applications (IRMA)
- Italy: -Politecnico di Milano (POLIMI)
-University of Padova (UNIPD)
-University of Pisa (UNIPI)
-Regione Toscana (RT)
-Irma Diagnosis S.r.l. (IRDI)
-Provincia di Verona (PROVR)
- Spain: -Geocisa (GC)
-University Castilla la Mancha (UCLM)
-Regional Government of Castilla la Mancha (JCM)
- Czech: -ITAM
- Great Britain: -EAHTR / FORUM