



Cultural Heritage Identity Card

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Steering Committee Member
Jan Valek



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ITAM Basic Facts




1921 Founded by František Klokner as Research and Testing Institute for Building Materials and Structures

1953 split into two parts: Klokner Institute of CTU and ITAM of the CAS

Since 2000 the European Centre of Excellence ARCCHIP



www.itam.cas.cz



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Major relevant references

"ONSITEFORMASONRY" RTD Project - On-site investigation techniques for the structural evaluation of historic masonry buildings - 5th FP EESD-EVK4-CT

Development of special methods, technologies and tools for diagnostics of masonry materials and structures



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Major relevant references

"CULTSTRAT" RTD STREP Project
Assessment of Air Pollution Effects on Cultural Heritage - Management Strategies, 6th FP SSP1-CT

Research of Eddies and Flows around Historic Buildings, Soiling & Degradation of Historic Surfaces



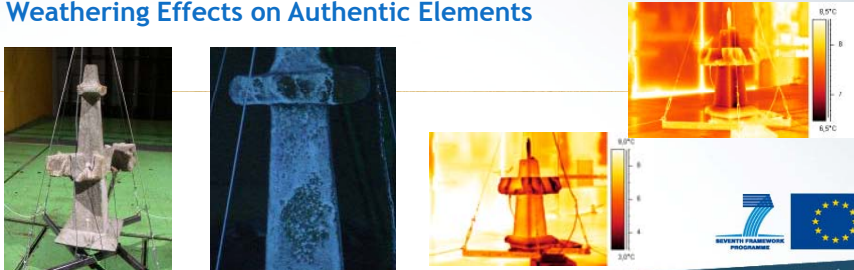
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Major relevant references


"NOAH'S ARK" RTD STREP Project
Global Climate Change Impact on Built Heritage and Cultural Landscapes, 6th FP SSP1-CT

Material & Structural Consequences of Temperature & Moisture Variations, Freezing/Thaw Cycles, Driven Rain, Corrosion, Weathering Effects on Authentic Elements




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Major relevant references


"I-SAMCO" Network Project of the 6th FP SSP1-CT
Structural Assessment Monitoring and Control

ITAM has been monitoring tens of important Czech monuments and structures and operates a rich database of structural characteristics ("fingerprints") with changes in the course of time and has profound experience with long term monitoring of: **Cultural Heritage Objects, Vibrating Structures, Masts and Towers, Highway Bridges**





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Project Team

- **Dr. Miloš F. DRDÁCKÝ**, director of ITAM
- **Dr. Jan VÁLEK**, head of the Diagnostics of Historic Structures research unit, ARCHISS, ITAM
- **Dr. Zuzana SLÍŽKOVÁ**, head of the Department of Particulate Media, ITAM
- **Dr. Jiří BLÁHA**, head of Historic Timber Structures research unit, ARCHISS, ITAM
- **Dr. Jaroslav VALACH**, head of the Optics Laboratory, ITAM
- **Mr. Jan BRYSCJEJN**, ITAM

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Links in benefit of CHIC

Advisory Network

- Czech National Heritage Office
National authority in Cultural Heritage. Central headquarters and 14 regional offices.
 - Main tasks
 - R&D in methodology and guidelines leading and supporting safeguarding CH. Conservation policy makers.
 - Care and management of the listed monuments (state). Support for private owners.
 - Central list of cultural monuments in the CR.
<http://monumnet.npu.cz>
- Contacts to Slovakia and other neighbouring countries

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Ideas: Urban planning documents

TELČ PILOT PROJECT

Aim: enhancement of cultural resources in small historic towns and micro-regions

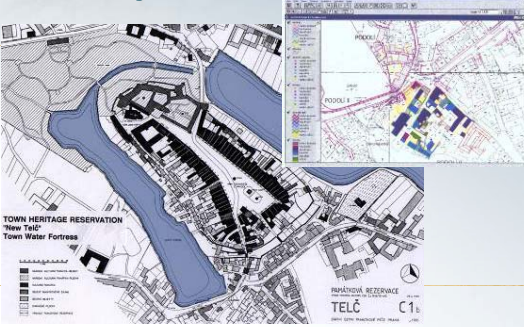
Safeguarding plans (general, detailed)– integrated urban planning documents

Data Structure


MAPS
vector raster

DATA BASES - catalogue

cadaster data technical data text data drawings pictures



7 SEVENTH FRAMEWORK PROGRAMME



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Ideas: Data-bases in development at ITAM

- Data base of historic mortars
- Database of damages / damage catalogue

Contextual characterisation

Sample description (materials)
Unique key = m-ctm sample code + additional codes
"Photo documentation - macro photo"

Sample description (localities, construction parts/phases)
m-ctm sample code

Place of Interest (building component),
Reasons for investigation (sampling),
Description of building component
"Photo documentation"

Structure/complex

Material characterisation

Material characteristics

Composition

Structure

Physical properties

Archive of outputs from tests and analytical methods of historic mortar characterisation

Physical properties determination

Optical microscopy examination

SEM + EDS

XRD

TA

Soluble ions

Mercury intrusion porosimetry


Aggregate analysis

IR spectroscopy

MALDI TOF spectroscopy

AMS carbon dating

more




dbFailures <http://www.itam.cas.cz/dbfailures>

Failures

- Furniture near stream Blanka
Undermining of foundations
- St. Mary's Pillar, Luby a Chrást
Water induced permeability reduction caused by the use of improper preservative
- Charles Bridge
Salination of building material
- Reliefs
Cracks in stone elements
- Buildings on Křovelská
dirt shaped trenches and facades of buildings, pollution of surfaces
- Church of St. Barbara
color changes of stone surface, aesthetical degradation, possibly secondary chemical and physical corrosion of stone due to micro-organisms metabolism

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