EUREKA PROJECT E!2161 - EUROCARE MOIST

1. General description

Project	E! 2161 - EUROCARE MOIST	**Status**	Announced - 23-JUN-2000
Title	**Moisture System Evaluation**		
Class	Sub-Umbrella	**Technological area**	Environment
Start date	24-FEB-1999	**End date**	24-DEC-2004
Duration	70 months	**Total cost**	1.4 Meuro
Partner sought	No		

Summary The Aim Is To Develop A Complex Expert Software And Hardware System Able To Define The Origin Of Moisture, Propose Intervention And Control The Suitability Of The Diagnosis.

Budget and duration

Phase	Budget(Meuro)	Duration (Months)
Definition phase	0.5	12
Implementation phase	0.9	58
Total	**1.4**	**70**

Member contribution

Member	Contribution	Position	Since
Italy	**50.00%**	**Contact Member**	**16-JUN-2000**
Germany	25.00%	Participating Member	23-JUN-2000
Spain	25.00%	Participating Member	23-JUN-2000

Participants

Company	Country	Type	Role
Istedil - Istituto Sperimentale Per L'Edilizia	**Italy**	**Large company**	**Main**
Coop Acep	Italy	SME	Partner
Cavastop 300	Germany	SME	Partner
Codiv S.L.	Spain	SME	Partner

2. Project outline

Project description

One of primary causes of the deterioration of buildings is moisture. This may be superficial at the beginning but with time can damage even the main structure. Obviously deterioration processing differs according to the materials and structures involved. There are three main causes giving rise to moisture: infiltration, capillary absorption and condensation. It is particularly difficult to recognise condensation because phenomena of this kind sometimes only appear during a particular season, in some places and not over the whole surface. In most cases diagnosis is carried out by an expert who, based on his own experience, will detect and find the causes of the moisture and propose a solution. This kind of approach is not of course available for old historical buildings as an erroneous diagnosis and consequently a wrong intervention could damage them for ever.
Keywords: moisture, instruments.

Technological development envisaged

This project will develop a more sophisticated way to make a right diagnosis of the cause of moisture. It will be provided using software in an expert system able to guide the operator during the diagnosis, giving a parametric vision of the problem. The hardware will be flexible enough to receive all the data needed by the software, depending by the nature of the problems. For example, it will monitor temperature, humidity and moisture simultaneously in many points of the structure. At the end of the analysis, the operator will have all the data to enable him to make the right diagnosis on the origin of the moisture. The main advantage of this kind of approach is a software-based analysis guide, flexible hardware adaptable to circumstances, storage of all the data and the possibility of comparisons in the future, so it will also be useful for testing the suitability of the intervention.

Markets application and exploitation

At the moment no such system is available as the market only offers different and separate tools for moisture diagnosis, for temperature or humidity monitoring. Normally this instrument is able to read the value of one parameter at a time, for one point of measure. However the field really needs a continuous and integrated system of monitoring of more than parameter for a short or long time, depending on the nature of the problem. This instrument could be very useful for the operator and help him reduce the risk of a wrong diagnosis.

Project codes

BSI

BQB.E	chemical composition
DHH	surface chemistry

NACE

2662	Manufacture of plaster products for construction purposes

3. Main participant

Company	**Istedil - Istituto Sperimentale Per L'Edilizia** Via Tiburtina, Km 18.3 00 100 Guidonia Italy Tel +39 0774 353 580 Fax +39 0774 353 768
Contact	**Ing. Renato Zari** Director Tel Fax istedil@priminet.it
Organisation type	Large company
Participant role	Main

Contribution to project

Will test some products, analyse the results and develop hardware and software for the system.

Expertise

Expertise - testing on materials.

4. Partner

Company	**Coop Acep** Via Perth, 21 00 139 Rome Italy Tel +39 06 82 74 875 Fax +39 06 86 65 667 www.restauri.it.com
Contact	**Mr. Salvatore Del Brocco** Technician, Manager Tel +39 06 82 74 922 Fax
Organisation type	SME
Participant role	Partner

Contribution to project

Will assemble the system and test it for common cases. Will develop the necessary software. Will test all sensors for instrumentation. At end of definition phase will choose some cases studies to prove accuracy of method and optimize it.

Expertise

Works in the field of architecture restoration, especially surface cleaning and removing dampness using sophisticated apparatus. Inside ACEP, there are many experts to ensure that the results will be achieved.

4. Partner

Company	**Cavastop 300** Im Morsewinkel, 29 30900 Wedmark Germany Tel +49 5130 7930-O Fax +49 5130 7930-O www.cavastop.com
Contact	**Dr. Neisius Bautenschutz** Manager Tel +49 5130 7930-3O Fax
Organisation type	SME
Participant role	Partner

Contribution to project

Will define experimentally how to use some products to stop the dampness.These tests will be applied to different matter /structures and constitute the base for the Expert system to ascertain the best care and application of the methods.

Expertise

This company is well known in the field for some products capable of stopping rising damp in walls.

4. Partner

Company	**Codiv S.L.** Ctra. De La Felguerra A Tuilla, Km0.5 33930 Langreo Spain

Tel +34 985 669 911
Fax +34 985 669 944

Contact

Tel
Fax

Organisation type SME
Participant role Partner

Contribution to project

Will test some products for moisture control and validate the techniques necessary in the presence of condensation both on the surface and the interior of the wall.

Expertise

This firm has been working in the field of moisture control for many years, performing careful analyses by means of competent experts, capable of evaluating the entity and distribution of damage and defining an appropriate intervention.