



## **ITALITHOS<sup>®</sup>: one of the ways to share information on Italian ornamental stone used for cultural heritages**

C. Giampaolo and B. Adanti

Dipartimento di Scienze Geologiche, Università degli Studi di Roma TRE

Largo San Leonardo Murialdo 1, 00146 Roma Italy

The traditional use of ornamental stone constitutes one of the fundamental traits of historical cities which abound in testimonies to this vastly rich cultural heritage. Ornamental stones have combined well with the creative genius of our sculptors and architects who have fashioned great works of art for posterity – (cathedrals, churches, chapels, castles, city centres, statues etc). These monuments now provide an attraction for a massive tourism trade and thus conservation is not only a question of preserving the cultural heritage of European civilisation, it is also a question of good economic sense.

With an overwhelming majority of such edifices made of stone and located in polluted city centres, information concerning the character and derivation of the stones used in these monuments is commonly disparate and unfocussed. Whilst the degradation of the stone surfaces has accelerated this century, the original extraction sites are often either forgotten, urbanised or for other reasons, no longer usable. Many Institutions (like Local Authorities responsible for cultural heritage preservation, Universities, Geological Surveys, etc.) possess a great wealth of basic data which, when combined and collated in a purposeful manner, can enable the link between monuments and the geological background of the raw material to be definitively established. This contributes to securing the authenticity of the stone, though in extreme cases, where resources have disappeared or become inaccessible, information also needs to be made available on alternative sources. This need is identified by most architects involved in the preservation of ancient buildings and monuments.

After more than ten years of research the Ornamental Stone laboratory of ROMA TRE University produced a prototype of a flexible and well fashioned Inter-

net accessible data base, running on a Linux platform with Mysql, available at <http://www.italithos.uniroma3.it>. It is a database inventory of decorative rocks quarried in Italy since monument building began. Using the existing data and looking at the main buildings and monuments, for each rock, many technical characteristics such as mineralogy, physical and mechanical properties can be compiled and described along with scientific and common names, historical and geographic data.

The database is engineered to fit the requirements of a broad range of professional end users. These are identified as non-geological institutions and organisations, such as those involved in conservation and restoration, local and regional planning authorities, cultural heritage councils, research institutions, architects and industry. Moreover *italithos* claims to be an educational tool allowing virtual “lithological” routes through places of cultural interest where Italian ornamental rocks have been used. It can be linked to similar web sites having as object the same monuments but complimentary information like history, architecture, etc.

Benefits of such data base are innumerable. It is a flexible tool for:

- Improvement to the sustainability of natural stone resources in the face of competition;
- Improvement of information transfer between the stone industry, stone users and consumers (e.g. designers, architects, etc;) and this on a world wide scale;
- Improvement of the information base on cultural heritage stone material characteristics;
- Provision of information on availability of replacement material in restoration projects;
- Recognition of ancient quarry sites leading to their preservation;
- Enhancement of the "historic memory" of some decorative rocks that are no longer being quarried.

Taking into account the possibility that a local authority may want to enable quarrying of material for cultural heritage restoration.