

## LANDSCAPE & ARCHAEOLOGY

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### Abstract

This number of SCIRES-IT summarises the most significant outcomes from the conference Landscape & Archaeology - En Route, held in June 2016 in Italy. The conference aimed at undertaking smart and sustainable experiences linking landscape and archaeology. The key topics, discussed during the itinerant event were: Smart Landscape, Archaeology and digital documentation and Smart Industrial Archaeology. Furthermore, a special session has been devoted to shed some light on the sustainable valorisation of heritages and on the Cultural Districts initiative. This paper presents an overview of the papers, trying to highlight links and differences in multidisciplinary approaches to “Landscape&archaeology”.

### Keywords

Smart Landscape, Smart Archaeology, ICT, sustainable and re-usable data, Data Sharing, Community participation

### 1. Introduction: inspiring thinking

The European Landscape Convention (ELC) does not make distinguish among diverse landscapes, extraordinary landscapes or degraded landscapes both incorporate and communicate lots of values: ecological, cultural, economic, social and mental. If Scientists and Humanists will learn to work better together, by adopting a strong holistic vision of landscape as the European Science Foundation (2010) stressed, a new set of methodologies and techniques could arise for take care of the landscape as a whole. Moreover, ELC underlines that landscapes evolve over the time under the effect of natural forces and the action of human beings. Therefore, landscapes need to be managed but landscape management is not only a matter of nature protection and heritage conservation. It should be based on new planning strategies closely related to the environmental, social and economic sustainability (Potschin & Haines-Young, 2006). Finally, the Convention invites to involve local communities in all landscape policies: to increase awareness among the public and private local actors about the value of landscape and assess landscape values through the active participation of all interested parties.

In this framework contemporary challenges, among many others, for Archaeologists and Landscape scholars could be: how can they use new ICT tools and the participatory methodologies to overcome traditional visions and traditional approaches in their study field? How to improve understanding of cultural heritage assets and promote a sustainable planning of new “smart” landscapes?

To reach this goals an important aid could come from touristic sector, indeed tourism implies not only economical but also cultural agents. Actually, sustainable tourism of cultural heritage implies three main pre-conditions: a) good knowledge of cultural heritage; b) strong awareness of local people for their protection in any economic activity; c) access to innovative and creative ICT tools to design tourism solutions with a low impact on the environment and positive relevance for local identity.

Having in mind this kind of thinking, the Uniscape En-Route seminar “Landscape & Archaeology” held in Fano and surroundings on June 2016 was organised with the aim to find some answers. “Landscape & Archaeology” was a part of the En-Route international seminars series promoted by Uniscape association to disseminate the European Landscape Convention. They are

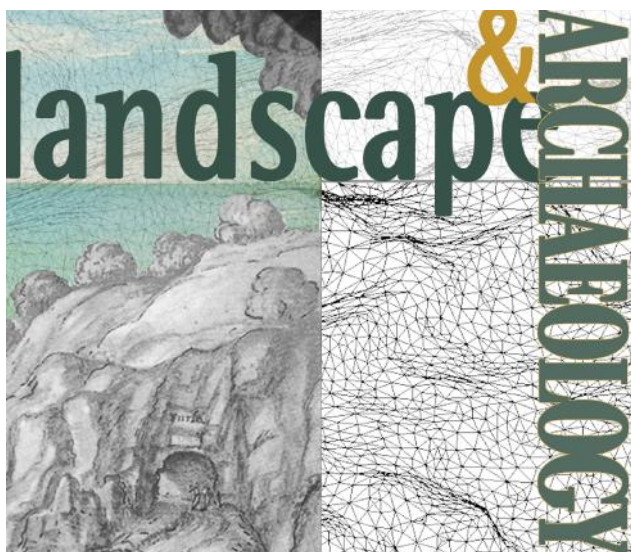


Fig. 1: The Conference logo

addressed both to the European-wide academic communities and local stakeholders (institutions, politicians, inhabitants, social and economic actors). This provides local landscape's actors the opportunity to raise the questions they are facing at home to a wider European context, as well as providing academics the opportunity to present their research to a new audience within a specific landscape context. Thus, by reaching out towards local landscape actors and combining the more academic activities with other thematically related events (site visits, exhibits, etc.), this kind of seminars offers a concrete opportunity for "awareness-raising" (CLC, Chapter II-Article 6). Smart and sustainable experiences linking Landscape and Archaeology have been the focus of "Landscape & Archaeology": how to increase knowledge and cultural identity, how to promote sustainable cultural tourism through the valorisation of architectural and archaeological heritage and landscape? The main goal of the Conference "Landscape & Archaeology " was to share and compare good experiences in several multidisciplinary working fields involving preservation and dissemination of landscape and archaeology heritage. In particular, how to make "smart" the management and the access to cultural heritage by supporting local communities in local heritage conservation. The main topics of the conference have been the following: 1) Smart Landscape; 2) Archaeology and digital documentation; 3) Smart Industrial Archaeology. More details on these topics are illustrated later.

Furthermore, a special session of the conference was dedicated to discuss the topic "Heritage sustainable valorisation and cultural districts", a theme which actually involves many kinds of public and private actors in Marche Region a good representatives of whom attended this special session.

## 2. Conference topics: contents and challenges

For the present issue of SCIRES journal, a selection of papers representing the most significant studies and challenges related to each topic of the conference have been selected.

### 2.1 Smart Landscape

In recent years, it seems possible to promote a local development based on tangible and intangible cultural values and ICT tools, increasing the competitiveness and attractiveness of rural, suburban areas and towns. This way cultural heritage and cultural identity could really become catalysts for creativity and innovation, and sustainable tourism as well.

The multifunctional services potentially provided by rural areas (environmental social and cultural services) represent an important opportunity for traditional rural areas and the new emerging contexts of peri-urban and urban fringes.

A new and interesting concept gaining ground in urban planning research concerns the "playable city", that is, a creative, homely and attractive city, which is able to captivate both its resources and citizens in a shared process of giving new meaning to its landmarks.

We are deeply convinced that the two features should be reasonably kept together in order to trigger effective and positive changes in local development, thanks the application of new participative processes both in studying and planning local landscape.

### 2.2 Archaeology and digital documentation

Smart archaeology is framed in a complex of activities regarding the whole process of conservation, enhancement and engagement of archaeological evidences. All these aspects are closely related. In recent times, archaeological remains have been involved in several kinds of investigation: from preventive archaeology to

excavation, to virtual archaeology or cyberarchaeology.

The seminar shared experiences of sustainable tourism and archaeological heritage protection and analysed partnerships among several subjects involved in dissemination and safeguarding activities (superintendents, research institutions, governments, sponsors, cooperatives).

A specific aim, in this research field, is to make archaeological science more accessible in order to improve its appreciation and engagement using digital tools (3D model, 3D reconstruction, VR & AR exhibition) as well as experimental archaeology. These kinds of technologies are effective for researchers or non-expert users for all kind of data and remains: single artefacts, archaeological complexes or cultural archaeological landscapes.

Due to EU policies on cultural and creative industries (Green Paper on the potential of CCIs), some approaches involve the digitalization and virtualization of archaeological heritage. According to the idea of archaeological landscape and evidences as heritage, new life can be breathed into cultural landscapes arising from new functions and values, and contributing to the sustainability of heritage.

### *2.3 Smart Industrial Archaeology*

Sprawling Italian landscape masks a complex of different layers (proto paleo-industrial, infrastructural, manufacturing plants), which are especially dense along the historical roads and the traditional networks of communication.

A careful restoration to preserve the identity of places in rural settings could provide an opportunity to these places for the renewal of a symbolic past – paper mills, kilns, mills, warehouses for goods, customs, etc. A renewed social, cultural and territorial context could help to stimulate tourism and preserve important aspects of the cultural landscape of many territories.

### *2.4 Smart Industrial Archaeology*

The use and re-use of cultural heritage nowadays address the challenges of economic impact and sustainable tourism. This kind of economic growth arose thanks to the increase in culturally centered business, which are firmly embedded within the territory and the local community. They are developing through new

management techniques, devoted to the tourism experience.

The discussion over strong and weak points of the extra urban cultural districts (E-UCD), especially prevalent in Mediterranean countries, was central to the “Landscape and archaeology” seminar. This concept is not exclusively rural, since it contains small towns, usually important in terms of heritage and tradition. Nevertheless, the countryside distinguishes itself for its valuable landscapes and traditional agricultural or food and wine productions. Furthermore, in recent years E-UCDs became destinations for cultural tourists, interested in a holiday experience that combines entertainment, culture, relaxation and fine cuisine. For this reason, the local supply has been usually developed towards tourism services and the organization of events.

Best practices often show a public-private partnership with some SMEs engaged in technology, cultural industry and heritage exploitation, developing the concept of cultural districts. Using landscape and cultural identity as a framework, the cultural districts can be a way of overcoming the fragmentation of initiatives and the multiplicity and geographical dispersion of bodies and institutions. Because regional and local development strategies have been successfully integrated in many areas, the En Route seminar aimed to: promotion of cultural heritage for business; development of cultural infrastructure and services to support sustainable tourism; clustering of local businesses and partnerships between cultural and creative industries (CCIs) and industry, setting up of innovation labs; development of cross-border integrated strategies to manage natural and cultural resources and the revitalization of local economies.

### *3. A papers overview*

A common subject among some papers is the collaboration with local community and public bodies. This is a link within various researches and, in our opinion, a benefit for works involving rural heritage, as in the case of the Volpiano farmsteads, or the archaeological one like Fano Town case. All these approaches aimed to both improve knowledges and understanding and to enhance heritage exploitation. In particular the paper “Integrated methodologies for the study, enhancement and sharing of archaeological



Fig. 2: Images from the conference and poster session at Fano (top), and indoor session at Fossombrone and Cagli

heritage: the ArcheoFano project” presents a valuable tool for scholars and managers: an archaeological GIS for acquired data storage and for easily navigating through the interrogation paths.

Some researches dealt a decision support system (DSS) for local communities (**Comollo, Roccasalva, Zich**), or ICT tools integrating urban development with socio-spatial equity (**Khromova, Costa, Erjavec, Pierdicca, Maliverni, Galli, Marcheggiani**). Furthermore, the paper "Industrial Heritage and rural landscape as tools of sustainable development: an Ecomuseum proposal for the Fabriano area" focused on integrated participative policies involving of local community and entrepreneurship, stressing the aim to valorise landscape assets through new ways of tourism such as experiential trips.

Along with authors the key challenge to face these issues lies on a wider concept of ICT. This latter should enhance heritage perception and public spaces livability through more committing experiences, making archaeology or landscape conservation more sustainable. This goal can be achieved especially through current tools or

cutting-edge technologies, if they are sustainable. Some, as in the paper "**Digital mapping for archaeological heritage**", aimed to verifying the potential of interactive representation techniques (including immersive shoots) and the possibility to identify new methods of spreading knowledge on cultural assets.

The added value is the definition of clear and re-usable protocol in digital documentation of mobile artefacts (**Puma**) or archaeological evidences and landscape (**Monterroso, Gasparini**). This last research faces the definition of ancient landscape through discovering the proper lane of the Roman road connecting Cordoba and Merida, starting from a metric and physic point of view. The paper "**The Digital Cultural Heritage- DigitCH Programme: experiences of documentation and survey for the smart fruition of archaeological heritage**" highlights the challenges in using representation as a real Information Architecture for interdisciplinary projects and guarantees validity for results and processes.

Some papers show a use of ICT and integrated survey techniques in searching new knowledge in complex heritage cases (**D'Auria, Strollo**) or in



Fig. 3: Images from the en route Seminar: the Forum Sempronii archaeological area and the Vespasiano Gallery at Furlo Gorge

definition of a digital key to understand the landscape (**Massari, Tava**). In particular, the first research upgraded the existing plans of Quintili's Villa, enhancing information for a deeper knowledge of the monument. The second one, shows relevant use of surveying and modeling tools to representation and design. Other contributions challenged new archaeological urban settlement (**Brienza, Caliò, Liuzzo**).

Transdisciplinary or multidisciplinary approach is very common in contributions of this issue, as in the case of the paper about Akragas that raises from awareness of great opportunity in using new survey instruments in their full potential and rigorous method, aimed at answering past historical questions.

The use of 3D models and data acquisition as a dynamic knowledge system is shown in **Bianchini, Inglese, Ippolito**. Starting from standard or well-consolidated procedures, they carried out specialized interpretation of several features of theatrical artefacts and obtained a comprehensive picture of analyzed object. Similar researches are improve the concept of 3D digital models as a restitution of the real object and as a metaphor for navigating through the data (Apollonio, Gaiani, & Benedetti, 2012).

In a similar way, the paper "**Understanding Ancient Design through Survey: Examples from Hadrian's Villa**" exploits high level accuracy reality based models leading to solutions for interesting outstanding about mixtilinear plan and vaulted spaces in Villa Adriana. This approach brings out critical models able to represent and share knowledge in architectural and

archaeological heritage, for example in comparison with treatises rules (Clini, Monterroso, Amadei, & Quattrini, 2013)

A quite similar and complementary approach is present in the paper "**Virtual models for archaeological research and 2.0 dissemination: The early medieval church of San Cebrián de Mazote (Spain)**", which highlights a large variety of paradata and metadata for models about Archaeology of architecture. Another addressed matter in this field is the sharing of theoretical guidelines for the useful implementation of 3D models.

This is common also in the research proposed by **Battini and Sorge**, which addresses the issue of accessibility and transparency of digital 3D model performing new tools of data and metadata management in a mobile environment, allowing VR experiences both for communication and for excavation management.

#### 4. Acknowledgments

The authors want to acknowledge the institutions in charge for the seminar: Centro Studi Vitruviani, Università Politecnica delle Marche, Uniscape, Università degli Studi di Urbino and DCE Flaminia Nextone. The Seminar Landscape & Archaeology was promoted in cooperation with: Fano Fossombrone and Cagli Municipalities. The authors want also to acknowledge the scientific and organizing committees.

The paragraph 1 is by Andrea Galli, the second is by Paolo Clini and the paragraph 3 is authored by Ramona Quattrini.

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