Impact of culture in the Florence smart city

Vito Cappellini

University of Florence
Department of Information Engineering
Italy
vito.cappellini@unifi.it

ABSTRACT: Several Culture Projects and Initiatives, started in Florence in the framework of a *Smart City Vision*, are presented. These regards: Digitization, New Platforms, Digital Tourism, Interactive Systems, Access to the Culture Content. The impact of Culture in important areas – as design, fashion, artigianal work, enterprises activities – is considered. The important developments of new *Creative Enterprises* is outlined.

1. INTRODUCTION

In Florence, Renaissance City, several Projects and Initiatives have been started and developed in last years, regarding Culture in the framework of a *Smart City vision*, as listed in the following.

2. IMPACT LINES

Some more significant developments are related to: Digitization, New Platforms, Digital Tourism, Interactive Systems, Access to the Culture Content. The line of development of Creative Enterprises is in particular considered.

1. *Digitization* of the Culture Patrimony.
   Many Florence Culture Institutions have started Digitization Activities since several years. One very important example is represented by UFFIZI GALLERY, where all Art-works are digitized at high resolution (UFFIZI-TOUCH) and 26 most significant ones are digitized at super high resolution. Quality aspects, regarding colour calibration and geometric distortions correction, have been taken in special attention. In other Museums, such as Bargello National Museum, 3D digital acquisitions have been performed.
   Biblioteca Nazionale Centrale of Florence digitized many books and documents, creating a Digital Library Section. ALINARI Archive photos have been digitized in a significant part, especially regarding the quite unique historical ones.

2. Developments of new *Platforms*, permitting the access to Culture Patrimony and other Town Resources (Shops, Artigianal Enterprises, Exhibitions, etc.).
   One significative Platform has been developed by CENTRICA Srl: UBILIA (www.ubilia.com). This Platform enables Citizens and Tourists to access the Culture Objects and other Town Resources from mobile devices (e.g. Smartphones, Tablets, I-pads) in an area extension of

several hundred of metres with respect to the position of the User.

3. *Digital Tourism.*

   In addition to the above considered Platforms (as UBILIA), some Activity Lines have been developed. Special Florence Tours are offered for visiting Museums, Culture City Institutions, Palaces and Churches. Visits to the many beautiful Villas and Gardens inside the City and around on the Territory have been promoted with special guides, using digital technologies. Informatic systems for monitoring Tourists access to the Town Culture Patrimony have been developed.

4. *Interactive systems* for visiting Culture Institutions (Museums, Archaeological Sites, Palaces, etc.).

   One Innovative Installation, just opened to Visitors (in February 2015) in Bargello National Museum, is represented by MNEMOSYNE System, developed – also in connection to an European Project – by Media Integration and Communication Centre (MICC)–University of Florence. The System was installed in the Donatello Hall containing many Art-works of Donatello. The basic concept is to follow each Visitor (excluding his face for privacy) with several TV cameras, recording his position in front of the Art-works. At the end of the Tour, the Visitor can see on a big horizontal touch–screen display all the moments of its visit, with possibility to have detailed data on the selected Art-works.

Indeed the Culture in a Renaissance City as Florence has several impacts in important areas such as: design, fashion, artigianal work, Enterprise activities. In particular a small Town near Florence, Scandicci, is fully devoted to Fashion with many hundreds of Enterprises. Other Towns, in the metropolitan area of Florence, continue to the develop innovative artiginal work activities. One special impact is represented by the Enterprises working directly in the Culture Area, such as ALINARI, SCALA GROUP and CENTRICA.

The Impact of Culture in the Florence area is to be regarded in synergy with other

Smart City developments, such as transportation, environment, healthy, energy supply, etc. to create for the near future a better life conditions for Citizens and Tourists.

3. CREATIVE ENTERPRISES

The Culture is also producing new Enterprises, "CREATIVE ENTERPRISES", as recommended by the European Commission in HORIZON 2020 ICT 17-2014 (Support the growth of ICT Innovative Creative Industries SME's): "Innovation Actions establish European Creative Industries SMEs Incubators to foster the development of innovative products, tools applications of services with high commercial potential leveraging on advanced ICT technologies".

In particular *Creative Enterprises* can be defined and implemented by using:
- Intelligent Training by Universities
- Culture Knowledge Capital
- Innovation and New Patents
- Financial Support.

The goal is to realize *innovative products*, which can be *competitive* in the international marketing.

A specific example of this new development line is represented by the Industrial District of Empoli, a Town at 20 km distance from Florence, where an Industrial Incubator Se.Sa Farm S.r.l.

was recently opened and new Start-Ups were launched such as INN-3D.

Under the control of SeSa Foundation, SeSa Farm S.r.l. has the goal to perform the *Incubation* and gives support to new innovative *Start-Ups*, with the promotion and realization of new models and working procedures such as *co-working*, offering the own competences, infrastructures, equipment and services.

One firstly opened Start-Up in SeSa Farm S.r.l. is INN-3D, regarding the development of new 3D Technologies:
- 3D digital acquisitions
- 3D digital modelling
- 3D digital representation
- 3D data protection and *anticounterfeiting.*

4. CONCLUSION

In conclusion, the impact of Culture in the Florence Smart City is quite significative!

In last years several cooperation Activities among Florence Smart City and other leading European Cities (e.g. Hamburg and London) were developed, also with participation to European Projects. In particular the Florence (Metropolitan Area) established with the Land of Hamburg in November 2014 an important Cooperation Agreement on "e.Culture Cloud", with reference to *Smart City Scenario*.

REFERENCES

[1] Cappellini Vito, "Uffizi Project", Giunti, Florence, 1999.

[2] Acidini, Cristina Cappellini Vito, "Reale e Virtuale nei Musei", Pitagora Editrice, Bologna, 2008.

[2] Cappellini Vito, "Nuovo Rinascimento", Polistampa, Florence, 2011.