# 19 „Smart Cities, the Future of Innovation and Creativity"

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Social and economic globalization is making the world 'more uniform', and cities are being seen as centres of economic attraction, that disseminate knowledge and culture and where talent and creativity can be cultivated and developed. Proof of this is that in 2008, for the first time in history, half of the world's population was living in urban areas, and predictions raise the percentage to 70% in 2050.

Therefore the paradigm of the city must be changed. According to several authors like Caragliu and Nijkamp 2009: "A city can be defined as 'smart' when investments in human and social capital and traditional (transport) and modern (ICT) communication infrastructure fuel sustainable economic development and a high quality of life, with a wise management of natural resources, through participatory action and engagement."

Department for Business, Innovation and Skills,UK 2013: "The concept is not static, there is no absolute definition of a smart city, no end point, but rather a process, or series of steps, by which cities become more 'livable' and resilient and, hence, able to respond quicker to new challenges."

Other key factors in a "smart" economy include retaining and attracting talent and fostering creativity. Cities are increasingly aware of the need to have well educated, creative and entrepreneurial citizens in order to be more competitive.

Today it is hard to imagine our life without the Internet. Proof of this is the fact that the percentage of Internet users in most cities (41%) is very high, ranging between 76% and 100%.
The use of ICT can contribute to preservation and promotion of the culture heritage in the widest possible terms. A knowledge society must make special efforts to transform its peculiarities and diversities into information and disseminate it by making use of the revolution in information and communications technology.

The rise of new Internet technologies promoting cloud-based services, the Internet of Things (IoT), real-world user interfaces, use of smart phones and, networks of sensors, and more accurate communication based on the semantic web, open new ways to collective action and collaborative problem solving.

Large IT and telecommunication companies such as CISCO, IBM, MS have developed new solutions and initiatives for intelligent cities as well. CISCO, launched the Global Intelligent Urbanization initiative to help cities around the world using the network as the fourth utility for integrated city management, better quality of life for citizens, and economic development. IBM announced its SmarterCities to stimulate

economic growth and quality of life in cities and metropolitan areas with the activation of new approaches of thinking and acting in the urban ecosystem.

This paperfocuses on the role that all these new technologies can play to protect, preserve and promote cultural heritage. Indeed a Smart cultural heritage, can be conceived as the identity of places through the implementation of smart technologies, knowledge and social inclusion, for total participation in the promotion of this so important aspect of our collective life.
The city's relationship with its past and with emergencies that occupy space should be seen in different temporalities and strata of the urban space, as an element of understanding of the dynamics, but also of the formation processes over time of the city's identities.

For example some Italian projects intend to define and develop an open platform for smart services for the cultural offer, that is very relevant for the dissemination of this information and the easier access to it. Specifically these projects aim to develop tools for enhancement and capitalization of cultural and environmental resources in a territory and the promotion and marketing of tourism.

These lines of action share a technological platform and social paradigm to create an ecosystem where companies, public administration, citizens and tourists and services are created involving all the stakeholders in social and cultural innovation.

The focus of these projects is to define and build an open platform for intelligent services for the cultural offering: knowledge about cultural heritage to offer to users, its fruition, conservation and preservation.
In Barcelona, the first city in the top of the smart cities 2015, the Local Digital Agenda model, continues to be an extremely useful tool to advance the goal of digital, competitive and collaborative cities in a structured and planned manner, while also advancing the Smart City Agenda.

But all this must be done with the people, must involve the communities and their participation, only this way we can have human smart cities where innovation and creativity are the essential contribution to the evolution of human civilization.
Cultural heritage and cultural entrepreneurship needs care and promotion to express their best potentiality which is that to be the most effective ambassador of peace and the right path for the social inclusion and a healthy society.
Technological and social innovation can make an invaluable contribution in that direction, if urban policies adequately consider citizens and their innovation and creativity capacity the most valuable resource, because they are the main actors of urban "smartness". This paper continues to use this expression Human Smart City as this concept is totally adapted to the structural idea of this paper and also in line with the concept of creating services that are born from people's real needs and have been co-designed through interactive, dialogic, and collaborative processes.

Co-creation initiatives should be the core of human smart cities stimulating local development, creating new business models and new apps, products, services and solutions and making use of the creativity of the human resources.

Indeed, the solutions for the big challenges of our time require not only innovative technologies but, above all, mass behaviour transformation of the kind that can only

be achieved through the involvement of people and the sharing of common visions and learn from each other to find the right path towards social and urban innovation.

In Portugal companies, clusters, universities, R&D centres, municipalities and other economic and social players acting in the smart cities market joined forces to create the **Smart Cities Portugal** collaborative platform leaded by INTELI.

The priorities for Smart Cities Portugal portal are "partnership opportunities" and "cities profiles and needs" were the top priorities according to the opinion of the partners and the application areas for Smart Cities solutions are: governance, mobility, energy, buildings, environment, quality of life, others.
In Portugal Smart cities market is not yet in a mature stage.
To accelerate the transition to a renovated urban development paradigm, it will be needed to strengthen enablers and removing market barriers. Overcoming these barriers will enhance the adoption of innovations, the deployment of smart city solutions and the enlargement of the market
Horizon 2020 will be one of the most relevant funding sources for smart city solutions deployment.

## 19.1 Bibliography

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