Opinions

Between Smart and Green
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For some time now, the growing success achieved by Smart Cities has caused us to re-examine exactly what we mean by sustainable city. Driven by the strong interest that animates the development of digital technologies and their application to cities, the Smart City tends in fact to expand and become all-consuming, absorbing into itself other lines of research on contemporary cities, everything from the sustainability to the transparency and the democratization of the processes of building the public choices.

The truth is that though the term Smart City is full of meaning it is still not well defined and continues unceasingly to evolve by re-articulating itself and adding levels of complexity, with the object of incorporating a great variety of apparently heterogeneous experiences. As is well known, the term was first used about twenty years ago by William Mitchell in his inaugural research in "City of Bits", developed at MIT in Boston. Originally it referred to the use of digital technology to improve the functionality and performance of the organisational systems on which the city depended.

Today, though retaining this technological matrix, the term has taken on a more inclusive meaning. It has tended to intercept a variety of other interests, some even outside those concerning the efficiency of organisational systems. In particular, it refers to the superimposing of the questions relative to urban sustainability, both from an environmental and socio-economic point of view. Above all it claims an important role in the management of critical resources, such as water and energy, interpreting in its own way a city which is environmentally sustainable, which we know refers to an urban system's ability to self-regulate its own vital metabolisms, reducing significantly the consumption of non-renewable resources; and to assess its "ecological footprint", through an evaluation of its environmental impact, understood as the amount of land necessary to ensure the vital resources to and to treat the waste generated by an urban population with its specific standard of living.

In essence, when one now speaks of Smart Cities they are referring to the use of a multiplicity of intelligent technologies that need Big Data, through which one aims to manage as efficiently as possible the several functions of the city. The availability of increasing powerful software tools has been decisive, because it now allows us to knowing control the multiple variables in play in the processes of urban transformation and above all the interdependency and complexity of the systems. The final objective is to induce positive modifications in the behaviour of the inhabitants and in the way they use their city, with the aim of increasing its functional efficiency, stimulating the transparency of processes and the participation of society at an extent that was unthinkable in the past.

The urban spaces on which Smart City projects concentrate are, above all, infrastructure spaces, in particular those regarding mobility, which lend themselves well to innovation attempting to reduce environmental pollution levels and increase the fluidity of urban traffic. There have been more limited experiments or single areas of the city which are set up for an assisted functioning of intelligent systems, above all with the aim of improving the efficiency of results, also regarding environmental sustainability (with the production of energy from renewable sources, an efficient management of water cycles, a rationalisation of waste collection and a high percentage of recycling and treatment). But on the whole the most important game is being played in the efficient management of an entire city, intertwining the productive cycles and

utilising resources that today are separate between them with evident dis-economies (water, energy, soil, mobility, food and urban waste).

All this is starting to come into play in the Italian situation. Here notwithstanding our attention is still mainly concentrated of the construction of single buildings, finally we have started on projects with wider dimensions, with new settlement units conceived so as to minimize the consumption of energy, soil and water.

From this point of view, the experience of the Trentino-Alto Adige Region, documented in this issue of EcoWebTown, is particularly interesting. After having given life to the most significant Italian venture into green economy applied to the building sector, this region is now opening up to a new season of development, in which it seems there will be a positive evolution of construction toward an "urbanism of the sustainability", though still without an explicitly smart aspect, it is now ripe for this leap in quality, the bringing together of strategies all aiming at common objectives.

This evolution was anything but sure. The Trentino-Alto Adige Region has always distinguished itself for the high quality of its buildings. Without really great architectures , but with a significant capacity to guarantee an enviable wide spread average level of quality which affects the settled environment in several ways. Instead, the results of its urban policy have appeared rather questionable, but fortunately reabsorbed without too much damage thanks to the exceptional mountain landscape that extends above the casual, unplanned expansion of the built-up areas which has been responsible for the fraying and disarticulation of the existent urban centres. One hopes that the recent interest in questions regarding urban sustainability resolve themselves into a significant improvement in local urban planning, a move which is already occurring in the cities of Bolzano and Trento.

Some thoughts to sum up, the convergence of Smart and Green, with the virtuous entwining of their respective lines of research is proof of the appropriateness of our magazine, EcoWebTown, but it also brings up questions for which we have not yet discovered thorough answers.

We have a relatively right idea of what makes a city "sustainable". As synthetically as possible: from an environmental perspective, its capacity to drastically reduce its consumption of non-renewable resources, activating virtuous processes to recover and recycle what is used in the metabolism of the urban complex; from a social perspective, the capacity to include socially heterogeneous populations, reinforcing the links of interpersonal and social cohesion; and finally from an economic point of view, the capacity to offer adequate job opportunities (in particular to the young), a decent salary and, more in general, conditions that satisfactorily attract external investment.

But we are not equally well informed on what "being smart" means, that is, apart from the instrumental application of digital technologies and big data. Certainly, the enormous complexity of urban metabolisms to be regulated, with the goal of reducing our wasting of non-renewable resources, can only be handled with sophisticated tools, made possible by more and more powerful software. At the same time, the spread of the processes of informed participation in the management of the urban environment is made possible by the sharing of smart technologies, through the productive use of social networks and of other networks which connect the users of urban services. But there is still much to invent, to increase urban systems' endogenous abilities to govern their own evolution, for example toward the goals of environmental and social sustainability together with economic competitiveness which the EU has set for its cities at the threshold of the new century.

Intuitively, it might be useful to ask ourselves what is missing from our cities to make them really smart.

We know that Italian cities, especially medium and small ones, generally possess an enviable historic-cultural heritage as well as offering a quality of life that reaches its highest level of experience in taste and beauty that often permeates in a pleasant way even the meeting spaces and other spaces that interact with the public.

However, we understand that in general there is a relative absence of the ability to manage publicly the complex organisational systems on which the modern efficiency of the urban machine depends, in particular when limited by the increasing scarcity of public investments caused by the Great Recession gripping Italy and Europe. The difficulty of living, working and moving is exasperated, nullifying the enormous potential these cities have as compared to other European cities and so Italian cities have progressively lost ground as respects other cities which are more enterprising and better equipped to manage the innovations of modernity.

Can smart technologies, if well implemented, be the determinant contribution in improving the level of functionality and overall livability of existing cities? The expectations – and the relevant promises made by the big players in the game – are notable, and the direct interest taken by the EU, in particular by the dedicated financing for the next seven years for their development, argues in favour of a positive outcome of this gamble.

Then only time will tell if the ICT market will be the only ones to benefit or if the cities will effectively become more livable thanks to their smartness.

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