

## EWT/ Eco Web Town

Magazine of Sustainable Design

Edizione SCUT, Università Chieti-Pescara

Registrazione al tribunale di Pescara n° 9/2011 del 07/04/2011

ISSN: 2039-2656

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## Editorial

### EcoWebTown and Innovation

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An important issue of our magazine is a critical interpretation of key concepts in the new culture of sustainability sensitive urban design, equipped with new digital smart technologies.

The stakes are high and have now become transversal. EcoWebTown is not the exclusive preserve of architects, urbanists, technologists, engineers and ecologists. Increasing numbers of important innovative impulses are arriving from other sectors, in particular from the economic and social sciences. These are outdoing themselves to elaborate new paradigms that synthesize a variety of themes that were formerly disjointed but are now coming back together in the perspective of a smart green economy.

A significant example is a recent essay by Donolo and Toni published in the *Rivista Economica del Mezzogiorno*, which concerns the new possibilities of sustainable development associated to the application of smartness to cities in southern Italy (Donolo, Toni, 2013).

Referring to Nijkamp's interpretation (that a city is smart when human and social capital investments and the traditional communication infrastructure like transportation and modern ones like ICT aliment sustainable economic growth and an elevated quality of life, including a wise use of natural resources and a participative governance) (Nijkamp, 2011), these authors apply an ongoing progressive emancipation of a concept born in telecommunications, which has now been extended to sustainable development and the green economy, but it also includes themes like improving human capital and capabilities as these were defined by Sen and Nussbaum.

So ICT technologies are no longer the vectors of the new economy as set out by the optimistic though unfounded approach of the end of the last century, but they seem rather to find themselves redefined as "one of the drivers of a new society in which cities are intelligent and propulsive hubs of a plurality of policies and strategies, rendering the transition from a system which is highly dissipative of natural resources toward a different, much more dynamic, efficient, circular, system rich in knowledge and new articulations, capable of pursuing sustainable development and the wellbeing of citizens, beyond their consumption and GDP, that invests in the capabilities of social relations" (Donolo, Toni, op. cit.).

So an intelligent and sustainable city becomes a city that insures material *wellbeing*, *quality of life* and *environmental quality*, GDP can no longer be considered a satisfactory and exhaustive variable when measuring sustainable development in the cognitive framework used to define these articulations of the concept of development. Wellbeing depends on a variety of aspects such as: the material standard of life (in turn a function of income, consumption, wealth), health, working conditions, effectiveness of government, social relations and inclusion of diversity, insecurity and the environment in which we live, whereas quality of life tends inevitably to reflect the subjective perception that each single citizen has of his or her housing condition and level of satisfaction. All these questions seem intractable when using the rather rough indices with which we usually measure a city's or for that matter an entire country's level of development.

The need to innovate has become a necessary consequence of this new vision of development that is based first on preserving our stock of finite resources, with an approach which is at the same time sober and pervasively oriented toward sustainability. In this way the green economy tends to be defined as a "low carbon economy that helps fight climate change, and seeks an efficient use of natural and human resources, from controlled mobility to renewable sources, from care for the environment to recycling and reuse of waste products and the parsimonious use of water" (Donolo, Toni, op. cit.).

Innovation must be treated in a more totalizing way than the original formulations of smart theory derived from system engineering. In fact in this context the triple helix model introduced to analyse innovation processes based on knowledge, as they were theorised by Deakin and mentioned by Donolo-Toni, identify

three decisive drivers for the creation and exploitation of new areas of knowledge; scientific research, industry and governance. Consequently a smart city is defined as “a place with a densification of networks in which activities and knowledge come together”. Now instead it seems necessary to open to a “more civil” society, a fourth helix, by means of which “civil commitment enriches the cultural and social endowment, determining an interaction between research, industry and local government, rather than one which has been caused”.

Across the board innovation is what's at stake in the sustainable and intelligent development model evoked by Donolo and Toni's essay, and more in general the basic principles of urban projects sensitive to sustainability issues which are the base of the program of EcoWebTown.

Reinterpreted from the architecture and urban planning point of view, this innovation is to be articulated into several registers, but all, in various ways, are concurrent with the necessary changes to the intervention strategies we are carrying out on our cities. The four helices of innovation take different characteristics depending on the specificity of the sustainable development as it is interpreted by the particular project's culture .

In fact the first important aspect of this innovation involves transforming the *types and morphologies* of the urban spaces to those inspired by the principles of environmental sustainability, specifically in regard to the strategies of the architecture, urban planning and technology (Di Girolamo, 2014).

Equally important are a transformation of the tools and the processes of the interventions to return them to a holistic vision of the urban metabolisms, considering the overall variations in the urban ecosystem's inflows and outflows of resources. The variation should tend to zero in *self-balancing eco-districts*, characterised by a relative self-sufficiency in their consumption of non-reproducible local resources (water, energy, soil, green and biodiversity, with agro-alimentary goods that create solid waste to be disposed of locally) and by containing climate-changing emissions, thanks to systems for their reuse and recycling that should be increasingly implemented as we move toward sustainable cities (Clementi, 2014). Furthermore it should be evaluated continuously with monitoring instruments that utilise big data in real time. This has become possible with smart technologies and this investment must be made if we want to improve the performance of cities.

Again, it is *the way in which space is considered* and the urban condition itself that needs substantial innovation, we must all join in sharing responsibility for a style of life and consumption that is less dissipative of resources and more careful of waste management with the declared objective of avoiding wastage and much higher environmental costs, either of which are incompatible with the philosophy of sustainable development. Each item somehow related to the theme 'quality of life' as evoked by Donolo and Toni, and conditioned by the subjective perception of personal satisfaction, but in this case all tend to reaffirm a leading role of individuals and of society, with the emergence of new ways of using space and processes of symbolic production that appear indispensable when we affirm the new sustainability-oriented culture.

Finally, we come to the innovation of our systems of governance that should facilitate the conversion of our current cities to more sustainable models. Here the theme impacts first the capacity of our local government institutions to organise and their willingness to adopt strategies and instruments that will be effective in improving the performance of our cities and at the same time decreasing their consumption of non-renewable resources. However this also requires the active participation of the local population who, covering various roles, can contribute to the policy's success, both as possessors of specific knowledge and creative capacities, and as supporters of the sustainability goals, within a wide vision of deliberative democracy. That's a solid field of application of that principle of capabilities advocated by Sen and Nussbaum, particularly in reference to sustainable development. One should note that at any rate a substantial helping hand will be required from smart technologies to create the public policies capable of learning, also quantitatively, from their effects, and above all facilitating an “informed” consensus that qualifies the citizens' participation processes, involving both individuals and collective groupings.

Of all of the questions we have mentioned so far, one finds little trace in the experience of Mexico, at least from what was sent in by the representatives of the local Order of Architects who have contributed to this issue.

The Mexican situation shows a marked attention to the social issues of sustainability, not that different from what we encountered in Brazil in an earlier issue of EWT. The centrality of the issues connected to inequality and the precarious urban conditions of wide swathes of the population inhabiting the increasingly large and chaotic metropolises obviously conditions the architecture agenda, meritoriously making it consider the social demand for low cost housing and in a wider sense citizens' right to their city which seems to absorb the several articulations of the concept of sustainability, though at the same time apparently downsizing the ecological approach which is so important in Europe.

We remain with the impression of a project culture which is still not open enough to the confrontation with the multiplicity of sectoral approaches that converge to form sustainable policies, preferring to remain in the furrow of the principles of modernity that they pioneered, defining a century ago “the rediscovery of natural conditions” which still today seems to maintain its relevancy in governing the city's form. But perhaps the time has come to take back the initiative and to enrich the world of innovation in which at the moment we find mostly sociologists and digital communication engineers.

Innovation is the engine for economic development in today's society and in particular for sustainable development. So far architecture and urban planning have not played leading roles, let us hope that they will mount the stage again, bringing their contribution to creating a more satisfying quality of life as happened at the beginning of modernity.

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*Eco Web Town, n. III 2013*