SOCIAL AND CIVIL STAKEHOLDER GROUP

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Smart Cities require innovative governance approaches to facilitate the increasingly self-initiating civil society and to exploit the potential of ICT. City policymakers need to revisit the approaches they adopted to combat urbanization challenges. Traditionally, the provision of urban infrastructure and services to meet people's basic needs, local economic development and environmental protection has been the exclusive province of the public sector. But Urbanization dynamics have evolved over time and call for a transition to a more collaborative approach enabling the private sector, civil society and academia to participate and be a partner in bringing about the desired transformation. This calls for new roles, new skills, new cooperation and new policy models.

The participants in the VRT are key note representatives of two major European networks (Eurocities[1], Urban Europe Stakeholder Involvement Platform[2]). Main findings in this VRT refers to the fact that there is not one transition pathway towards sustainable development and that cities need to drive towards a more open and experimental approach as well as innovation does not only manifest in urban infrastructure but also requires changes in urban governance!

Paola Clerici Maestosi *The development of sustainable and energy-efficient "smart cities" appears to be the way to move the energy system towards a more sustainable path and to limit the drastic increase in urban energy consumption associated with CO_2 emissions. Do you think this is the only way?*

Margit Noll Urban areas are responsible for approximately 40 percent of the CO_2 emissions worldwide. Given the fact that over 50% of the world population lives in cities we have to acknowledge that urban areas actually have one of the biggest potentials for reducing CO_2 emissions. For meeting the sustainability goals cities play a key role. Transforming our urban energy systems by increasing the share of renewable energy and enhancing energy efficiency is an essential aspect in this regard. However, the potential of such transitions and new technological solutions can only be fully exploited when considering aspects of behavioural change, the socio-economic consequences of "smart city" approaches or the resulting demands for urban governance and management.

Nikolaos Kontinakis Tackling the energy system issue is an important factor for implementing sustainability targets in cities. Nevertheless, we should not forget the high costs of intervening in the existing built environment and the complex business models involved that - practically - are hindering a substantial energy transition. In addition, total energy consumption in a city depends in energy consumed for public infrastructure and transport, the second one proving to be especially resistant to any short - or midterm solutions. In Eurocities we try to help cities tackle these challenges through initiatives like the Covenant of Mayors, the Green Digital Charter, the European Mobility Week, etc.

Paola Clerici Maestosi *The best way to prepare for smart cities in the future is not by trying to predict what exactly the cities will be like, but rather by making way for different possibilities. Do you think that research and innovation network adequately support this approach?*

M.N. Yes, there is not *the* one transition pathway towards sustainable urban development. Cities have to develop their specific strategies according to their characteristics, their specific situations defined by, amongst others, geographical, social, economic, cultural, infrastructure dimensions. Thus, there is a wide range of urban approaches, strategies, targets and stakeholder interests defining and influencing transition pathways. Such strategies are often developed and implemented in parallel, some of them reinforcing one another, others competing or conflicting. While many cities for example have laid out their "smart city" strategies, the interrelationship with and mutual influence of their "digital agendas" should not be neglected.

In this sense, research and innovation is needed to create evidence not only for specific transition pathways but also to create

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knowledge regarding the interrelationship of different strategies and pathways. Research and innovation networks can provide important environments to share such experiences, validate good practice solutions against different urban situations and to improve our understanding of urban transition pathways. To create robust evidence on all these issues the involvement of stakeholders and societal actors is increasingly important. Research and innovation can act as a facilitator in this sense, connecting different stakeholders, co-designing new solutions and by that enhancing its impact.

N.K. I wouldn't consider the first sentence as granted. With regard to innovation management it seems that, indeed, cities need to develop a more open and experimental approach. In general, though, the discussion of how much of the future cities should plan or facilitate and enable is still open. Experience shows that many of the needs and reservations coming from the citizens can find their way via typical city, state or European functions like planning and regulating. Even more important, these organization can facilitate the creation of local ecosystems in some form of triple/quadruple helixes.

In this sense, research and innovation networks are not able to support this approach alone. They need to be part of the wider ecosystem that brings together not only the R&I sector (by definition a proponent of innovation and experimentation) but also industry, public organisations and citizens as the final users and beneficiaries of the future cities. Working with major European cities for many years and through our peer-to-peer activities we have tried to exhibit the virtues of such an approach, especially to cities that struggle to catch-up and create innovation networks and ecosystems.

Paola Clerici Maestosi *How legitimate for municipalities the use of innovative ICT technologies to implement social processes and municipality tasks?*

M.N. Urban transition does not only manifest in urban infrastructure investments but also requires changes in urban governance and management. The need to involve stakeholders and society at large in urban transition process is widely acknowledge. This consequently results in changing roles of city administration, the development of new public services, anticipating new business models.

The new dynamics of public services and the involvement of civil society in urban processes are taking new forms which facilitate the opportunity to a new set of play in governance. The top-down and bottom-up approaches are changing, leading to participatory and co-creative approaches which have the potential to address and solve pressing urban challenges. Manifold efforts

are taken to enhance society's ability to act and to identify new ways of engaging civil society and urban stakeholders in urban discourses for ensuring a continuous dialogue. Digital technologies, advancements in low-threshold ICT solutions, the spread of social media use, all this creates potential for involving societal actors and communities in urban development. Many research and innovation projects are exploring the potential of new digital technologies and tools to drive behavioural change, let civil society participate in urban planning and development and create new partnerships among urban stakeholders.

N.K. I don't see why innovative ICT technologies are different from any other type of technologies used by local authorities. In all cases, the latter needs to examine and determine two parameters: (1) what is this technology will bring to the city and the citizens - results, benefits, possible problems or new exclusions, etc. and (2) what are the conditions to use this technology - cost, the legal, privacy and security issues, contingency planning in case of negative outcomes, etc. Of course, the results of innovative technologies are sometimes hard to predict, that's why early adopters of innovative ICT technologies need to have a truly agile mindset and approach.

Paola Clerici Maestosi *How do you renew the municipal organization in order to implement new cooperation and new policies model?*

M.N. Sustainable urban development calls for integrated urban governance. As mentioned earlier the interrelationships of different targets and strategies can on the one hand provide synergetic potential for boosting transitions but on the other hand mutually hamper progress towards sustainability. New business models are emerging for services for the public. New forms of cross-sector cooperation within the municipality and with stakeholders are consequently needed.

To develop such cooperation or governance models Urban Living Labs is seen as a promising method of social innovation and co-creation. Urban Living Labs are experimental areas where municipal organisations, researchers, civil society actors and business can work together to co-create and test new solutions and policies. Manifested in physical spaces they support the establishment of urban innovation eco-systems. Such transdisciplinary and co-creative research and innovation support also the development of new models of urban governance.

N.K. Eurocities has developed many networking and peer-to-peer learning activities that aim to help and support cities in adopting new cooperation models that suit the current challenges and opportunities. Eventually though each city has to evaluate its starting point and priorities and select the methods it will use and the speed of change that better serves it.

Paola Clerici Maestosi *How smart city plays a key role in promoting innovative and sustainable economies or processes of economic transformation and sustainability?*

M.N. According to estimates of Roland Berger the global market for smart city solutions is expected to expand by 13% per year over the coming decade, from just under USD 13 billion in 2017 to a forecast USD 28 billion in 2023. At the same time we are all aware that business models and urban economies are changing - citizens are no longer just end-users and consumers, but becoming prosumers, providing data and content, taking new roles in the smart and sustainable city. Social entrepreneurs, community-led initiatives, new partnership models in delivering business, all such approaches are contributing to creating new urban economies. Many of these developments are enabled by digital technologies through which a much wider potential for economic transformation is created.

N.K. By definition, one of the aims of a smart city is to create a growing economy or an economy that does more with the same. In my opinion, this second part seems to be the promising for the moment. Under the labels of sharing and/or circular economy, the reduction of idle infrastructure (e.g. cars, roads, built spaces, etc.) or the minimisation of waste can offer quick wins with the use of existing technologies.

Paola Clerici Maestosi *Which key stakeholders and key actions better deploy transition to smart cities?*

M.N. As experiences demonstrate we need all stakeholders on board to realise urban transitions. None of the actors - municipalities, business nor society - will be able to achieve smart or sustainable cities without support from the other stakeholder groups. Municipalities have of course a key role in driving change through their investment decisions, the implementation of new public services or innovative governance models, in many cases based upon innovative products and business solutions. But as urban transition pathways impact people's everyday life and thus depend on their choices regarding mobility, energy use, consumption, etc. society needs to act accordingly. In this sense one of the key issues is to understand how good practice cases can be mainstreamed, how living lab experiences can be exploited in a wider scale.

N.K. We need to invert this question and ask if a transition to smart cities is possible without the participation of some stakeholders and the answer is negative. The development of a smart city can be described in both terms of process and outputs. All key stakeholders of a city need to be on-board if any successful transition is to be realised. The recent examples of the smart specialisation strategies or the digital transformation blueprint give proof of this. In both cases, no single stakeholder is identified as more important than the others but all of them are identified as necessary ingredients for success.

NOTES

[1] Eurocities is the network of major European cities, founded in 1986. Today, Eurocities brings together the local governments of over 130 of Europe's major cities from 35 different countries, representing the interests and needs of 130 million citizens.

[2] JPI UE SIP comprises a wide spectrum of urban stakeholder involved, thanks to CSA EXPAND, in the co-creation approach of JPIUE Strategic Research and Innovation Agenda.

[3] Berger, R. (2017), Think: Act. The rise of the smart city, available at: https://www.rolandberger.com/en/Publications/pub_smart_city_smart_strategy.html