Lessons Learnt in Competition and Regulation in Network Industries That May Be Relevant for Smart Cities

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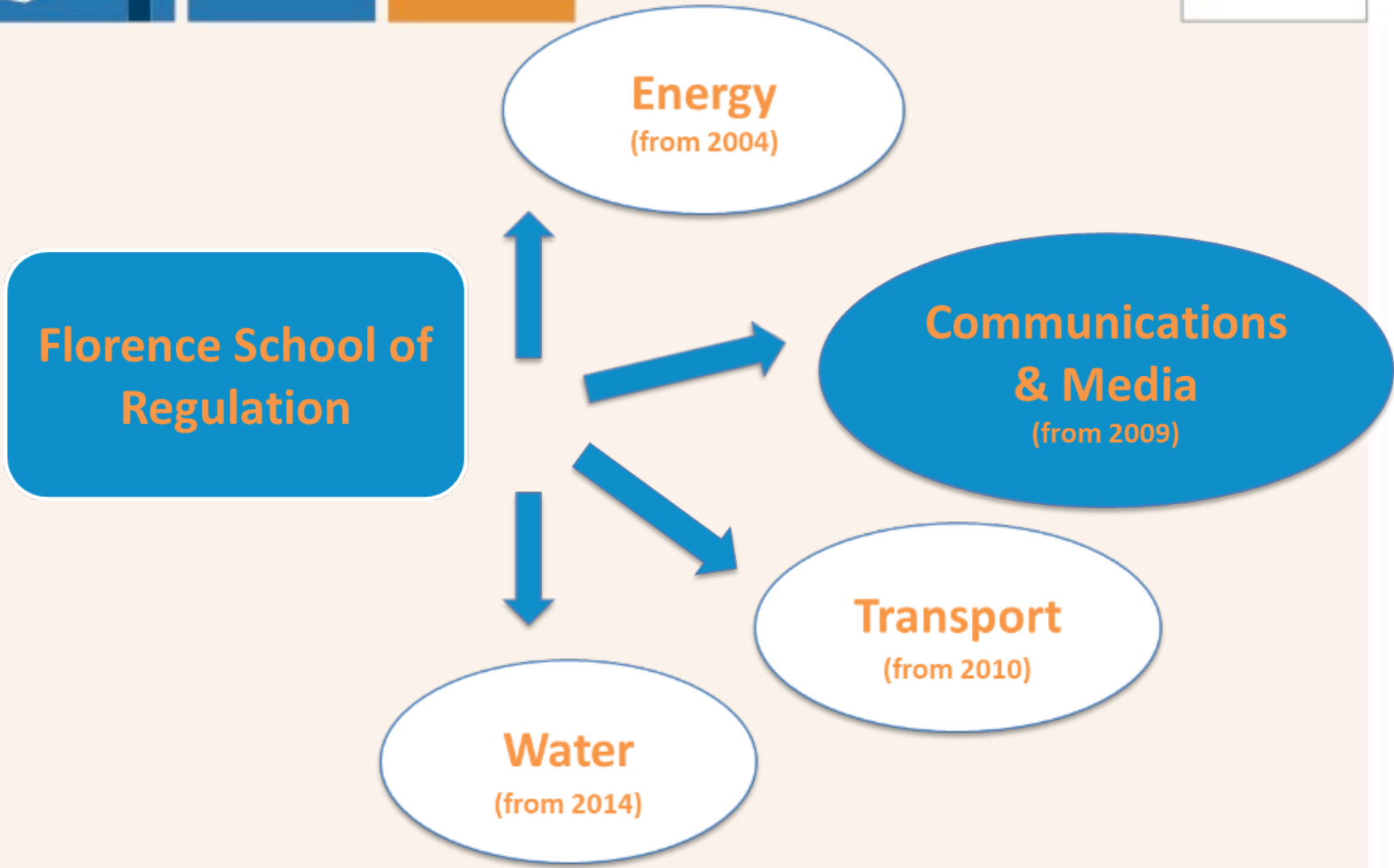*Director of the Florence School of Regulation*
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The FSR Annual Training - Overview

After the first five editions, the FSR Annual Training programme («**Business Models, Innovation and Regulation of the Digital World**») has been reshaped to take into account the changes brought by the Internet.

➢ Participants are provided with the most up-to-date expertise.

➢ The Training is held every year from October to April. It consists of a residential part divided into four blocks and online tutorials/e-learning activities carried out through a dedicated online platform.

➢ It is open to officials from National Regulatory Authorities (NRAs), the European Commission, representatives from private companies and academics.

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What is a Smart City?

❖ *"A city is smart when investments in human and social capital (smart people), traditional transport (smart mobility), and modern digital infrastructure (ICTs)* **fuel** *sustainable economic growth (smart economy)* **and high quality of life** *(smart living), with a wise management of natural resources (smart environment) through participatory governance (smart governance)."*

(Giffinger et al., 2007; Nijkamp and Kourtit, 2011)

➤ *Clearly, there are multiple possible interpretations of how a smart city could be defined.*

Why Do We Need Smart Cities?

➢ **In Smart Cities, digital technologies translate into better public services for citizens, better use of resources and less impact on the environment**

➢ **There exist several different types of initiatives that are part of a Smart City project.** The most typical components deal with urban mobility (e.g. traffic management); energy efficiency and sustainable management of resources (e.g. smart energy grid); other "social" actions (e.g. public safety, health, environmental protection, education)

➢ **The concept of efficiency is key**: a smart city is a place where the traditional networks and services are made more efficient with the help of digital and telecommunication technologies

How To Realise a Smart City?

The realisation of smart cities is a matter of interaction and collaboration between different players.

➢ Since different industries are involved in the process, a cross-sectoral approach is required. Furthermore, the process calls for close collaboration among the (often different) regulators

➢ It is necessary to deal with both public and private sectors industries and initiatives

➢ Since the promise is to offer better services to the citizens, their direct collaboration and involvement is often required to achieve this purpose.

The Need for a Holistic Approach

➢ A successful process involves spatial, temporal and technical coordination of **diverse policy areas in different domains (i.e. transport, energy and ICT)** and planning resources to achieve defined goals using specified (financial) instruments both for short- and long-term actions

➢ Its success calls for the inclusion of governmental and non-governmental players, private sector, and citizens

Thus, adopting a holistic approach is key to overcome the challenges posed by specific regulation and requires integrated planning and common management of problems

Shaping Policy
and Regulatory Interventions

➢ Fragmented intervention would mean single smart elements, but not a smart system. A smart city model requires intervention in a large number of sectors

➢ **The *fil rouge* of this ecosystem is connectivity**

➢ For the functioning of the mechanism as a whole, l**ocal authorities need to elaborate an innovative approach for solutions covering all the aspects together**

In order to become smarter, cities therefore need a unitary policy and regulation.

Main challenges associated with the realization of smart cities

➢ Cities and authorities often start from stand-alone projects, which involve only specific parts of the municipal administration

➢ Specialists tend to focus on their respective areas, and are less open or prepared to collaboration across thematic borders

➢ Private companies are hesitant to invest in new technologies and infrastructure where there is policy uncertainty and limited technology integration

➢ Citizens often mistrust authorities and politics in general and are or feel not involved in the decision-making process

Other Critical Issues to Be Tackled

➢ Technical requirements need to be shaped on local needs (no one-size fits all)

➢ Potential overlapping and conflicts among different fields of law or regulation might create an environment hostile to innovators. The frictions may derive from a misalignment between the rules developed for traditional ways to provide and consume goods and services at the local level, and new models that are enabled by technological developments

➢ Essential need of a policy for effective data gathering and use and we are definitely discussing the use and processing of big data

➢ Protection of fundamental rights has anyway to be ensured (e.g. data protection and privacy)

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Smart City Model (i)

From an industrial perspective, one could expect three main models:

➢ **Smart City Model no. 1**: **The public authority takes the lead**

  ➢ Potential issues include not only budgetary but also technical constraints, i.e. smart projects are highly technological, thus the implementation requires sophisticated competences, this model can be slow in learning and adapting

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Smart City Model (ii)

➢ **Smart City Model no. 2: One or more traditional market players take the lead**

  ➢ Potential issues include the adoption of an approach that may be too vertical/sectorial, and as such, exclude relevant industries. The first "mover" in this model may also affirm itself as a platform and endanger competition

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Smart City Model (iii)

➤ **Smart City no. 3: A "new" business player takes the lead**

  ➤ Generally speaking, the less a player comes from a traditional vision of the industry the more it may be able to provide innovative technological solutions. Possible challenges are represented by the risk of offering disruptive solutions losing generality

  ➤ One player might be in charge of all of the infrastructure upgrades that are needed to realise a smart city (and as such, become the one-stop shop for the local authority and other industrial players).

Smart City Models: summary

➢ In this scenario, it is very likely that in the smart cities issue the winner-takes-all dynamic raises and, as a consequence, lessens the incentive for traditional operators to upgrade their infrastructures

➢ **The possibility for the establishment of a single dominant solution is also a concrete element of risk for long-term market contestability and continuous innovation**

➢ New "gatekeepers" in the markets **should** be exposed to the rule of special responsibility and the **full control of competition law**

Lessons Learnt from Competition and Regulation

➤ Ensuring a level playing field for actors is essential: firms providing similar products or services should be subject to similar rules

➤ Technological neutrality and interoperability are suitable elements that can be used to overcome market foreclosure

➤ When economic regulation duly takes into account market dynamics, bottlenecks can be removed or at least effectively controlled

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Lessons Learnt from Competition and Regulation

➢ Smart concepts often require the use of new and innovative technologies. Research and development is vital, but at the same time costly and risky for private companies

➢ It is necessary to graduate the use of all available instruments (e.g. innovative procurement, State Aid rules, regulatory policies and competition law) in order to incentivise companies to invest in innovation

➢ Flexible and modern economic regulation, that takes into account incentives to risk, might act as an enabler for innovation

➢ Legal certainty represents an essential element for attracting private companies' investments

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Competition Policy Challenges

➢ Single industry players, e.g. telecommunications companies, may present an overall offer that covers several different opportunities, thus guaranteeing a horizontal platform for the cities (see smart city model no. 2)

➢ The winner-takes-all dynamics may create general barriers to entry. It has been shown that online businesses have been able to enter the market and to gain an almost monopolistic position very rapidly, making it quite hard for potential new entrants to compete (see smart city model no. 3)

➢ Gatekeepers position, of any origin, may have a negative impact on market dynamics and on future innovative capacity

State Aid-related Concerns

➢ Methodology for State Aid evaluation can suggest new specific issues in determining which types of aid are compatible with the common market in the case of Smart Cities

➢ Risk of discrimination may be associated with favorable preferential treatments when not contrasted by the application of State Aid rules (see smart city model no. 1)

➢ Compliance with EU State Aid rules and the application of the principle of technological neutrality may be sometimes challenged by measures requiring infrastructure upgrades

Main Conclusions

➢ **Smart cities represent a complex but important phenomenon**

➢ **The different models may present specific risks**

➢ **Competition and regulation should be used as a toolbox: choice of the tools that better fit the problem at stake on a case-by-case basis**

➢ **Competition and regulation cannot solve everything but their lessons cannot be disregarded**

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Many thanks for your attention!

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Back Up

Background to the EUI involvement

What are the main actions undertaken at the EU level?

➢ The EU is investing in ICT research and innovation and developing new policies in order to make cities more sustainable and improve the quality of life of citizens in view of the 20-20-20 targets.

➢ The Smart Cities and Communities Initiative was launched by the European Commission in 2011 to boost the development of smart technologies in cities. In the first year (2012), € 81 Million has been earmarked for this initiative, covering two sectors: transport and energy.

➢ Starting from 2013, the budget has been increased to € 365 Million, covering three areas: **energy, transport and ICT**.

➢ Each and every demonstration project financed under the new scheme must combine solutions for all the three sectors.

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Present EIP-SCC: Core Definitions

➢ *The European Innovation Partnership on Smart Cities and Communities* (**EIP-SCC**) aims at fostering the roll-out of smart city innovation at large scale by pooling research resources from energy, transport and ICT. The EIP-SCC is in full implementation mode: the third **2016 General Assembly** has taken place on 24 May, 2016 in Eindhoven, the Netherlands.

➢ The **EIP-SCC** Marketplace provides a opportunity for stakeholders in Europe to communicate, exchange ideas as well as knowledge and solutions for cities and to meet with potential partners on innovative projects. It brings together cities, industries, SMEs, banks and other smart city actors.

The eGovernment Action Plan and the completion of the DGM

➢ On 30 October, 2015 the Commission launched an online public consultation to seek views from EU public administrative bodies, citizens and businesses on a forthcoming eGovernment Action Plan 2016-2020 for the completion of the **Digital Single Market**.

➢ The results, which have been published in April 2016, confirm the need to do much more to improve eGovernment services in the EU, at national and EU level.

➢ **This has strong implications for all smart cities projects**