

## CHAPTER 6

### Public Contracts and Smart Cities

BY

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#### *1. Introduction*

We, all the contributors to this book, could certainly give examples of how, in our own jurisdictions, technological changes suddenly brought about significant evolutions in the law of public contracting. French students learning administrative law of contracts soon hear a reference to a famous case of 1902 in which the Council of State ruled that a municipality which had entrusted a private company with the public lightning using gas could impose on this company to move to electric lightning, since this technology had become available and appeared to be more convenient: in case the company would refuse, the municipality could terminate the contract and choose another contractor.<sup>(1)</sup>

Due to technological innovation, the functioning of our cities (*i.e.*, becoming ‘smart’), is certainly in a phase of profound transformation. The purpose of this chapter will be to make some suggestions about the changes this transformation may induce in the legal arrangement of public contracting.

We will first try to identify the main lines of transformation which are caused by the ‘smart city’ revolution in the functioning of cities (*see* Section I, below), then point to some related consequences already perceptible in contractual procedures and regimes (*see* Section II, below), and finally propose some assumptions about what could be some long-run consequences on categories of contracts made by local authorities in the context of urban management (*see* Section, III, below).

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(1) Conseil d’État, 10 January 1902, Compagnie Nouvelle du Gaz de Deville-lez-Rouen.

## **2. Transformations Induced in Urban Functioning by the Evolution Towards ‘Smart Cities’**

There is not one and only way of defining the ‘smart cities’ movement; nevertheless, it seems possible to assert that it is the product of a triple set of transformations in the practical functioning of cities: (2) a transformation of infrastructures, the growing importance of digitalization and data, and changes in governance.

### 2.1. Transformation of the urban infrastructure

Generally speaking, what is in motion in ‘smart cities’ is an overall advance in urban functions and services caused by new technologies, which provide new solutions to the old problems which have been poisoning the urban life for so long: traffic congestion, air pollution, lack of security, and the like.

‘Smart cities’ technologies manage to improve the urban functioning by modernizing the existing urban services and by creating new ones, (e.g. shared mobility, new types of communications).

At the same time, the ‘smart cities’ evolution transforms the urban infrastructure by enriching it with new developments (e.g., new communication tools). It also has the tendency to impose a growing interconnection between its various component parts (*i.e.*, the water distribution infrastructure conveys data which are valuable for the prevention of floods, the urban furniture is essential for dispatching information, and so on).

Relatedly, the urban infrastructure is nowadays capped by a digital ‘meta-infrastructure’, which is essential to its interconnection and its coordination.

### 2.2. Digitalization and data

Data are the real fuel of ‘smart cities’. In the latter, firstly, an enormous quantity of data is constantly created or collected. Some of those data are elaborated in a sophisticated way by the various parts of the urban infrastructure, others are simply traces left in captors (e.g., the traces our mobile phones leave on the operators’ computers each time we pass close to one of their relays). One of the important facts in digitization is that the collection of data in “smart cities” is made by both the private actors and the public ones.

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(2) A. TOWNSEND, *Smart Cities*, New York, Norton & Co., 2013; *Ville intelligente, ville démocratique?*, symposium organised by Berger-Levrault and the Chair “Mutations de l’Action Publique et du Droit Public” of Sciences Po, Berger-Levrault, 2014.

Once data are collected, they are in general assembled and linked in order to contribute to some services; using traces left on their relays, for example, telecommunications providers can provide municipalities with information concerning the mobility of people in the city.

With the development of 'open data' in many cities, urban data can also be 'reused' by citizens or private businesses in order to create new services, and in particular applications for smartphones concerning transportation, real estate opportunities, neighborhood security and so on.

### 2.3. Changes in governance

'Smart cities' evolutions also induce transformations in the relationship between the public authorities and the private sectors of the community. In fact, the changes in their relationship are already emerging, specifically in the distribution of their functions. For instance, private infrastructures, especially in communications, have become an essential component to the city's overall functioning. This may lead to the development of new public-private partnership; an arrangement which is not always easy to build, even if it only involves the sharing of data that potential partners consider as a source of wealth.

One of the possible problems of this new type of relationship centers on the issue of governance (*i.e.*, "who governs the smart cities?"). That is, what will be the exact role of municipalities in the face of autonomous mobility, autonomous production of energy, and the like? Apparently, the national legislations are still silent on this issue.

Further, the 'smart cities' transformations are also capable of transforming the relationship between local government and the citizens. Through open data, the citizens in 'smart cities' have become more completely informed of the various aspects of city life; they are in a better position to develop their own urban services. A new political balance is being prepared.

### ***3. (Already partially observed) consequences upon contractual procedures and regimes***

Consequently, the 'smart cities' evolutions affect the contractual procedures and regimes. These consequences are in fact pushed forward by three factors: digitalization of procedures and overwhelming presence of data, well-rooted concern for sustainable development, and the centrality of innovation.

### 3.1. Digitalization of procedures and overwhelming presence of data

Smart cities are sometimes called ‘digital cities’. Although the term is a bit restrictive, it certainly refers to the essential features of “smart cities” functioning, which is widely driven by digital technologies and data. In the field of public contracting, it has obvious advantages but it also raises a range of issues.

Digitalization promotes transparency in contractual procedures,<sup>(3)</sup> thereby making it an essential pillar of ‘smart procurement’, as promoted by the European Commission.<sup>(4)</sup>

At the same time, the digitalization process of cities can cause difficulties related to public contracting situations and arrangements.

In order to develop the digital infrastructure of their territories, local governments have to find contractual solutions since, in general, they do not possess the corresponding technical expertise at a sufficient level. The local governments sometimes resort to concession-type arrangements: the problem being, when this orientation is chosen, that it means building a contractual arrangement in which the private contractor assumes a significant economic risk, otherwise the contracts cannot have the nature of concessions under EU law.<sup>(5)</sup>

Another question derives from the fact that contractors of municipal authorities collect, in the implementation of the contract, a certain quantity of data, which the authorities will in general be willing to recover since those data will frequently be quite useful to the accomplishment of municipal functions. The problem is that, for the contractors, these data are commercial assets they will often want to keep for themselves.

If we look at French law on the issue, up to recently, there was no general principle, and this meant that the solution was left to the contracts, which often did not contain any stipulation on the subject. The recent law on digital assets in public action<sup>(6)</sup> has tried to address the issue, and introduced into the law on concession contracts<sup>(7)</sup> a concept of ‘general interest data’, which is developed in the following terms:

“Where a public service is contracted out, the contractor will make available to the public authority all data and databases collected and produced in

(3) J.R. GRANADOS *et al.*, “Ciudades inteligentes, compras inteligentes, Analisis de la incidencia de las TIC en la transparencia contractual de la administracion local”, in *Regulating Smart Cities* (J.B. PADULLÈS *et al.* eds), Barcelona, Universitat Obertat de Catalounya, 2015, p. 346.

(4) EC, “Public Procurement for Smart Cities”, November 2013.

(5) F. OLIVIER and N. SULTAN, “Les schémas d’aménagement numérique en pratique: portage et contrats public”, *Contrats et Marchés Publics*, April 2012, p. 7.

(6) Loi sur la République Numérique, 7 October 2016.

(7) Law of 29 January 2016 on concession contracts, Art. 53(1).

the operation of the public service and which are indispensable to its implementation, in an open standard freely reusable and usable by an automated processing system”.(8)

The other side of the same coin stems from the development of cities’ open data. Normally, among the information which is made public through open data are the contracts made by local authorities, either pursuant to legal obligation or by voluntary choice.(9)

Then, an important limit to the open diffusion of data related to contracts will result from the fact that a part of these data is personal (example: consumption of water or gas by users of a contracted-out water or gas distribution public service), and thus cannot be made public without anonymization, while others can be commercial data which the contractor may lawfully require to be kept secret.

### 3.2. Concern for sustainable development

One can say that the smart city is a daughter of the sustainable city. It is the same historical movement that carries the two mutations: in a sense, the smart city is the sustainable one, with the addition of the ‘fuel’ brought by digital technologies.

Thus, in the smart city, all the efforts made in order to address sustainability concerns and the requirements concerning transparency and fair competition in public contracts are prolonged, whether they are related to environmental criteria in the allocation of public contracts or to environmental conditions in the implementation of contracts.

There is no need to elaborate on it, since it is a question that did not wait for the smart cities to be well-framed.

### 3.3. Innovation as a central issue

A major feature of the services provided by smart cities is that they are often new or, if they already exist, they are transformed in their practical application by new technologies. For that reason, the development of the smart city’s new functionalities constantly imposes a high degree of innovation. This has huge consequences in contractual practices of urban governments: they must absolutely get the most innovative solutions when awarding new contracts, as well as when renewing existing contracts.

(8) “*Lorsque la gestion d’un service public est déléguée, le concessionnaire fournit à l’autorité concédante, sous format électronique, dans un standard ouvert librement réutilisable et exploitable par un système de traitement automatisé, les données et les bases de données collectées ou produites à l’occasion de l’exploitation du service public faisant l’objet du contrat et qui sont indispensables à son exécution*”.

(9) In the French system, the administrative procedure Act (“*Code des relations entre l’administration et les administrés*”) imposes the obligation of having an open data system on all local governments whose population exceeds 3.500 inhabitants (Art. L.312-1-1).

The problem is that the traditional regulation of public contracting is not excessively compatible with innovation. Strong formalism, emphasis on the price criterion for the award of the contract, transparency requirements that put candidates at risk of free delivery of their innovative secrets without obtaining the contract – all this hampers the development of what the OECD calls ‘procurement for innovation’.(10)

However, legislators and in particular the European ones have become aware of these obstacles, and they have recently tried to pave the way for innovation in contractual procedures, in particular by the creation of the Innovation Partnership, by the 26 February 2014 Directive on procurement.(11)

The main characteristics of this mechanism are well defined in the article 31.2 of the Directive:

“2. The innovation partnership shall aim at the development of an innovative product, service or works and the subsequent purchase of the resulting supplies, services or works, provided that they correspond to the performance levels and maximum costs agreed between the contracting authorities and the participants.

The innovation partnership shall be structured in successive phases following the sequence of steps in the research and innovation process, which may include the manufacturing of the products, the provision of the services or the completion of the works. The innovation partnership shall set intermediate targets to be attained by the partners and provide for payment of the remuneration in appropriate instalments.

Based on those targets, the contracting authority may decide after each phase to terminate the innovation partnership or, in the case of an innovation partnership with several partners, to reduce the number of partners by terminating individual contracts, provided that the contracting authority has indicated in the procurement documents those possibilities and the conditions for their use”.

The essential keys of the instrument are, thence, that innovation can be developed within the award process and candidates are not obliged to disseminate their innovations before being sure to get the contract.

With this, naturally, all possible problems are not solved. Thus, for example, the question of who will have the intellectual property rights in the innovations has to be dealt with in contracts. In general, it will probably be admitted that the contractor has them, but also that the public entity does not have to pay for the use of them in the ambit of the contract. In some cases,

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(10) OECD, “Public Procurement for Innovation, Good Practices and Strategies”, 2016.

(11) Called ‘partenariats d’innovation’, in France innovation partnerships were introduced into French law by a decree of 26 September 2014. For guidelines emanating from the Ministry of Economy’s legal section: [www.economie.gouv.fr/daj/partenariat-innovation-2016](http://www.economie.gouv.fr/daj/partenariat-innovation-2016).

though, the public entity will have made a significant intellectual input into the innovation and then the intellectual property rights will have to be shared – including for the future through a consortium agreement.(12)

To conclude this point, it should be mentioned that the deployment of innovations in smart cities will only be effective if an effort is made to standardize certain products and processes that are intended to be replicated extensively. Standardization is a catalyst for innovation, as the OECD says.(13) And standardization has big consequences on public contracting, in which it enhances the homogenization tendencies.

#### ***4. (Probable) long-run consequences on categories of contracts***

If one turns to the long term, one can be convinced that the smart cities developments are likely to change deeply the geography of contractual practices in local governments.

A general impression which one can have is well formulated by an author, who suggests that “Smart Cities public procurement is much more likely to take the shape of services – and performance-based contracts rather than supply-and technical specification-oriented contracts”.(14)

A similar idea can be expressed by saying that urban public contracting in smart cities is likely to evolve towards wider shaping: more parties assembled, more (functionally) global contracts, longer terms.

##### **4.1. More parties assembled**

If, as we suggested, one of the characteristics of smart cities is that functions and pieces of infrastructure will be more and more interconnected, this will probably mean that local authorities will have to gather around them, in order to rationalize the whole urban functioning, a wider number of actors than they usually do.

One can then anticipate contractual arrangements in which a wider range of contractors will be present. This can lead to legal difficulties concerning for example liability imputation: when something goes wrong in a wide set of interconnected actors, it becomes more difficult to determine who is at the origin of the dysfunction.

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(12) Advancity, “Innovation et villes durables : repères pour l’action”, Note d’approfondissement juridique, 2015

(13) OECD, “Public Procurement for Innovation, Good Practices and Strategies”, *op. cit.*, p. 10.

(14) S. VERMA, “Smarter Public Procurement for Smart Cities in India: Outlining Procurement Challenges and Reforms for Increasingly Complex and Innovative Government Contracts”, in *BW Smart Cities World*, Iss. 3 July-August 2015, pp. 70-75.

This first line of evolution is very much linked with the second one.

#### 4.2. More (functionally) global contracts

Indeed, if the prospect of a growing interconnectedness of functions and pieces of infrastructure is correct, then it likewise implies that local governments will have to settle more complex contractual arrangements with their partners.

One can imagine, for example, that these complex contracts could be made ‘urban management contracts’, by which a municipality would entrust multi-expertise entities with the task of, for example: renovating – in a sustainable way – an urban area, and then, during a certain time, making sure that utilities are provided in it, ensuring that energy autonomous mechanisms would remain operative, and also collecting, transferring data and making possible their reuse, et cetera.

It is clear that such contractual organizations will confront various rules which, in contemporary procurement law, rather favor the ‘splintering’ of contracts in order to make competition more intense and effective. It is true that rules concerning pure public procurement as well as concessions sometimes leave open the way to global contracts, in which contractors are entrusted with several different functions assembled, but they remain enclosed within strict conditionality.<sup>(15)</sup>

Legislation will probably have to be made more flexible, or alternatively opened to new types of contracts of the ‘urban management’ type.

#### 4.3. Longer terms

In line with what has just been explained, if the public contract regime has to be adapted to the ‘globalizing’ needs of interconnected smart cities, it will also have to shift in the sense of more readily accepting long-term contracts, and making the contractors responsible for the overall management of the infrastructure of an area of the city during a period of time which obviously cannot be too short.

In the current state of public procurement law, this meets the same kind of limits that confront functionally global contracts.

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(15) In the context of French Law, see F. TENAILLEAU, “Les contrats globaux après l’ordonnance du 23 juillet 2015 relative aux marchés publics”, *Rev. dr. immob.*, January 2016, p. 15.