Open Data and Smart Cities: an alternative legal perspective

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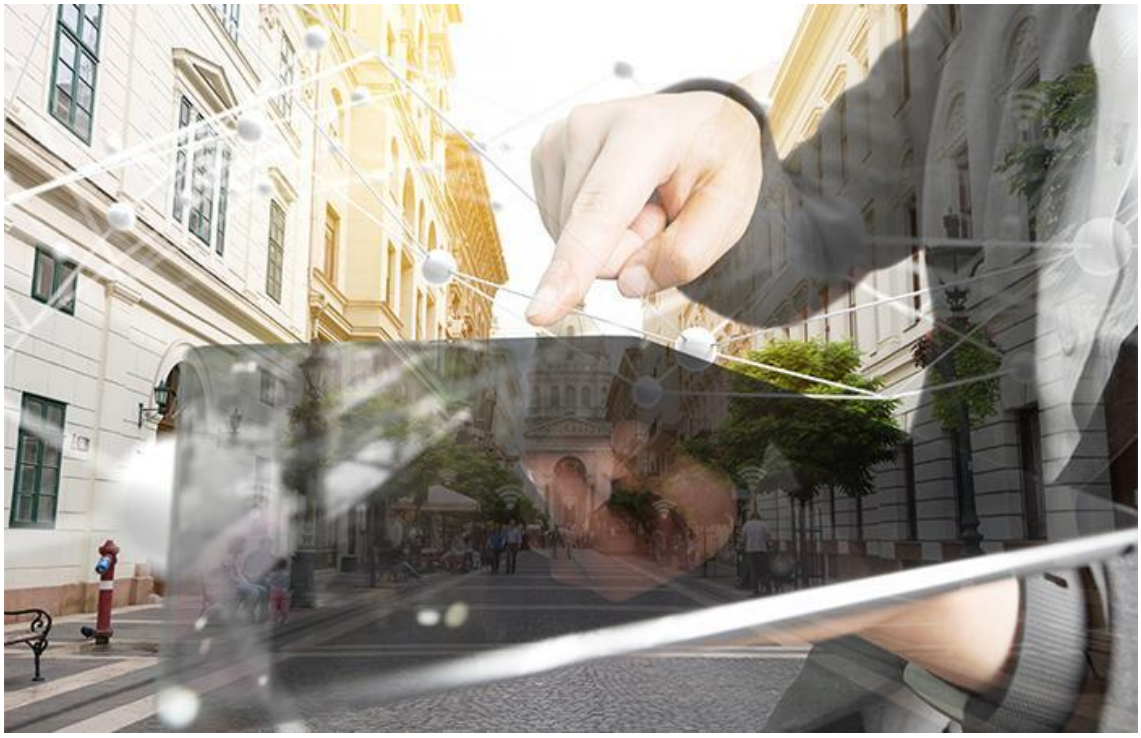

EXECUTIVE SUMMARY

The commitment to so-called **smart cities** is currently one of the major commitments to technological innovation in the public sector, especially in the local sphere. These types of initiatives aim to address challenges to sustainability in the urban context, through the advanced use of information and communication technologies, to optimise resources and, ultimately, a more efficient and effective provision of services. From the open data perspective that is created by these types of projects, a legal analysis has special importance due to the unique characteristic features and specific difficulties presented, as this report will analyse. It is particularly important to provide legal safety for investments and efforts being made by both local governments and service providers and, in general, the involvement of civil society in this field.

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For this we must initially focus on examining the specifics of the framework of actors and services provided, to be able to ensure overall that the main distinguishing feature is their diversity and heterogeneity. In fact, on one hand, it is warned that numerous interests at play that may even come to be contradictory, and therefore, create conflict with an undeniable legal dimension, would make opening up data difficult - when it would not directly impede - with the aim of re-using it, be it by companies for commercial purposes or different social agents for other purposes.

Furthermore, on the other hand, **the plurality of activities and services involved also defines the diversity of applicable legal regulations**, initially approved with diverse aims - E-Government, data protection, access and re-use of public sector information- and not always suitably aligned to achieve the desired objectives for smart city initiatives. It is an aspect that poses an added difficulty when making a realistic, effective and efficient approach in regards to open data, especially from the perspective of re-users. All of this, also, in a context where **the main role of information and communication technologies requires an additional effort in regards to interoperability; a concept that has other dimensions beyond just technology and that has to include a legal perspective.**

Taking these premises into account, the role of local government when carrying out the project becomes particularly important when facing legal challenges inherent in smart cities. Beyond driving policy reforms that depend on their scope of powers, it is even more important that **a management model based on the foundation of Open Government is promoted**, using skills that are legally assigned and legal instruments available, in order to competently tackle the difficulties and challenges that the applicable regulatory framework may pose.

In this way, open data in smart cities requires a set of unavoidable premises in order to, according to legal requirements, be able to re-use the data created. Specifically,

- a new document management model has to be developed that, beyond the simple commitment of using electronic means, overcomes rigidities and formalities that have traditionally driven regulation on government action;
- the challenge to protect citizens' personal data should be tackled adapting legal safeguards to the unique processing proposed in the current state of technological evolution;
- public contracting has to be configured as a project management instrument and not as a mere formality, limited and rigid, in order to find providers of goods and services;
- and, finally, it is essential that the project management model is adapted to Open Government approaches so that, in this way, it reinforces its democratic and integratory aspect before a potential dynamic of fragmentation and disintegration of diversity and the complexity linked to these types of initiatives.

1. LAW, A TOOL TO SERVE SMART CITIES

In recent times many initiatives and projects have been strongly driven at a local level that, from technological innovation criteria, try to deal with important social challenges from a digital transformation perspective. From these premises, **smart cities** are based, on one hand, on **the inevitable technological modernisation in the administrative management** of different local services and, on the other hand, on **the essential transformation that the foundation of Open government requires** from the intensive use of information and communication technologies. Taking into account this double requirement, smart cities have to undertake an unequivocal commitment to transparency through innovation. Specifically, from our current focus, **it is a priority that information created at the time of providing diverse services**, be it by Public Administration or by private bodies, is made available according to open data standards. Ultimately, the aim would be, on one hand, for the data created to be able to be re-used in order to provide value added services and, on the other hand, that this process could result in the improvement of the services the smart city project supports.

One of the vital instruments in tackling this challenge is the law, which has a critical role as it has to offer essential conditions so that the technological innovation in these types of initiatives is fully compatible with the integrity of the legal safeguards and, especially, with the full respect of citizens' rights. Furthermore, a suitable regulatory framework - and some interpretive guidelines in accordance with the social reality to be enforced at that time - become a highly important tool when guaranteeing certain elemental conditions of legal safety which enable the activity of the infomediary sector, both by what is referred to as business activity as well as social and political initiatives that can indicate the re-use of information. Ultimately, it is necessary to address a

proactive analysis of the regulatory context of smart cities with the aim of identifying any legal inhibitors that may exist and, where appropriate, propose suitable responses to try and deal with them.

Therefore, it is essential to overcome the traditional perspective on law as an obstacle that tends to stop technological innovation and, therefore, making the success of smart cities projects difficult. Similarly, shortcomings in the legal framework currently in force need to be addressed from a new perspective. Specifically, the adoption of a proactive, transversal, comprehensive and open perspective, that helps to avoid legislative limitations that may be found in local governments who have to choose a truly alternative management model for information and services supported by the project.

For this, from a legal perspective it is crucial to offer interpretative criteria aimed at local authorities being able to integrate efficient legal solutions adapted to the distinctive features of smart cities. In this sense, it is especially important that local leadership does not perceive law as a mere limitation but, the opposite, actively uses it for authorities and tools that are legally attributed - ultimately, exercising their powers- to be used for the most effective delivery of the project. Specifically, beyond the capacity to adopt unilateral decisions through relevant administrative acts if it is necessary, in the area of public contracting there is a long path to go down that would allow a suitable response to possible shortcomings and failing regulations.

From these key points, the following sections contain an analysis of the scope, possibilities and, similarly, the difficulties and challenges that the applicable regulatory framework to smart cities raises from the perspective of re-using the information created. Ultimately, beyond the simple interpretation of current regulations, it is

necessary to contribute to the legal debate already underway providing proposals that, from a proactive focus, may be useful and of practical interest to the diverse actors involved and, particularly for local authorities, when decisively promoting the opening up of data in these types of projects and initiatives with the aim of eventually re-using the data.

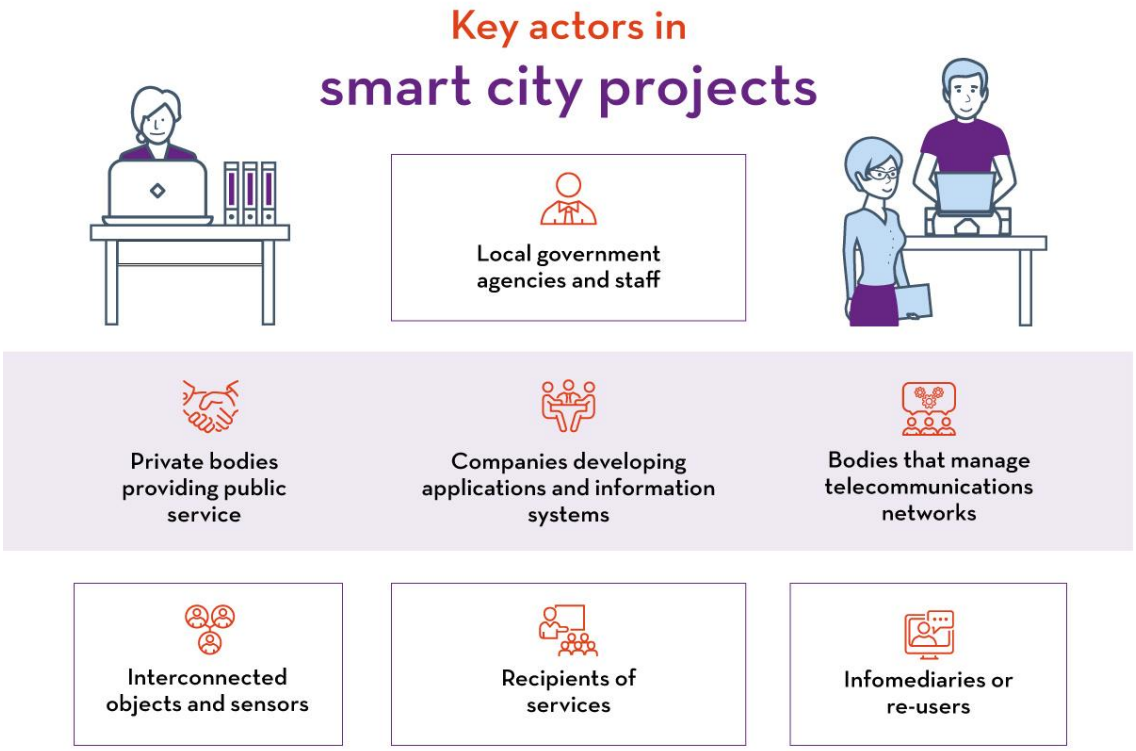
2. THE SUBJECTIVE ELEMENT: THE DIVERSITY OF ACTORS

Aside from the diversity of definitions that we could find on what a smart city should be and the efforts to standardise this reality, it is more useful practically to specify what the main features are in these types of initiatives, as ultimately it is these that will determine the applicable regulations and, especially, the legal relations established between the diverse actors involved. Furthermore, although not exclusively as that would give an incomplete perspective, we will focus on analysing the implications of the technological element, as it is perhaps the transversal element that marks the main distinguishing feature in smart environments.

It must first be noted that these types of projects are usually inspired by a management model based on sustainability and the efficient use of available resources, especially in regards to protecting the environment, mobility and, overall, local services. And, explicitly, the consequence of this aim determines that it will need to be based on the intensive use of information and communication technologies. More specifically, from this perspective, it is essential for any type of project in this area to promote an advanced analysis model and intensive exploitation of the information created and, specifically, data associated to the public services, spaces and infrastructure provided and used.

The local government, therefore, becomes the key player whose main powers are to coordinate the smart city projects, particularly in regards to the public services provided and, similarly, to the use of public goods and infrastructures. But alongside the

local government, diverse actors coordinate and are also called upon to play an important role:



- local government agencies and staff, responsible for using their powers and, ultimately, executing their activity.

- private bodies that, through the appropriate contract, are in charge of providing public services when the local government cannot directly do so or, where appropriate, through an instrumental body under their control and management.

- companies responsible for the development of applications and information systems used to provide services, except in those cases where it is the government staff who are responsible for this.

- bodies who manage the telecommunications networks through which the information is communicated and the services are managed, which will normally be private companies although at certain times, will be the local government itself and, where appropriate, operates them.

- the interconnected objects and sensors that, automatically and uninterrupted, provide countless data with a potential interest for an improved and more efficient provision of services and use of public resources, all this sustained by what has come to be called the *Internet of Things.*

- the recipients of services, whose data will be included in the information systems, either from the private body or from third party service providers.

- infomediaries or re-users, who through the development of software applications offer value added services, free or not, using data created during the smart city project.

From this **plurality of parties involved** in the scenarios of smart cities it is understood that, from the perspective of accessing information and open data, the **main risk is in the diversity of interests** as they could oppose each other. In fact, it is worth considering that the entities providing services may not be prepared to open up the data they manage, as they may assume that other similar competing companies would like the important information. Similarly, from the perspective of the users is it understandable that there is reticence in using the information linked to their activity, especially if suitable measures are not taken to disassociate their details. In short, the telecommunications companies may believe that it is better for them to keep the exclusive control of their clients' data, even with their prior consent, to offer them personalised value added services.

We find, therefore, given different and even fragmentary interests that only the local government, as project manager, can renew the vital unity in order to meet the needs in a context of technological innovation. Especially if we take into account that the information added and continually updated is essential not just in terms of the model's efficiency and effectiveness, but especially and what interests us, is based on offering a suitable ecosystem to enable the opening up of data with the aim of re-using it by third parties. It therefore corresponds to the government to **adopt a complete perspective** that, ultimately, may involve exercising unilateral powers and responsibilities that are legally attributed, but have to be implemented mainly using **a management model based on Open Government standards: transparency, participation and collaboration.**

3. THE OBJECTIVE ELEMENT: THE PLURALITY OF SERVICES INVOLVED IN A TECHNOLOGICAL CONTEXT

As noted, the numerous actors means an added complexity in accessing the data that each one of them creates and, what is most relevant from our point of view, for designing and applying the regulatory framework as a result of implementing smart cities. But, also, a large part of parties involved carry out a different activity which includes providing services, services subject to a different legal regime that, for our

current purpose, is not always found in isolation to the needs and unique features of a smart city. Furthermore, the **intense presence of technology** in this context means an **additional challenge in terms of law.** As along with the diverse regulations, it is necessary to also align this element **to ensure that the information created by all parties involved can be made available to meet the demands of open data.** In other words, **automatically legible according to technical, semantic, organisational and legal interoperability criteria.** From these parameters we see which services these are and what the legal implications are.

1. Firstly, smart cities require the prior existence of services with access to communication networks, both in infrastructures directly or indirectly public as well as, as often happens, private providers who offer the service. In this regard it is necessary to note that the local government would lack authority in terms of beyond the relevant permissions in the use of public spaces for facilities and construction. Therefore, it would be hard to have the legal power to impose obligations on them in terms of giving information on providing such services; except for services provided by the government itself, as happens with the expansion of Wi-Fi networks that, with some intensity over recent years, are being offered, for free at times, thanks to the local push in many public offices, on public transport and in open urban spaces.

2. Secondly, from a more substantive viewpoint, in the background of smart cities projects we find a **plurality of heterogeneous services.** On one hand, private services come together, at times coming from liberalised sectors, as can occur with energy supply, which leads to - at least potentially- **a plurality of private providers offering this service and, therefore, the data that they can offer is necessarily fragmented** inasmuch as only a part of the population located in a

certain area is affected, which could become a problem from the perspective of the added value of the data.

3. However, the same does not occur in regards to **public services owned by the government**, which is the case of drinking water supply, public street lighting and, among others, public passenger transportation. In fact, at times it will be the government itself who provides these services through one of the direct ways referred to in the legislation on local government, in a way that the capacity to control and decide on behalf of the local government is guaranteed. On the other hand, when an indirect management model is chosen through a private body it should be pointed out that the City Council maintains ownership of the service and, therefore, control in legal terms. For this, on having powers reserved in a strict legal sense, necessary measures could be included in the contract - and, even, following the formalisation - to ensure availability of data created at the time of providing the services with the aim of being re-used by third parties.

4. Beyond the activities that are formally set out as public government services in a strict sense, the previous points reinforce why we refer to data that can be created in terms of public services which does not have such consideration and also why in terms of the use of public goods: both assumptions would be linked to the activity carried out by the local government and, therefore, it would be the government itself who would ensure control over managing the information created.

4. THE SCOPE OF REGULATORY FRAMEWORK APPLICABLE TO SMART CITIES FROM THE PERSPECTIVE OF OPEN DATA

The focuses and aims in establishing and justifying smart city projects can vary, which leads us to an undeniable multiplicity of applicable legal standards. That said, from the perspective of open data being created with the aim of being re-used, the focus should be on certain legal provisions that have a reduplicated importance as, ultimately, they are going to help or, to the contrary, make access difficult with the aim of being re-used by third parties.

4.1. Regulations on E-Government

Following the 2015 reform, the use of electronic means has become - at least in theory - the main information management tool by Spanish government as paper is no longer used except for exceptional cases. Therefore, there is no obstacle so that data created at the time of document management can be accessed immediately and automatically where actions and processes are made, always fully respecting the requirements in terms of the protection of personal data.

So, although there is an inexcusable premise, the truth is that it is not enough that the information is in digital format but that, also, standards must be respected to enable their re-use, which without a doubt is an additional obstacle. However, it should be noted that the existence of technical regulations for interoperability, under the legal framework on e-government, have been in place since 2010. Also, in the development

of the National Interoperability Framework of Spain, some specific provisions have been approved in terms of re-use, in such a way that their implementation is compulsory in the technological modernisation process of local governments, both if it is for their own computer developments or exterior, in this case though the appropriate contract in which this requirement should appear in the clause.

However, the legal regulation on the use of electronic means in the public sector has an important limitation in the context of smart cities. In fact, as previously mentioned, **the role of private bodies is highly notable in these types of initiative.** Although, the provisions previously referred to do not mean implementing themselves as their scope of implementation is limited to the public sector. Therefore, it is highly important that, **when dealing with public services, it includes the obligatory adoption of electronic means by contractual basis on the activity** carried out and especially, the **incorporation of the technical standards in terms of re-using data.** However, when there is no legal relation between the local government and private actors the plan has to differ, in this case based on collaborative schemes or, where appropriate, sponsored by promotional techniques and other measures inspired by Open Government to encourage not only the accessibility/transfer of data but also their processing by third parties according to the technical requirements previously mentioned.

4.2. Legal provisions on transparency and access to public sector information

The possibility of re-using data held by the public sector raises an essential requirement to be able to access the data itself. In this sense, since 2013 Spain has had a regulation that specifically takes into account both the spread of information through electronic means and, similarly, the possibility of formalising a request so that, before processing the corresponding administrative process, the required data can be

accessed. However, this legislation raises a series of difficulties as such, which is why is it is necessary to analyse their scope with the aim of outlining up to what point they are mere difficulties that could be resolved through interpretative means or, on the other hand, there are insurmountable obstacles or that, at least there would be other types of solutions.

Firstly, it is necessary to note that the subjective scope of regulation on transparency and access to information only reaches public bodies or that, where appropriate, are linked to the public sector. However, those who provide public services are also affected by legal regulations, although in a unique way that, ultimately, can become a legal inhibitor for the purposes of re-using information. Specifically, physical or legal persons that provide a public service - and in general public sector contractors- are not obligated to provide information directly to other private subjects, as happens with re-using agents. On the other hand, any request for information that may be implemented will have to be channelled through the owner of the service, without including any of the legal references to electronic means or to the interoperability conditions.

Therefore, apart from these regulatory provisions, it is hard to assume that the mentioned private parties have a greater interest in offering direct and automatic access to their own information systems, which again forces to call attention to the importance of fixed contractual obligations. In this regard, a natural resistance may even arise in the opening up of data in that other companies with potentially conflicting interests could benefit, as is the case of possible competitors in the market. For this it is highly important to set out **what data can be considered as part of the activity included in providing the public service and which, on the other hand, can be understood as created by the business know-how of the body carrying out the activity.** Despite the difficulty that in many cases this distinction will involve as much as specific proposals

are intended to be applied, it is certain that in the end only those of the first group could be subject to a contractual obligation made available to third parties.

Another difficulty arising from the application of regulations on transparency and access is in the wide number of issues which limit access, in a way that when there is a prejudice for legal goods contemplated legally it would not be possible to re-use data. This happens in terms of environmental protection, preventing and sanctioning criminal and administrative actions, administrative monitory and control roles and, without being exhaustive, public safety. That said, on the basis of this significant difficulty, it should be noted that the legislator itself expects that the application of such limits has to be provided and justified according to the aim that justifies the protection. Similarly, taking into account the type of partial access to data that would not be affected by such limitations, which leads us to conclude that their interpretation should be restricted for the purposes of enabling their re-use as long as there are not enough reasons to deny such processing.

4.3. Legal provisions on the re-use of public sector information

What is referred to as specific regulation in this area, are without a doubt called upon to play an essential role in the context of open data in smart cities, the problems related to their limited subject scope appears again, even more intense. In fact, the legislator has not included any reference to legal-private bodies, whose reach has to be duly highlighted to avoid confusion. In other words, not only is a reference to public sector contractors missing, but also to bodies of this nature who are created by public authorities, except foundations and associations.

Beyond this important subjective limitation, it is undeniable that the local government itself can obligate their instrumental entities to undertake a management

model and operation suitable for open data standards. In other words, the cited legal inadequacy can be used in a certain way as an inhibitor of this issue if the responsibilities of good governance are undertaken and exercised which any smart city project requires. In fact, **for the adjudicating bodies there will always be the possibility of incorporating this obligation by contract as, ultimately, the local government has the powers** to resolve this problem. More difficult, without a doubt, is the expansion of these measures to the rest of the private sector. In which case, only promotional measures based on voluntarily opening up information systems fits, respecting legislation demands on the protection of personal data.

On the other hand, specific legal provisions on re-using public sector information does not take into account a legal obligation requiring access to data in an open and machine legible format, where possible and when appropriate. So, it is not possible to be limited to the mere literal interpretation of this legal regulation, it is crucial to remember that a systematic interpretation with provisions for the legislation on e-government would lead us to the opposite conclusion. In any case, although the effective application of this requirement in some cases will be carried out progressively - for example, when the specifications are renewed or, where appropriate, suitable technological instruments are put in place-, the truth is that local government can go further than strict legal obligation, which also raises an additional requirement.

In fact, even when the legislator itself has waived its obligation to the public sector of an effective commitment in the long-term maintenance of data access to enable their re-use, the fact remains that this commitment seems unavoidable. On the other hand, there is hardly the required incentive to rely on the collaboration of the private sector and, in particular, on the infomediary parties and society overall. It is not about confining the problem to a reactive focus from the parameters of the local government's responsibility, as in that case it would adopt a perspective that would be

too restrictive and distorted for legal tools. On the contrary, once again, **the effective improvement of legal provisions can only be considered from a global and proactive perspective for the project, that is, trusting the transforming potential that the smart city can bring.** This is, as we will analyse later, as long as a specific governing model is adopted.

4.4. Legislation on the protection of personal data

It is undeniable that the key actor when we refer to information created in smart city projects is the user of the services. Therefore, any implementation of innovative management that intends to be addressed should take into account in what way it incites their rights, in particular in the protection of personal data, as it is a fundamental right guaranteed at the highest constitutional level. Also, the very dynamic of information flows created in the context of smart cites involves, at least initially, a greater invasive potential in regards to this right, as it is characterised by interconnections among diverse actors and, additionally, the possibility of using the information for different aims than initially justified for their collection. This has a special significance if we take into account that, **as a general rule, governments do not require consent from holders of data when they collect data for exercising their own powers.**

Both treatments of data directly affect concepts and guarantees essential for the effectiveness of this fundamental right. In fact, when referring to widespread interconnections among diverse parties we do not find ourselves before simple data transfers but, the opposite, they are characterised by being large and automatic, in a way that the classic guarantees of legal consent or authorisation are insufficient and need to be reconfigured. On the other hand, the integration of diverse services in smart city environments and the need of horizontal and non-vertical management models -

that go beyond the scope of each service considered individually - directly affect the data quality principle, according to which are used for other aims incompatible with those that justified the data collection. This last issue is made worse if we take into account that, in the scope of administrative activity, citizen's consent is not required and, therefore, the initial legal authorisation to use them could justify handing them over to other parties without a specific consent; which means a significant problem in the area of smart cities due to the model which previous sections have outlined.

Therefore, the need to rely on their consent to handle information linked to physical persons can become a definite difficulty that impedes not only the access to information but, above all, the re-use of it by third parties, unless there is a decoupling process that conforms with the technical and legal requirements established by the competing authority at a national level, the Spanish Data Protection Agency, as well as guidelines posed at a European level by the Article 29 Working Party created by the Directive 95/46 on the protection of personal data. Specifically, these guidelines are of great practical importance if we take into account that the Group is established as an independent advisory body integrated by Data Protection Authorities of all member states, the European Data Protection Supervisor and the European Commission, whose most important functions are to set recommendations on any issue relating to data protection in the European Union.

5. NECESSARY PARADIGM SHIFTS TO DRIVE OPEN DATA IN SMART CITY PROJECTS: THE NEED OF LEGAL INSTRUMENTS

Beyond the simple analysis of the applicable regulatory framework to smart cities, effectively overcoming legal difficulties and, ultimately, the commitment to a legal environment that enables their promotion, certain paradigm shifts need to be addressed in the role that the law is called upon to play from the key elements of technological innovation.

5.1. The necessary reconfiguration of document management: from documents and files into data

The use of electronic means in the activity carried out by government and, specifically, local governments has to overcome a model based substantially on documents and files, without a doubt highly affected by the indisputable -and largely necessary- importance of government action and procedures in the traditional legal regime of government activity. So, even when their widespread formalisation cannot be waived from the legal perspective due to the associated problems, it is certain that **the advanced use of technology needs to be supported by a paradigm shift based on data as the main management element.**

Only in this way will it be possible to overcome the objective limitations in access and, therefore, the re-use of public sector information to those previously mentioned, as well as enabling the use of partial access in an opening environment according to open data standards, especially in regards to the automisation requirement. Otherwise an analysis process would need to be carried out for each document and file to, case by

case, determine what data could be made available to third parties without violating legal safeguards. Furthermore, it is a requirement that obligates a prior and general analysis that ensures, in all cases, **the effective compliance of regulations for each information processes** that is, without needing to deal with it reactively once a specific **access request has been made with the aim to be re-used.**

In this sense**, licences are called upon to play an essential role**, as they can tackle this challenge that, ultimately, improves the model based on access requests, processing a procedure and consequent resolution; alternative to the latter should occupy a residual position for the especially complex cases.

5.2. Advanced management as a guarantee for effective protection of personal data

The new European Regulation in this field offers a more suitable regulatory framework to face the legal challenges that technological innovation involves, in a way that goes beyond the limited conception of traditional regulations, with undoubtedly more formalised and barely functional approaches. It is an important innovation from the perspective of smart cities, whose environment has to create numerous data transfers among the numerous parties involved and, also, automatic processing. Therefore, this is why it is not feasible that the guarantees are supported by the very mechanisms from another stage of technological development, where prior authorisations played an essential role as previously mentioned.

In this sense, **the very computer developments and information systems of smart cities are called upon to reinforce the guarantee of personal information through protection via their design and by default, which means a highly useful tool for the requirement of disassociating data.**

Furthermore, an effective commitment to creating trust from legal safety should mean that the council responsible for the project make an exhaustive impact evaluation on the personal data affected.

It is a highly important measure in order to strengthen the trust of users, as smart cities are based on handling mass information that can affect numerous collectives and, therefore, there is a greater risk to their privacy. Therefore, the clear commitment to a greater protection of citizens' personal data in a transparent and open manner has to become one of the key factors in smart cities, particularly in regards to the opening up of data.

So, these suggestions can only be deployed to their full guarantee potential if they are seen as an essential element of the project, in a way that they are present from its initial conception and design and, later on, are subject to a process of evaluation and continuous review, adapting as such new requirements that arise and, ultimately, risks that could be raised. Furthermore, the effectiveness of such legal safeguards requires the effective compliance of established safety measures and technical regulations in terms of the unique features of computer processes. Finally, reinforced, independent and transparent mechanisms should be established, with the participation of citizens, to check their effective compliance and that such guarantees do not simply remain theoretical.

5.3. Public contracting as a strategic, proactive and dynamic instrument for diverse legal assets

In pursuing the aims previously proposed public contracting is an essential tool whose importance has to be highlighted. That said, it is not simply about adapting existing legislation in terms of the specific needs that smart cities may require, but

similarly about addressing a wider approach and all-encompassing the challenges with the commitment from the European Union to divide into batches, taking advantage of the diverse regulatory provisions on innovation in this field. So, the coherence and unity of criteria that any smart city project requires has to be achieved through mechanisms adapted to such demands, which makes the clear commitment to interoperability - in its multiple technical, organisational, semantic and legal dimensions- in managing computer systems critical, which ultimately obligates us to focus on a wider scope requirement.

Specifically, as the 2014 reform in European regulation on public contracting has highlighted, this has to become a strategic tool for institutional leadership from public powers, in this case local governments. Only from these parameters can the unique feature of the ecosystems in which smart cities operate be dealt with, in which a single company faces, in charge of providing services and making investments, it is necessary **to create collaboration dynamics to those that can join not only other companies but also civil society itself with a notable role, which demands a more flexible and open institutional approach.**

On the basis of this revised notion of the role that public contracting is called upon to play, its importance should not be underestimated so that local government ensures the effectiveness of legal safeguards. In this regard, as previously highlighted, **the contractual instrument has a huge significance when defining what part of the information the services providers create and manage and, overall, the project collaborators have to be offered to third parties according to open standards**; without a doubt a necessary formalised specification, where appropriate through the contractual instrument, on behalf of local government who has the final responsibility over the services.

In the same way, through this the limited subjective scope of legislation on e-government, transparency and re-using public sector information can be overcome, obligating private parties whenever possible - or, by default, with promotional measures - to comply with the existing requirements in this field.

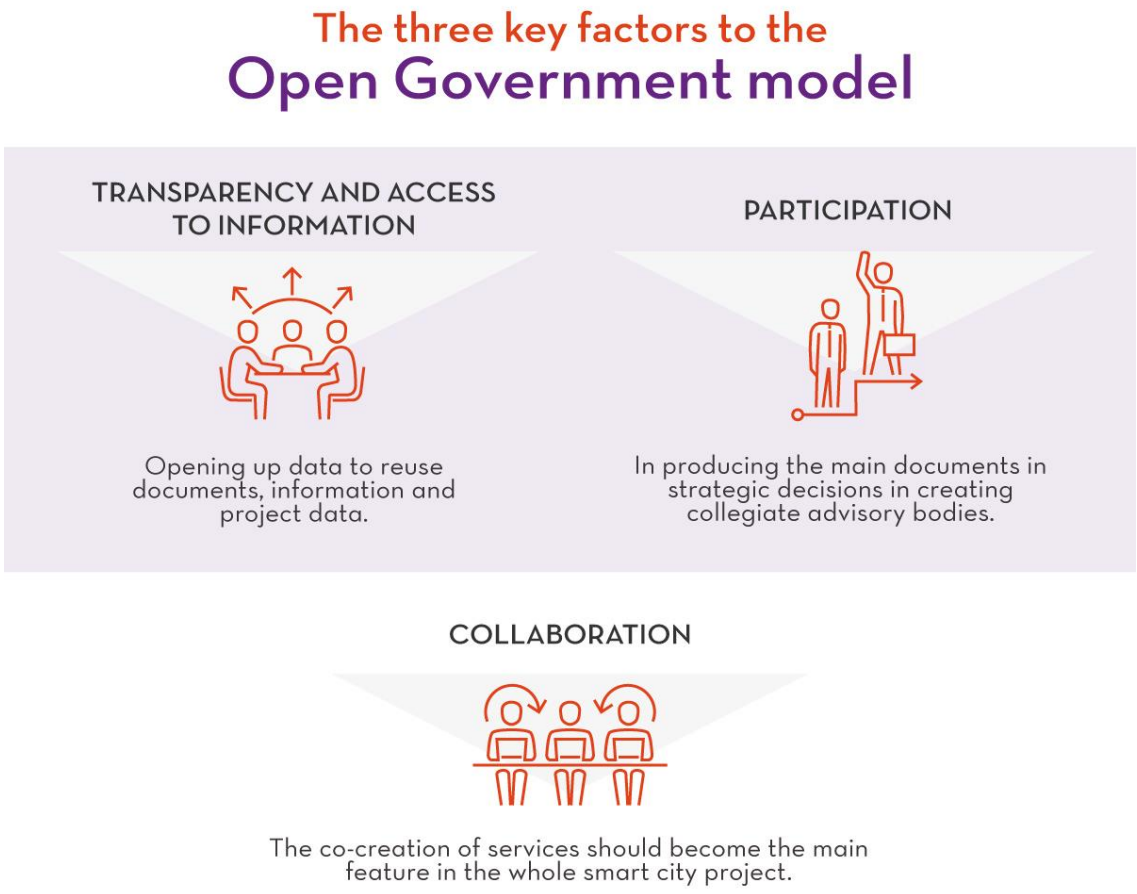
Finally, given that legally a written assurance of guarantees is required, **the contract becomes the ideal legal instrument to establish conditions and limits in the use of citizens' personal information, especially in the scenario where the same should be made available to third parties in order to satisfy the needs of services linked to smart cities.** Ultimately, an undeniable reality must be accepted: the numerous legal relations established in this type of project and diverse objects of the same that, at times, can even lead to interfere with each other given the multiple legal interests in play. Therefore, the vital cohesion of planning and execution specifically requires a new approach of contract management by public authorities involved in the smart city project and, in a special way, by local government.

5.4. The necessary adoption of a management model based on the principles of Open Government

In light of the complexity inherent in smart city projects, it is undeniable that they have to be implemented using an open government model structured with a flexible, transparent dialogue, coordinated with the diverse parties involved, in other words, industry, civil society, other public bodies . Otherwise, the foundations can be difficult to lay down so that the opening up of data in this type of initiative may result in success; particularly in regards to the need of data availability for all participating parties independent of their legal nature and, that without a doubt would be more complicated, in accordance with the demands of open data.

As explained in the previous section, in some cases the city council will be able to impose certain conditions on contractors and their own staff but, however, an active collaboration is also required from these beyond the strict submissions to legal provisions and contractual clauses.

This premise is still more important in relation to the other parties involved in the project who, apart from the promotional measures and above all economic incentives, ultimately only get involved if there are legal conditions and a suitable management environment.



According to the political-administrative conception of Open Government, three factors are key from which this **management model should be implemented in smart city projects: transparency and access to information, participation and collaboration.** So, this approach in some way may mean that the local government renounces exercising their powers and, in a more general way, the corresponding institutional leadership, if adopting a role that includes the criteria and points of view from the other parties involved according to the above principles.

Furthermore, it is a general and permanent requirement that must be observed both in the design and the genesis of the project, during its execution and, above all, when periodically reviewing. In this regard, **transparency and access to information have to be a part of a central focus**, in such a way that apart from the mere opening up of data in order to re-use it, **it should also be applied to the main documents, information and data related to the project, beyond the subjective limitations that the legislation** suffers from in this area.

Secondly, participation has to be shown both in a functional manner, through the corresponding processes in producing the main documents and adopting strategic decisions as, similarly, in a structural perspective through **creating collegiate advisory bodies** that would be responsible for not only participating in the design and main strategical decisions but, above all, in reviewing and updating the project.

Finally, the collaboration and, specifically, **the co-creation of the services have to become**, effectively and not purely nominal, **a main feature of any smart city project.** As only from this proposal can it truly be implicated in society in the search for and development of new services or, where appropriate, in the reconfiguration of some existing services. In any case, this last factor requires a clear commitment to innovation in using contractual tools by local authorities as otherwise, the formalities and

procedural requirements could stifle the creativity and commitment from social agents potentially interested in being involved in the task.

The effective application of governance based on the principles of Open Government has a double importance when referring to those actions that could affect the legal position of citizens in particular. In this sense, it is especially important that transparency and their participation in relation to decisions around privacy policy is reinforced. Specifically, the employment of data related to the provision of services and use of public goods should be taken through a public information process in a formalised administrative ad hoc process, in such a way that can guarantee both the knowledge of strategical decisions proposed and, above all, the effective participation of physical persons affected and representative bodies of the diverse social interests related to the project.

In the last instance, it is a basic measure that, as well as reinforcing it democratically, allows civil society to be involved in the commitment and responsibility through the success of a strategical initiative for the local government and, by extension, increase trust based on the real fulfilment of legal safeguards.

6. FINAL CONCLUSIONS

The opening up of data linked to a smart city project requires a perspective that incorporates legal criteria from a strategic, proactive transversal, open and technologically advanced perspective. With this, there is an attempt to, ultimately, overcome the limitations that the current regulatory framework involves, overcoming

as such rigid interpretations, unnecessary formalities and shortfalls in a perspective based on the overall coherence of the project.

Apart from a simple quantitative and qualitative improvement in providing services, the smart city sets out a medium and long term approach that includes the city as an overall dimension that has to be applied to its management. Given this challenge it is necessary to be aware of the fragmentation of the existing regulatory framework, which is not fully prepared to face the legal challenges of smart cities from classic standards on which the regulations of administrative activity is based on. That is, the exercise of powers and authorities from unilateralism and the own perspective of staff on their service.

Given this reality local government must not wait to push the necessary legal reforms to ensure that smart cities have a legal framework fully adapted to its unique features. On the contrary, they have to tackle the challenge of making adjustments that are feasible for their own framework and, above all, opt for a confident and effective leadership where legal instruments are not seen as a definitive inhibitor to innovation but, on the contrary, as an effective guarantee that serves to integrate all actors in play on the precedence of general interest.

Otherwise it will be difficult for the information created in the smart city ecosystems to be opened according to a non-fragmented, comprehensive, technologically neutral and completely inter-operable perspective, also from the legal approach.

Conditions all of which inexcusable so that they can offer value added services based on their re-use according to open data principles.

7. BIBLIOGRAPHY

Academic articles and papers (in alphabetic order)

- BALCELLS PADULLÉS, J. DELGADO GARCÍA, A.M., FIORI, M., MARSAN RAVENTÓS, C., PEÑA-LÓPEZ, I., PIFARÉ DE MONER, M.J. and VILASAU SOLANA, M. (coords.): *Regulations smart cities. Actas del XI Congreso Internacional Internet, Derecho y Política*, Barcelona, UOC-Huygens Editorial, 2015. Available at http://edcp.uoc.edu/proceedings_idp2015.pdf
- FERNÁNDEZ SALMERÓN, M.: "Soluciones innovadoras y gestion avanzada en entornos urbanos: Problemas jurídicos derivados de la contratación pública en el desarrollo de ciudades inteligentes", *Istituzioni del federalismo: Rivista di studi giuridici e politici*, núm. 4, 2015. Available at http://www.regione.emilia-romagna.it/affari_ist/Rivista_4_2015/Salmeron.pdf
- PIÑAR MAÑAS, J.L. (dir.), *Smart cities. Derecho y técnica para una ciudad habitable*, Ed. Reus, Madrid, 2017.
- RIVERO ORTEGA, R. Y MERINO ESTRADA, V.: "Innovación, *smart cities* y Administración electrónica aplicada al urbanismo", en J. GIFREU FONT, M. BASSOLS COMA y A. MENÉNDEZ REXACH (dirs.), *El Derecho de la ciudad y el territorio. Estudios en homenaje a Manuel Ballbé Prunés*, Instituto Nacional de Administración Pública, Madrid, 2016.
- VALERO TORRIJOS, J.: "Ciudades inteligentes y datos abiertos: implicaciones jurídicas para la proteccion de los datos de carácter personal", *Istituzioni del federalismo: Rivista di studi giuridici e politici*, núm. 4, 2015. Available at http://www.regione.emilia-romagna.it/affari_ist/Rivista_4_2015/Torrijos.pdf

Reports, other documents and audio visual content (in order of appearance)

- AENOR: "Normalización en Ciudades Digitales-España (CTN 178)". Available at http://www.aenor.es/descargasweb/normas/aenor-Spanish-standardization-on-Smart-Cities-CTN-178.pdf
- Spanish Data Protection Agency: "Orientaciones sobre Protección de Datos en la REUTILIZACIÓN de la información del sector público". Available at http://www.agpd.es/portalwebAGPD/canaldocumentacion/publicaciones/common/Guias/2016/Orientaciones_proteccion_datos_Reutilizacion.pdf

- Asociación Profesional Española de Privacidad-APEP: "Tratamiento masivo de datos: big data, smart cities, wearables". Available at https://www.youtube.com/watch?v=ao5YeuqDUZU
- ATHERTON, M. y otros (coord.): "Public procurement for smart cities", *Smart Cities Stakeholder Platform*. Available at https://eu-smartcities.eu/sites/all/files/Guideline-%20Public%20Procurement%20for%20smart%20cities.pdf#page=13
- Autoridad Catalana de Protección de Datos: "La protección de datos de carácter personal en las ciudades inteligentes (smart cities)". Available at http://apdcat.gencat.cat/es/documentacio/smart_cities/
- BERNAL BLAY, M.A. y GIMENO FELIU, J.M. (coords.): "Guía 2.0 para la compra pública de innovación". Available at http://www.idi.mineco.gob.es/stfls/MICINN/Innovacion/FICHEROS/Guia_2_0_CPI_V5_Borrador_web.pdf
- BONILLA ORTEGA, V.: "Retos de Accesibilidad del Plan Nacional de Ciudades Inteligentes y su articulación con el Plan de Acción de Gobierno Abierto de España". Communication presented at *II Congreso Ciudades Inteligentes*. Available at https://www.esmartcity.es/comunicaciones/retos-accesibilidad-plan-nacional-ciudades-inteligentes-articulacion-plan-accion-gobierno-abierto-espana
- FORDHAM LAW SCHOOL: "Smart Law for Smart Cities. Regulation, Technology and the Future of Cities". Available at https://www.youtube.com/watch?v=gp0RoCQG2no
- GIMENO FELIU, J.M.: "La contratación pública estratégica: para qué, cómo. Oportunidades y estrategias". Available at https://www.youtube.com/watch?v=i4XQcxdOYRY
- GRUPO DE TRABAJO DEL ARTÍCULO 29 SOBRE PROTECCIÓN DE DATOS: "Dictamen 06/2013 sobre datos abiertos y reutilización de la información del sector público (ISP)". Available at http://ec.europa.eu/justice/data-protection/article-29/documentation/opinion-recommendation/files/2013/wp207_es.pdf
- GRUPO DE INTERPLATAFORMAS DE CIUDADES INTELIGENTES: "Smart Cities. Docoumento de visión a 2030". Available at http://gici.eu/sites/default/files/gici/public/content-files/pages/GICI-esp.pdf#page=101
- IGLESIAS, C.: "Open data: una herramienta para construir Smart Cities", *XII Congreso Ciberciudadano*. Available at:

https://es.slideshare.net/carlosiglesiasmoro/open-data-una-herramienta-para-construir-smart-cities

- LEFEBVRE-EL DERECHO: "Retos jurídicos de la innovación #ConversacionesLED". Available at https://www.youtube.com/watch?v=xKS1R_rlmrY
- Observatorio Nacional de las Telecomunicaciones y Sociedad de la Información-ONTSI: "Estudio y guía metodológica sobre ciudades inteligentes". Available at http://www.idi.mineco.gob.es/stfls/MICINN/Innovacion/FICHEROS/Guia_2_0_CPI_V5_Borrador_web.pdf
- SEISDEDOS, G. y otros, *Smart cities: La transformación digital de las ciudades*, Instituto de Empresa-PwC, 2015. Available at https://iot.telefonica.com/libroblanco-smart-cities/media/libro-blanco-smart-cities-esp-2015.pdf
-

Websites (in order of appearance)

- "La reforma de la Administración electrónica: una oportunidad para el open data". Available at http://datos.gob.es/es/noticia/la-reforma-de-la-administracion-electronica-una-oportunidad-para-el-open-data-0
- "La accesibilidad de la información en poder de las Administraciones Públicas conforme a los estándares RISP: ¿una obligación exigible?". Available at http://datos.gob.es/es/noticia/la-accesibilidad-de-la-informacion-en-poder-de-las-administraciones-publicas-conforme-los
- "Transparencia y reutilización de la información del sector público: ¿dos puntos de vista complementarios desde la perspectiva legal?". Available at http://datos.gob.es/es/noticia/transparencia-y-reutilizacion-de-la-informacion-del-sector-publico-dos-puntos-de-vista
- "Visión general de la normativa española sobre reutilización de la información del sector público". Available at http://datos.gob.es/es/noticia/vision-general-de-la-normativa-espanola-sobre-reutilizacion-de-la-informacion-del-sector
- "¿Ciudades "inteligentes" con una gobernanza "estúpida"? Available at https://rafaeljimenezasensio.com/2017/06/01/ciudades-inteligentes-con-una-gobernanza-estupida/ (Rafael Jiménez Asensio)
- "Licencias de uso asociadas a las iniciativas de datos abiertos en España". Available at http://datos.gob.es/es/noticia/licencias-de-uso-asociadas-las-iniciativas-de-datos-abiertos-en-espana

- "RECI defiende la modificación de la Ley de Contratos del Sector Público en relación con las smart cities". Available at http://www.redciudadesinteligentes.es/noticias/ampliar.php/Id_contenido/1203/
- "Smart cities y contratos públicos". Available at http://www.legaltoday.com/blogs/transversal/blog-administracion-publica/smart-cities-y-contratos-publicos (Javier Vázquez Matilla)
- "Personas, territorio y gobernanza. ¿Es posible otro modelo #Smartcity?" Available at http://www.administracioninteligente.org/?p=1282 (Antonio Díaz Méndez)