Public-private relationships and smart cities

Opportunities and challenges for innovation

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I. Introduction

1. More than half of the world population lives in cities nowadays. Because of the increasing population, density and mobility cities are facing unprecedented sustainability challenges. At the same time European local governments seek heartily to engage with the opportunities offered by technological evolutions including artificial intelligence, the Internet of Things and big data: they develop "smart cities". These local projects take many different forms[2]. They have one major feature: they combine various mixes of digital technologies, artificial intelligence, accumulated and aggregated data about the environment and the people in this environment in order to change the way in which local government, local business and / or local citizens behave and make their decisions about their own interests and lives. This combination of technology and information in smart cities exercise thus a form of modern power on individuals' lives.

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[2] For illustrations of these forms in England and Belgium, see: "Setting up public-private partnerships in smart cities – An exploration of legal techniques and some challenges", *in The Future of Administrative Law* (LexisNexis, forthcoming).

The ways in which this power is generated, implemented and monitored cause political and social controversy.

2. These lively debates bring to the fore an age-old distinction, that of the public/private divide, and the allocation of different spheres of action and regulation among public and private actors. Smart cities are feared to lead to the privatization of the public space.[3] Indeed embracing this digital evolution in smart cities requires cooperating and partnering with private enterprises, civil society organizations and citizens.

3. A fundamental feature of smart cities needs to be acknowledged: *i.e.* the multiplicity of actors and the need to develop a legal umbrella for a range of fluid relationships among them, where the cooperation and interactions between the project members evolve over time. Indeed, putting at the center of a project "innovation" and "innovative ideas" is in itself more indeterminate than procuring the building of a bridge linking A to B. What is at stake with the ways in which smart cities bring together public and private actors to develop and implement technologies that shape citizens' behavior and optimize public services is that the role allocation between the public and the private actors is dauntingly unclear: who is actually taking policy decisions or individual decisions in local government? Who is actually managing local issues? And according to

[3] S. Ranchordas, "Citizens as Consumers in the Data Economy: The Case of Smart Cities", (2018) 4 Journal of European Consumer and Market Law (forthcoming); S. Ranchordas, "Law and Autonomous Systems Series: Cities as Corporations? The Privatization of Cities and the Automation of Local Law", https://www.law.ox.ac.uk/business-law-blog/blog/2018/04/law-and-autonomous-systems-series-cities-corporations-privatization.

which legal principles? Are they the public bodies? The economic partners? Do their perceptions of who is in charge match the legal framework and especially the legal protections available to citizens?

4. When it comes to the discussions about how smart cities are a framework where power gets diffused, we touch upon administrative law and the rule of law, two aspects that scholarship starts to discuss. The need to ensure an appropriate degree of transparency about the working of smart cities, their decision-making processes and their algorithms becomes increasingly stressed.[4] For instance, Oswald analyses how the duty to give reasons should be reconciled with smart cities.[5] For Hildebrandt, an element of contestability of the decisions needs to be reintroduced: this means adversarial debates between the different actors involved in the production of decisions, which include experts, policy-makers and the people who suffer the direct and indirect effects of these decisions.[6] We are closed to the right to be heard, famously at the heart of administrative decision-making.[7]

5. Building on this strand of analysis, this explorative paper maps the role of the law in organizing public private relationships in smart cities. Administrative law is not

[4] R. Brauneis and E. Goodman, "Algorithmic transparency for the smart city", (2018) 20 *Yale Journal of Law and Technology,* 103; S. Ranchordas and A. Klop, "Data-driven regulation and governance in smart cities", *in* A. Berle, V. Mak, E. Tjong Tjin Tai (eds), *Research Handbook on Data Science and Law* (Edward Elgar, 2018, forthcoming). Transparency of algorithms is even enshrined in the French Digital Republic Act 2016 (Art. L311-3-1 *Code des relations entre le public et l'administration*).
[5] M. Oswald, "Algorithm-assisted decision-making in the public sector: Framing the issues using administrative law rules governing discretionary power" (2018) Phil. Trans. R. Soc. A 376: 20170359.
[6] M. Hildebrandt, "Algorithmic regulation and the rule of law", (2018) Phil. Trans. R. Soc. A 376: 20170355.
[7] G. Della Cananea, *Due Process of Law beyond the State* (Oxford University Press, 2016).

only functional, *i.e.* it does not only provide solutions to economic, social or environmental needs. It is also instrumental and organizational. It conveys specific values related to how power can be exercised in a given society[8] and how governments and their public services can be organized. It will be argued that the key role that the law has to play in relation to regulating public private relationships in smart cities relates to ensuring that no party can hide behind a veil of ignorance to escape the consequences of a project that has soured. Administrative law's peculiar role in this regard hinges around the public/private divide: firstly, it has to ensure a good local governance in the interest of the local population; secondly, it has to ensure a level-playing field to the private actors interested in being involved in smart city projects. How these two roles are organized and coordinated is continually being reshaped. Smart cities are the most recent illustration of this on-going process of experimentation.

6. Overall, these roles played by the law require that agency and ascription of decisions need to be clear in smart city projects. Projects and programs need to be well structured and carefully prepared. Relationships between public and private actors need to be cleverly, "smartly" even, structured within legal constraints: public bodies are the entities that have to give account for the success and failures of smart cities: they need to ensure they have the resources, structures and expertise to follow up how smart cities are working in practice: they cannot delegate the very core of their functions (*i.e.* the pursuit of the local interest) to private actors. They can delegate some aspects of

[8] P. Cane, *Administrative Law* (Oxford University Press, Clarendon Law Series, 2011, 5th edn) chapter 20.

these functions but eventually their ultimate loyalty due to their constituents, as provided for in the law, is non-delegable.[9]

7. This paper reads as follows. Section II explains the general interplays between the law, public private relationships and smart cities.[10] The following sections map these interplays between public and private actors, leaving aside the role played by citizens. Citizens matter very much in smart cities but they usually are at the receiving end of the projects.[11] However, this papers focuses on three steps in the making of smart city projects where the role allocation between public and private actors are unclear. Section III analyses how public and private parties (can) communicate with each other and draws attention to the relevance of legal rules in shaping their interactions. Section IV analyses ways in which public actors support the development of smart cities and their legal translation. Section V maps the procurement routes available to public actors

[9] The extent to which delegation may be possible is related to the nature of the relationships between local bodies and their local population, which varies from country to country. In some legal systems, such as France (article 72 Constitution) or Belgium (article 162 alinea 2 Constitution), local autonomy (and accountability) is constitutionally enshrined. In England, local governance is connected to the stewardship and spending of taxpayers' money (see J. Barratt, "Public Trusts", (2006) (69:4) *Modern Law Review*, 514-542; HM Treasury, *Managing public money* (2013 with annexes revised at March 2018), 53). J.S. Mill's ideas that local government only have to make sure that local needs are provided for (and not that local government have to provide for these local needs themselves) remain pervasive in modern English local government. The lack of constitutional protection for local tasks has been lamented in English scholarship (S. Bailey and M. Elliott, "Taking local government seriously: Democracy, autonomy and the Constitution", (2009) (68:2), *Cambridge Law Journal*, 436-472).

[10] See also for a brief overview: M. Milenković, M. Rašić and G. Vojković, "Using Public Private Partnership models in smart cities– proposal for Croatia" (2017) MIPRO, 1656-1661 (available at https://bib.irb.hr/datoteka/887383.Using_Public_Private_Partnership_models_in_smart_cities.pdf.

[11] In some instances, citizens act as co-creators in smart cities. However, they then may behave like start-ups, small economic actors. For the limited purpose of this paper, other roles are not considered: it would bring us into querying whether in some cases representative structures are not giving way to deliberative democratic structures. Although smart cities can be connected to these developments, most examples we have encountered bring smart cities more clearly into the classic realm of representative local democracy.

engaging in smart cities; with a special focus on the development of public-private vehicles for managing smart cities. Conclusions are drawn in section VI.

II. Law, public-private relationships and smart cities

8. No universally accepted definition of what a "smart city" is exists. The EU defines "*smart cities"* as*"a place where the traditional networks and services are made more efficient with the use of digital and telecommunication technologies, for the benefit of its inhabitants and businesses."*[12] This broad definition lies at the heart of the European Union's investment *"in ICT research and innovation and developing policies to improve the quality of life of citizens and make cities more sustainable in view of Europe's 20-20-20 targets*."[13]

9. Overall, smart cities are local projects often characterized by the creation of networks with sensors; the generation of data, real time data streams, mining of data, interconnection to things and people, use of networked infrastructure to improve efficiency, improvement of processes, real time monitoring of things like traffic, air, water or soil. However, smart cities are not only projects dealing with material aspects such as technological development and expansion.[14] The umbrella concept "smart city" does not only refer to a context characterized by an integration between infrastructure and technology. It goes further to point towards the creation of a general (institutional, economic, organizational or socio-cultural) context where (local) government and

[12] https://ec.europa.eu/digital-single-market/en/smart-cities.
[13] Ibid.
[14] A. Castelli, "Smart Cities and Innovation Partnership", (2018) EPPPL, 210.

private (economic and non-economic) actors rely on infrastructure, and technology to enable social innovation and hence pursue the general improvement of life's quality over a local space.[15] Smart cities are organizational means of local governance. They seek to address existing local societal issues through the development of local governance structures that reflect strategically on these issues: they aim to think forward and plan differently their local policies. In responding speedily to changing local needs, smart cities would facilitate the coming of a form of responsive decision-making.[16]

10. Smart cities are revolving around two main drivers in local decision-making: firstly, efficiency (and especially speed) and secondly, economy in the sense of cost savings and better resources allocation for cash-strapped local authorities.[17] For instance, in being more accurately informed of the changing patterns of commuters over time, local authorities may gain the necessary evidence to extend a metro line. In better anticipating statistical features of their population, local authorities may be in a better position to know when to reduce – and maybe close down – social services. According to this approach, smart cities contribute to a better management of local resources (infrastructure, staff, service provisions). This would also apply to real time and predictive policing.[18]

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[15] *Ibid*.
[16] For responsiveness as a standard in public contracting, see P. Vincent-Jones, *The New Public Contracting - Regulation, Responsiveness, Relationality* (Oxford University Press, 2006).
[17] For the dire situation of local finances in England: NAO, *Financial sustainability of local authorities 2018*, 2018 ; https://www.theguardian.com/politics/2018/jun/27/english-councils-warn-worst-is-yet-to-come-on-cuts.
[18] See other contributions to this conference (xx); add L. Edwards, "Privacy, security and data protection in smart cities: a critical EU law perspective", (2016) *European Data Protection Law Review*, 28–58.

11. Hence, smart cities and their algorithms may inform directly the way in which local bodies exercise their discretion and fulfil their legal duties. Smart cities may go further and lead to "algorithmic" regulation whereby decisions pertaining to the local issues are more or less generated directly through algorithms. The scope of human or organizational agency can become very narrow and/or elusive. Here power and decision-making are no longer in the hands of identifiable local power-holders: they have shifted – through the black box of the technology – to the diffuse networks of multiple public and private actors all partly in charge of little sequences of the wider chain of innovative technologies.[19] This leads to a traditional question in (English) administrative law of how administrative discretion is embedded in constraints, either legal, normative or technological constraints. Smart cities are not only a tool to make individually idiosyncratic decisions on the rights of one individual citizen to access a parking for disabled people at 10:00 all Fridays of 2019. They are structuring political decisions for whole classes of local citizens for the foreseeable future. Legality requirements meet efficiency requirements.

12. Furthermore, smart cities require specific expertise and money. Expertise would come mostly from academic institutions and money will be leveraged by private actors. This leads to developing "public private partnerships" (PPPs), a concept used since the early 1990s to describe arrangements whereby the public and the private sectors bring together their respective skills in order to deliver complex public projects. The World Bank defines broadly PPPs, as "*[a] long-term contract between a private party*

[19] For the diffusion of liability in contractual networks of any kinds, see e.g. G. Teubner, *Networks as connected contracts* (Oxford, Hart Publishing, 2011).

and a government entity, for providing a public asset or service, in which the private party bears significant risk and management responsibility and remuneration is linked to performance".[20] The Global Innovation Index's definition is equally broad, namely that PPP is "*a relationship in which public and private resources are blended to achieve a goal or set of goals judged to be mutually beneficial both to the private entity and to the public.*"[21]

13. PPPs tend to appear in the management toolbox[22] when three factors are coming together: complexity, innovation and partnership.[23] Firstly, the complexity[24] is pervasive in smart cities : many public documents flag up that the scales of the societal issues in local government (in terms of pollutions, traffic, safety etc.) makes it challenging, even close to impossible, for one single organization to have all the necessary resources (in terms of staff, knowledge, money) to address these societal issues.[25] Secondly, innovative solutions are needed to address these complex problems.

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[20] World Bank, *Public-Private Partnerships Reference Guide, v.3.0,* 2017 (https://pppknowledgelab.org/guide/sections/1).
[21] L. Witters, R. Marom and K. Steinert, "The Role of Public-Private Partnerships in Driving Innovation", *The Global Innovation Index 2012,* 81.
[22] For an analysis of PPPs as tools, see: L. Salamon, *The tools of government – A guide to the new governance*, (Oxford University Press, 2002); C. Hood and H. Margetts, *The tools of government in the digital age* (Basingstoke: Palgrave, 2007).
[23] Y. Marique, *Public-Private Partnerships and the Law – Regulation, Institutions and Community* (Cheltenham: Edward Elgar) 140-146.
[24] For an overview of the scientific community dedicated to researching "complex systems", see https://cssociety.org/community.
[25] For instance: "*how an ancient model of collaboration—the public-private partnership—is being applied in novel ways to address some of the large-scale challenges faced today. The reality is that no organization— no government, company, research institution, or nongovernmental organization (NGO)—by itself can solve our biggest problems, such as the economic crisis facing Europe or the massive emerging ecological threats. They must partner. They must collaborate.*" (B. Verwaayen, "Embracing New Types of Partnerships to Drive Open Innovation", *The Global Innovation Index 2012*, p. vii).

Finally, these can only be generated thanks to a coalition or a bundling of forces among actors having different skills. So, in smart cities, public authorities initiate and support clusters of actors coming from the industry, academia, local organizations, citizens etc.[26] These clusters are the seedbeds of knowledge creation.

14. The overall focus of PPPs in smart cities is to help overcome the extreme fragmentation / compartmentalisation that has become generalized across organizations, being in (local) government, in the industry and in academia – where many decisions tend to be streamlined and standardized, in ways often detached from the reality.[27] Once questions escape the neat tick box exercise or the swap discrete transaction of tit-for-tat, hence once questions require a longer-term approach, with various reflective cycles, different decision-making pathways are required. This is exactly what happens with smart cities where addressing issues connected to over-crowding, over-consumption and depletion of basic resources need a long-term view to develop sustainable solutions, hence long-term funding and commitment from many actors. This commitment is achieved by identifying strategic opportunities and pressing problems that are specific to the city and delivering attractive benefits in the short term. This means that a level of bundling of skills and resources is needed. Smart cities, through their ICT systems and dashboards, allow for integrating their management and their development over time.

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[26] L. Witters, R. Marom and K. Steinert, "The Role of Public-Private Partnerships in Driving Innovation", *The Global Innovation Index 2012,* p. 82.
[27] A. Castell, A. Gregory, G. Hindle, M. James and G. Ragsdell (eds), *Synergy Matters - Working with Systems in the 21st Century* (Kluwer Academic Publishers 1999).

15. However, PPPs have long attracted polarized discussions both at the level of principles and of detailed implementation. At the level of principles, PPPs are seen as a potential channel towards privatization.[28] Democratic risks can also be identified as public bodies need to be on top of the matters: they need to understand their own commitments (not only in the short term leading up to next elections but also in the longer term), they need to maintain political accountability[29] and they need to set up the appropriate procedures and systems to control and monitor the ways in which PPPs work.

16. At the level of implementation, the PPPs developed in the 1990s and 2000s were most often set up in relation to infrastructure and real estate projects. This led to the emergence of detailed standards contracts and the setting up of dedicated units in central government to help negotiate these detailed contracts.[30] The procedures supporting the monitoring of their performance remain fraud with problems.[31] In any

[28] E.g.: F. Miraftab, "Public-Private Partnerships – The Trojan Horse of Neoliberal Development?", (2004) (24:1) *Journal of Planning Education and Research,* 89-101.
[29] For a discussion of accountability in PPPs, see N. Meletiadis, *Public Private Partnerships and Constitutional Law – Accountability in the United Kingdom and the United States of America* (Routledge, forthcoming). Also T. Willems and W. Van Dooren, "Multiple accountabilities in public-private partnerships (PPPs) : How to unravel the accountability paradox?", in T. Christensen (eds) *The Routledge handbook to accountability and welfare state reforms in Europe* (Routledge, 2017), 1-12.
[30] Y. Marique, *Public-Private Partnerships and the Law – Regulation, Institutions and Community* (Cheltenham: Edward Elgar) chapter 2 (for the situation in England). Also A. Akintoye, e.a. (eds.), *Public private partnerships : A global review* (Routledge, 216) 432p.
[31] E.g. : NAO, *Projects leaving the Government Major Projects Portfolio*, 2018. This report deals with the management of major and complex projects, regardless on their technical names. These projects fall within four categories: Government transformation and service delivery, infrastructure and construction, ICT and military capability. The arrangements supporting smart cities could easily fall within any of the first three categories. The report mentions for instance the "super-connected cities" programme (which run between 2013 and 2015 to help funding broadband connections to SMEs in a range of cities)

case, the standard contracts developed for these real estate projects do not meet the legal questions arising in smart cities and legal scholarship is only now starting to contemplate the legal implications of PPPs when used in smart city projects.[32] Of particular interest here is the ways in which PPPs can offer a flexible structure able to respond to the fast changing technology used in smart city projects.[33]

17. This paper unpacks the incremental shaping of the decision-making process leading up to the smart city partnerships and how content is injected progressively into them. It isolates three significant "grey areas" or stages shaping these arrangements: initial discussions (III.), (intermediate) support offered by public bodies to private actors (IV) and the selection of the procurement route leading up to a formal working relationship where private partners are commissioned to provide services to civil servants and citizens (V).

(https://www.gov.uk/government/publications/2010-to-2015-government-policy-broadband-investment/2010-to-2015-government-policy-broadband-investment).

[32] Most of the literature dedicated to smart cities is generated by computer sciences and communication sciences (e.g. G.S. Peña and N. Jędrzej, *Between antidiscrimination and data: understanding human rights discourse on automated discrimination in Europe*, (2018) LSE), urban planning and sociology (e.g. L. Mora, R. Bolici and M. Deakin, "The First Two Decades of Smart-City Research: A Bibliometric Analysis", (2017) (24:1) *Journal of Urban Technology*, 3-27; A.-M. Valdez and M. Cook, "Roadmaps to utopia: Tales of the smart city" (2018) (55:15) *Urban Studies*, 3385–3403).

[33] In a way this approach dates back to the HM Treasury, Enterprise & Growth Unit, *Selling into Wider Markets: A Policy Note for Public Bodie*s, 2002, where PPPs were used to support the development of "wider markets opportunities", *i.e.* finding ways in which public bodies could "*make better use of their assets by engaging in commercial services based on them*" (see p. 5).

III. First challenge: exploring the scene and identifying the main relevant actors and possible solutions

18. The first challenge for the public and private actors is to set up the scene for the would-be "smart city": who are the main players relevant to tackle the societal needs that the smart city seeks to address? What can they bring to the project? How? IT law consultants know this preliminary step well when it comes to negotiating major IT outsourcing deals. In Davies' words,

> "the biggest difference and challenge for the negotiation of a multi-jurisdictional outsourcing is often to my mind bridging the cultural, linguistic and behavioural gaps as well as addressing the legal differences that are inevitable when a number of countries and regions are involved. Even in a single country outsourcing there will be different attitudes and approaches which will be encountered and need to be dealt with in order to reflect the different interests and priorities of the parties".[34]

19. Smart cities may be deceptive here: are we not talking about "local" government trying to address local issues? Yes, but the public and private actors in these projects have different experiences and backgrounds.[35] For instance, the private actors are often international firms such as Sidewalk Labs (Google), Cisco, Siemens, Huawei, Nokia or Dell. In a way, public and private actors starting a discussion about a smart city have to choose each other: they need to be right for the type of endeavor they want to develop.[36] This section analyses the content of this step in terms of setting the right conditions

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[34] C. Davies**,** "Multi-cultural IT outsourcing contracts", 2016, *Communications Law* 8-11, 8.
[35] E.g.: MRUK, *Future City Glasgow – Evaluation*, sd, pp. 41 and 93.
[36] F. Sandulli, A. Ferraris and S. Bresciani, "How to select the right public partner in smart city projects", (2017) (47:4) *R&D Management*, 607-619 mention that some cities claim to be "smart" or to want to be smart without really meeting basic requirements towards this project. The authors suggest three tests for selection, *i.e.* partner complementarity, commitment and compatibility.

enabling trust among actors. It then turns to exploring the legal requirements that apply to the actors during this step and to reviewing some of the main expressions that this step can take with their main features and challenges.

20. A space for exchanging, testing and elaborating ideas is needed. Sharing information and data, discussing, the state of the art and current developments in the related sector, discussing new solutions for complicated problems lies at the heart of smart city projects implementing new technology and innovative ideas. The advantages of discussion with market parties are manifold: they raise problem awareness, help exchanging knowledge, allow better insights on the market about state-of-the-art technologies and on-going developments, increase interactions to fine tune demand, check the viability of potential solutions and associated risks.

21. Trust among all the actors involved is needed for developing successfully smart cities and their innovative components. On the one hand, private actors can only provide relevant products and services if they fully understand the needs of the public actors to be addressed. They need to have an accurate diagnostic of the problem (data, objective evidence etc.) so that they can build their systems on a robust basis and not quick sand. On the other hand, public actors need to trust that the private actors are looking for ways to help them address local problems: public actors may be wary of legal risks (such as a legal challenge by competitors or citizens, oversight by competition / regulatory

agencies etc.) and be worried that their private counter-parts seek to capture them into lucrative agreements, detached from the general interest.[37]

22. It is crucial for local government to assess how they can engage in dialogues and interactions with the market and how the law is regulating those interactions to preserve a free and undistorted competition on the market and to protect fundamental principles such as the principles of equality and non-discrimination. Legal requirements frame the options available for parties, sometimes preventing forms of exchanging communication they may feel would be fruitful in their specific circumstances or requiring resource-intensive and time-consuming procedures. Regulation and legal techniques may therefore be felt as a hindrance, but it is also an opportunity. Rules can be beneficial and enhance legal certainty and trust as they can protect trade secrets and intellectual property. Legal rules also protect the interests of consumers and market parties for example against anti-competitive behavior, market collusion and distortion of competition.

23. Whereas the exchange of information between private players can trigger legal issues from competition law perspective,[38] exchange of information between public and

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[37] Cf. Smart cities *vs.* "locked-in" cities, https://cordis.europa.eu/news/rcn/135237_en.html; T. Casey, V. Valovirta, I. Heino, J. Porkka, V. Kotovirta and S. Ruutu, *Interoperability Environment for Smart Cities (InterCity) Report of Phase 2 – Smart City Interoperability Environment Concept*, https://www.vtt.fi/sites/InterCity/en/Documents/InterCity_Report_Phase_2_FINAL.pdf.

[38] For instance in terms of cartel and bid-rigging (see OECD, Recommendation on Fighting Bid Rigging in Public Procurement, 2012). CJEU, Case C-8/08, 4 June 2009, *T-Mobile Netherlands*, ECLI:EU:C:2009:343, [59]: "Depending on the structure of the market, the possibility cannot be ruled out that a meeting on a single occasion between competitors, […] may, in principle, constitute a sufficient basis for the participating undertakings to concert their market conduct and thus successfully substitute practical cooperation between them for competition and the risks that that entails." See also art. Article 101 alinea 1 TFEU that

private sectors falls within a "grey" area, in the sense that the law does not organize directly any specific procedure as such. Local bodies are entitled to seek information about their local issues as best as they can so that their needs are better identified and their decision-making towards addressing them as accurate as possible.[39] This helps local government to act professionally in their commercial relationships and indeed to be prepared and well aware of the issues that may arise along the road. In many ways this professional mindset is also to the benefit of economic actors who are then clearer about what they are expected to provide and more confident that the local authority is committed to deliver the smart city project so that the time and money invested in preliminary discussions are not wasted.

24. Concretely, local bodies can ask experts for advice or consult local citizens or organizations. They can also gather information about the market solutions available. In some cases, they even have to do so. For instance, the *(Public Service) Social Value Act* 2012 in England requires local bodies to consider the value they can secure for their area when buying services at the pre-procurement stage. This means that they need to

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prohibits as incompatible with the internal market a range of practices, including "those which: (a) directly or indirectly fix purchase or selling prices or any other trading conditions; (b) limit or control production, markets, technical development, or investment; (c) share markets or sources of supply; (d) apply dissimilar conditions to equivalent transactions with other trading parties, thereby placing them at a competitive disadvantage; (e) make the conclusion of contracts subject to acceptance by the other parties of supplementary obligations which, by their nature or according to commercial usage, have no connection with the subject of such contracts." However, special rules apply when it comes practices and cooperation involving to research and development (Commission Regulation (EU) No 1217/2010 of 14 December 2010 on the application of Article 101(3) of the TFEU to certain categories of R&D agreements. https://www.law.kuleuven.be/citip/blog/rd-agreements-and-eu-competition-law-when-can-companies-be-safe/).

[39] This leads to the field of "evidence-based decision making" as a way to produce "good decisions".

consider how the services they are going to buy may improve the economic, social or environmental well-being of the area, how they may secure this improvement and whether they should consult on these issues. In other cases, consultation can be encouraged as a way to seek early engagement of all players towards the development of new local policies. In its LEAN approach adopted in 2012, the UK central government recommended extended early market discussions (and even "boot camp"-type of discussions) in order to reduce the timescales and the costs of procurement.[40] And indeed, in some cases, the exchange of information is the first step in setting up a commercial relation and setting up a procurement procedure.

25. Interactions between the public and private actors prior to the procurement are looked upon suspiciously. Indeed, procurement law starts from the idea that all market parties should have equal chances to obtain the contract. If the public bodies have already had contact with some market players, these interactions may have biased them about what they need and how they can meet these needs thanks to available solutions on the markets. Prior discussions shape how public actors design their procurement so that they are no longer open to all possible goods or services that may exist on the market. The law seeks to ensure a level-playing field between market participants, trying to avoid any distortion of competition. This is even more important in projects as smart cities where contracts with public bodies may be crucial for new entrants to access this burgeoning market and where the current discussions may strongly contribute to shaping the structure of smart cities and of available technologies in the

[40] Procurement Policy Note, *Procurement Supporting Growth: Supporting Material for Departments*, Action Note 04/12 9May 2012, Annex C.

future. This approach also matters for public bodies that need to be aware of potential interoperability issues in the future that selecting some technologies may bring to the fore.[41]

26. In order to clarify this kind of conundrum, the EU sought to modernize its procurement framework the last decade with the view to enabling innovation, smart growth and its Europe 2020 agenda.[42] The current public procurement directives provide four tools in this respect. First, they created a new tender procedure integrating innovation into the procedure itself. Secondly they reaffirmed the use of a tender procedure integrating market consultations.[43] Thirdly, they clarified *expressis verbis* that preliminary market consultations are allowed.[44] However, these consultations cannot distort competition or lead to a violation of the principles of non-discrimination and transparency. More broadly, local governments need to respect the Treaty for the Functioning of the European Union (TFEU) principles. Hence, the principle of equality and proportionality also need to be complied with so that competition among economic

[41] Everybody has heard of stories about an organisation that had to find ways to escape an old IT system to keep up with upgrading services, merging with other organisations or collaborating with sister organisations. For examples see e.g. A. King and I. Crewe, *The Blunders of Our Governments* (Oneworld Publications, 2013).
[42] European Commission, *Green paper on the modernisation of EU public procurement policy – Towards a more efficient European Procurement Market*, Brussels, 27.1.2011, COM(2011) 15 final. Section 3.2 drew the attention of procurers on the shape of existing markets and the risks to aggravate non-competitive markets. It concluded on "*All measures aiming at enhancing competition in procurement markets presuppose that contracting authorities have a good knowledge of the markets on which they purchase (e.g. via studies on the structure and shape of the targeted market prior to the actual procurement).*" (p. 31).
[43] This paper comes back on this point in the section discussing the competitive dialogue and innovation partnership (see below, paragraphs 4746 and 4847-4948).
[44] See for example article 40 Directive 2014/24/EU of the European Parliament and of the Council of 26 February 2014 on public procurement and repealing Directive 2004/18/EC.

actors is not distorted.[45] Fourthly, article 41 of the directive 2014/24 regulates the prior involvement of candidates or tenderers who have advised local government during the preparation of a procurement procedure. In that case, the contracting authority "*shall take appropriate measures to ensure that competition is not distorted by the participation of that candidate or tenderer".* These measures "*include the communication to the other candidates and tenderers of relevant information exchanged in the context of or resulting from the involvement of the candidate or tenderer in the preparation of the procurement procedure".* Exclusion of a candidate or tenderer is an extreme measure that is only required if there is no less drastic way to ensure equality between economic actors.[46] Article 41 therefore leaves a wide margin of appreciation to local bodies to decide how best to design their preliminary discussions and procurement to ensure that competition is not distorted.

27. Overall, the EU procurement directive mainly implies that any early market engagement and dialogue need to be undertaken with due regard to the principles of transparency, non-discrimination, proportionality and equal treatment. Its objective is to protect competition between private actors so that the local government can benefit from this competition when it comes to designing the commercial relationships underpinning the smart city projects. In practice, local government have developed a range of more or less formal ways to organize this early market engagement. Among the less formal routes are for instance the organization of workshops and information

[45] O. Pantilimon Voda and C. Jobse, "Rules and Boundaries Surrounding Market Consultations in Innovation Procurement: Understanding and Addressing the Legal Risks", (2016) EPPPL 179.
[46] "Prior to any such exclusion, candidates or tenderers shall be given the opportunity to prove that their involvement in preparing the procurement procedure is not capable of distorting competition."

meetings, intermediate platforms and open networks, or the use of 'matchmakers'.[47] As these practices are mostly informal they fall in a really grey area where issues of equality and transparency could easily arise.

28. On the other hand, local government can also develop a formal market consultation. Such market consultation is open to the entire market: all potentially interested economic operators receive equal chances in presenting their ideas and participating in the discussions. The starting point of the market consultation is most often an effective advertising strategy including publishing the notice at national level and the dissemination of the upcoming market dialogue in relevant local and international journals and the Official Journal of the European Union (OJEU) by means of publication of a Prior Information Notice (PIN) in Tenders Electronic Daily (TED).[48]

29. A market consultation document is drafted and spread mentioning the desires for outcome, challenges and questions for the market actors. This document also mentions the rules for participating in the market dialogue and the way market parties are allowed to express their interest in participating in the market consultation and overall expectations of the local government involved. To be successful, such formal

[47] https://www.ktn-uk.co.uk/ and https://eu-smartcities.eu/

[48] See for example https://www.computable.nl/artikel/achtergrond/maatschappij/5244473/1444691/gemeente-tilburg-als-living-lab.html
https://denhaag.raadsinformatie.nl/document/6491109/2/RIS299774%20Intentieovereenkomst%20ICCoE%20met%20HTL%20Technologies%20BV

market consultation requires sufficient time planning and effective resource allocation.[49]

30. Fair competition entails that all market operators are given the same opportunities and an equal amount of information, knowledge and support not only during the market consultation, but also afterwards in a procurement procedure following the market consultation. To guarantee those principles good practice would recommend that local governments collect all information received, keep records and publish a summary of the input received by market parties following the market consultation. In that way, this grey zone prior to the actual decisions shaping the smart city projects becomes a bit less grey. Accountability is made easier in the follow up of the project.

31. In case of a subsequent procurement procedure, local governments should take measures in line with article 41 of the directive 2014/24[50] and avoid that the procurement procedure is biased towards a specific economic operator or towards a specific technology. Local governments need to share information with all the market players who are interested (whether they participated in the market consultation or not) to take part in the procurement, while also employing their best efforts to protect commercially sensitive information.[51] One way of doing this is by attaching the summary of the market consultation to the tender documents and by fixing reasonable

[49] O. Pantilimon Voda and C. Jobse, "Rules and Boundaries Surrounding Market Consultations in Innovation Procurement: Understanding and Addressing the Legal Risks", (2016) EPPPL 180-181.
[50] See above paragraph 26.
[51] O. Pantilimon Voda and C. Jobse, "Rules and Boundaries Surrounding Market Consultations in Innovation Procurement: Understanding and Addressing the Legal Risks", (2016) EPPPL 179-182.

time limits for the receipt of tenders, so that market parties that did not participate in the market consultation have sufficient time to come up with their solutions, which eliminate potential competitive advantages for economic actors who were involved in the preliminary discussions.[52]

32. Gathering information and scanning the market in a transparent way is one thing, setting up specific projects in practice is another. The next section pinpoints the pivotal role of governments and the most important means for enabling these initiatives, namely subventions (Section IV) and procurement (Section V).

IV. Second challenge: possible enabling from the (local) government

33. Launching smart city projects often requires an active support and decision from government enabling this project to get out of the ground to some extent. Sometimes companies need to use public space to place their sensors; sometimes government data is needed to facilitate a project or initiative; sometimes a local government is needed to give it credibility. Governments then take different roles: they can help with launching the projects, helping to scale up ideas so that they became

[52] CJEU, joined cases C-21/03 and C-34/03, 3rd March 2005, *Fabricom SA v Belgian State,* ECLI:EU:C:2005:127 is a famous case dealing with the potential conflict of interest of market players who had participated in the preliminary phase of a procurement. The CJEU recognized that such players are not in the same situation as players who have not been part to this preliminary phase (paragraph 28). This market player is thus at an advantage when it comes to the procurement phase. A conflict of interest may then unwillingly arise from this situation as the market player may have shaped (or help to shape) "*the conditions of the contract in a manner favourable to himself*" (paragraph 30). As there is a factual difference for the person who has carried out preparatory work, the principle of equal treatment does not require that that person be treated in the same way as any other tenderer (paragraph 31).

financially viable on the market.[53] They can facilitate/stimulate transactions to happen as with Transport for London which makes most of its data publicly available. Of course, local government can also inject money in projects as central or European institutions also do.[54] Finance is especially needed when it comes to technological innovation such as the one at stake in smart city projects, because the lack of finance is often identified as a strong obstacle to the dissemination of technologies that would otherwise be available for use.[55]

34. This section focuses on the financial support granted by local governments.[56] Under administrative law, decisions to grant financial support or subsidies need to be distinguished from decisions to procure goods and services, which are analyzed in the following section. Here arises a new "grey" zone in the decision-making leading up to the development of smart city projects. Indeed, the distinction between the two concepts is not as clear cut as it may sound. In theory, the difference is straightforward: subsidies or grants have a different subject matter from procurement contracts. In practice, lines are sometimes blurred.

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[53] E.g. the work of Catapult centers in the UK.
[54] This can lead to questions from the perspective of EU state aid, which falls outside the scope of this article.
[55] See this problem, sometimes called the "valley of death": A. Alon-Beck, "The Coalition Model, a Private-Public Strategic Innovation Policy Model for Encouraging Entrepreneurship and Economic Growth in the Era of New Economic Challenges", (2018) 17 Wash. U. Global Stud. L. Rev. 267, 267-68.
[56] Of course a lot of projects are also supported by European networks under the Horizon 2020 programme (for example: https://www.gov.uk/guidance/horizon-2020-what-it-is-and-how-to-apply-for-funding) and supra-local subsidies (for example: Transforming cities fund, launched in 2018 by the Department for Transport, with a budget of £1.7 billion. See Department for Transport, *Transforming Cities Fund – Call for Proposal, Moving Britain Ahead,* 2018, para 1.3).

35. Procurement can be defined as the purchasing of works, supplies and services by public bodies. It can be formally written but does not have to be. It can extend to any contracts including a pecuniary interest between economic operators and public bodies when these contracts involve the execution of works, the supply of products or the provision of services. These contracts can fall within private or public law in legal systems where this distinction exists.[57] If normally, the work, supply or service is provided against a financial prestation, the legal arrangement including this financial prestation can be very diverse.

36. Subsidies imply "*[a] direct financial contribution, by way of donation, from the government budget in order to finance either an action intended to help achieve an objective of general interest or the functioning of a body which pursues an activity that is relevant for the general interest*".[58] They can be granted unilaterally or by contract.[59] Procedures to grant them can vary widely depending on their subject-matter, the public body granting them, their amount etc. Here again appears a grey zone. The procedure to award subsidies are left to a wide discretion from Member States, with the Court of

[57] CJEU, C-399/98, 12 July 2001, *Scala,* ECLI:EU:C:2001:401. Overall the CJEU has an extensive functional interpretation of the reach of procurement.
[58] Article 121 paragraph 1 alinea 1st Regulation (EU, Euratom), n°966/2012 of the European Parliament and of the Council of 25 October 2012 on the financial rules applicable to the general budget of the Union and repealing Council Regulation (EC, Euratom) n°1605/2002.
[59] E.g. Article 121 paragraph 1 alinea 4 Regulation (EU, Euratom), n°966/2012 of the European Parliament and of the Council of 25 October 2012 on the financial rules applicable to the general budget of the Union and repealing Council Regulation (EC, Euratom) n°1605/2002.

Auditors being the public body most commonly in charge to supervise their legality, regularity and property.[60]

37. Normally the beneficiary of a subsidy is responsible, sole or in common with partners, for implementing the operation and retains ownership of its results. He contributes most often financially to the project. By contrast, under a procurement /concession contract, the (local) government is paying for and owning in principle the results of the project. It therefore closely supervises its implementation or alternatively grants a right to exploit a project to the private partner (concession).

38. Furthermore, subsidies normally does not exceed the costs of the projects.[61] In procurement, the public body pays costs and on top of this, the price includes a margin for profit. This is in line with the fact that procurement occurs for good and services that are provided in a competitive, commercial, market.[62] Lines become blurred however because the financial part public bodies pay in procurement does not have to be monetary. It can also be *in natura* (e.g. the public body makes available grounds, offices, computers etc. to the private partner). Any advantage that the private partner may get from his work or service (e.g. through later transfer against a price) or a limitation of his risks may be included in this financial part.[63] The EU Directive 2014/24 on public

[60] For England, T. Daintith and A. Page, *The Executive in the Constitution – Structure, Autonomy and Internal Control* (Oxford University Press, 1999) especially pp. 193-206. To our best knowledge, the picture they drew remains in the main suitable to describe the situation today.
[61] This is the "no-profit principle" (see e.g. article 125 paragraph 4 Regulation (EU, Euratom), n°966/2012 of the European Parliament and of the Council of 25 October 2012 on the financial rules applicable to the general budget of the Union and repealing Council Regulation (EC, Euratom) n°1605/2002).
[62] In keeping with this idea, Directive 2014/24 includes provisions to exclude offers that are abnormally low (article 69).
[63] CJEU, C-451/08, 25 March 2010, *Helmut Müller*, ECLI:EU:C:2010:168.

procurement clarified that it did not apply to all forms of disbursement of public funds, but only to "*those aimed at the acquisition of works, supplies or services for consideration by means of a public contract*".[64] One important distinction between procurement and subsidy is the claw back term, ensuring that funds that are not used as intended in the subvention grants have to be returned to the local / subsidizing authority.[65] In procurement, the contractual relationship may lead to the implementation of enforcement techniques that are common under public or private law, if needed through judicial proceedings. As these can be costly, public private partnerships (old style[66]) were known for "self-executing sanctions", where the contracts provided formulas to prevent the contractor to be paid for services it did not provide to the users of the infrastructures.

39. Deciding to grant a subvention to projects pertains to the power to spend public money and its limits. Different legal systems have developed different constraints to shape the power of public bodies to make this choice. In England, the Treasury regularly updates guidelines about these kind of topics.[67] In Belgium, governments are only allowed to award subsidies if there is a specific legal basis, whereas this is not needed in case of public procurement contracts.

[64] Preamble, recital (4) Directive 2014/24.
[65] Preamble, recital (4) *in fine* Directive 2014/24. This is nearly the only "stick" that the subsidizing authority has to ensure compliance with the terms of the grant.
[66] See above paragraph 16.
[67] HM Treasury, *Managing public money* (2013 with annexes revised at March 2018). For the claw back obligation see Annex 5.2 (Protecting the Exchequer interest).

40. The award of subsidies is organized by legal principles found in administrative law: in particular, it is subject to the principles of good governance and specific legal rules that may differ from public entity to public entity and from EU member state to EU member state. Although there is a high level of diversity across Europe, the EU financial regulation gives some clues as to which main concerns have to be addressed by public / local bodies. It especially mentions transparency and equality[68], non-cumulative award[69] and the principle of non-retroactivity[70]. It also specifies general principles related to selection[71] and evaluation.[72]

41. Subventions provide a flexible tool for local bodies to financially support the development of smart cities to address societal issues arising on their territory. Local authorities can shape the overall direction of the smart city projects in including terms and conditions regarding the spending of the subventions (such as environmental targets, social terms or the duty to include "privacy by design" in the technology used etc.). They can also support in parallel different projects pertaining to smart cities on their territory. However, subventions can lead to difficulties for local government wanting to both pursue the local interest and maintain equality between market players.

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[68] Article 125 paragraph 1st Regulation n°966/2012.
[69] Article 129 Regulation n°966/2012.
[70] Article 130 Regulation n°966/2012.
[71] Article 132 paragraph 1st Regulation n°966/2012: "*The selection criteria announced in advance in the call for proposals shall be such as to make it possible to assess the applicant's ability to complete the proposed action or work programme*".
[72] Article 133 paragraph 1st Regulation n°966/2012: "*Proposals shall be evaluated, on the basis of pre-announced selection and award criteria, with a view to determining which proposals may be financed*."

42. The first challenge lies in the advertisement for subventions and ensuring that interested market players are aware of them at a suitable time. There is no one single database where all the subventions are officially advertised. It can thus depend on serendipity or word of mouth for market players to be made aware in due time that subventions are available to them. In theory, reasonably well introduced market players would be on the look-out for opportunities but this is not a water tight guarantee that equality of opportunity is respected. Of course, it may depend on local government to seek to target their audience well in line with their preparations. But again, this grey area is a spot where bias, ignorance, hope that the invisible hand of the technology through emails, external databases and algorithms would lead the information to be disseminated in the right place at the right time. This looks dubious to us. A publication scheme would enhance equality of opportunity. This is even more true in smart cities than it is for any other subventions, as currently subventions are often for 'pilot' projects and one-off projects with various schemes fragmented among a variety of funding providers, which means that there is no regularity in the subventions being granted, so that a unlucky market player may not have the opportunity to put a remainder in his diary for applying in the follow up round.

43. The second challenge with subventions is their follow up by local government. Once the subvention has been granted, the local government pays a lump sum or pays on receiving receipts for expenses. A report of activities and about outputs may be expected. However, there may be little active cooperation and discussions between the local government and the private actors, with the private actors largely free to spend the money within the remit of their grants. Local government have little means to give

their own input and steer the course of the project as long as there is no major irregularity arising in the spending of taxpayers' money.[73]-[74] The experience from the public private partnerships "old-style" has also shown that it was not possible for public authorities to move away from controlling the implementation of the agreed terms if *VfM* had to be secured.

44. This all means that subventions can provide a springboard for developing smart city projects and technologies or a first step to encourage various actors to come together around a societal issue in the local area and develop new ideas or concepts. Local government may want to encourage ideas and give some financial support to groups seeking to address local issues. It may however have to be cautious in the ways in which it spends the money, how to monitor the benefit resulting from the subvention and be wary that money flows may not lead to risks of conflict of interests, if not corruption.[75] If local government wants to keep a closer control on the smart city

[73] Even in that case, control can be difficult to use effectively. See in the UK, on a related topic the problems arising from the Kids Company. The problem is about the governance of the Charity but it also illustrates the problems for public bodies to follow up the money (https://www.theguardian.com/voluntary-sector-network/2017/aug/08/kids-company-is-charity-worth-saving). The question may then revolve around the possibility to update the legal framework pertaining to monitoring local finances to keep up with the kind of funding provided to external providers such as smart cities. Equally the Public Account Committee has reported that there was a lack of appropriate local scrutiny when it comes to Local Enterprise Partnerships since the abolition of the Audit Commission (*Cities and Local Growth* (2016-17 HC 296) para 22-23). Although Local Enterprise Partnerships have a cross-local government remit, they are more institutionalised than "smart city" projects are. Hence it might have been expected that appropriate accountability systems and assessment of *VfM* would have been set up.

[74] In general the externationalisation of "core" services to private actors has made a series of problems arise in practice where the actual implementation of the service had not been properly monitored by the public body primarily in charge of the externalised service (see e.g. the Concentrix Case: https://ukaji.org/2016/09/15/tax-credits-concentrix-and-privatised-administrative-justice/).

[75] Different local administrative cultures may be more or less prone to corruption risks. However if money flows without tights legal controls, a very strong ethical framework from all actors involved needs to be in

projects and/or involving the private actors in the actual public service provision, they are likely to select procurement to develop, steer and monitor smart cities.

V. Third challenge: closing the "deal" through a suitable procurement route

45. In a procurement or concession contract, a local government decides that developing a smart city project meets an actual need in the local area. It decides to start a procurement process to acquire the innovative goods or services matching this need. Most often the process is initiated by the local government itself, but even if it is by the private actors (what is often called "unsolicited proposals"), public procurement applies and a full competition needs to be organized, ensuring equal treatment among all private actors. Different technical routes are however open for this competition, that eventually will lead to a smart city project to be set up. Hence, a new grey zone appears on our radar: how can the local government identify the route that is most appropriate to deliver solutions addressing the local needs? This section maps the options most commonly considered options in the case of smart cities, especially with regard to the need to deliver "innovative" solutions for local needs.

46. Choosing the appropriate route depends on a range of factors, such as the subject matter of the project (e.g. services or works), the level of risks to be born by the

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place if abuse is not to follow. In this respect, "grey areas" where the ins and outs of a public decisions are not understood well, are at risk. The development of big data and accountability thanks to "armchair auditors" (*i.e.* local taxpayers), two factors relied on during the adoption of the *Local Audit and Accountability Act* in England in 2014, have still to demonstrate that they can be used effectively in this regard.

public and private actors respectively and the state of the art in the sector. If a local government has little concrete idea of the solution it is looking for, it may want to support innovative businesses and researchers in finding the "perfectly-suited" product or service. This may then lead to a step-by-step procurement, during which the needs of the local government become better articulated and the solutions (good, service or works) developed or delivered by the private actors better aligned on the local government's needs. There are different configurations possible at this point to foster innovation. The most commonly relied on are the competitive dialogue, the innovation partnership, pre-commercial procurement and the setting up of a vehicle for public private cooperation.

47. The first route open to local government is the competitive dialogue, a procedure especially designed for complex projects developed in England in the early 2000s.[76] It is organised around three main steps. The local government, first, organizes a transparent call for competition, describing its needs in a descriptive document or contract notice, setting the minimum requirements for candidates and defining the contract award criteria.[77] After a preliminary verification that candidates meet the selection criteria, the local government initiates the competitive dialogue with the selected companies. In this second step, the local government holds negotiation

[76] Article 1st, paragraph 11 (c) Directive 2004/18 of the European Parliament and of the Council of 31 March 2004 on the coordination of procedures for the award of public works contracts, public supply contracts and public service contracts. Article 30 Directive 2014/24 does not reproduce this condition: there is no longer an official definition of the competitive dialogue in this directive. See also K. Haugbølle, D. Pihl and S. Gottlieb, "Competitive dialogue: Driving innovation through procurement?", (2015) 21, Procedia Economics and Finance, 555-562; S. Arrowsmith and S. Treumer, *The competitive dialogue* (Cambridge University Press, 2012).
[77] Article 30, paragraph 1, alinea 3 Directive 2014/24.

individually with each candidate, ensuring confidentiality to each of them. The dialogue lasts as long as needed for the local government to identify the solution capable of meeting its needs.[78] Once the local government concludes the dialogue, it invites each candidate to submit their final tenders on the basis of the solution specified during the dialogue (third step). The contract is then awarded on the basis of the best price quality ratio.[79] Introduced in the European directive on procurement in 2004, the competitive dialogue had been a promising tool to foster innovation in complex projects. It however encountered a series of implementation problems, such as private actors who were worried that public bodies would cherry pick some aspects of their suggestions. Furthermore, the dialogue can be very resource intense and lasts long, which renders this procedure costly, deterring some private actors to take part in it, hence reducing the competitive pressure between private actors and failing to provide good solutions to the public body.

48. The second route open to local government to develop a smart city project is the innovation partnership introduced in the 2014 directive on procurement.[80] In this case again, local government are faced with a need that would require an innovative product, service or work to be supplied. This product, service or work however does not appear

[78] Article 39 paragraphs 5 and 6 Directive 2014/24.
[79] Preamble, recital (92) Directive 2014/24 explains what this "best price quality ratio" refers to ("*When assessing the best price-quality ratio contracting authorities should determine the economic and qualitative criteria linked to the subject-matter of the contract that they will use for that purpose. Those criteria should thus allow for a comparative assessment of the level of performance offered by each tender in the light of the subject-matter of the contract, as defined in the technical specifications. In the context of the best price-quality ratio, a non-exhaustive list of possible award criteria which include environmental and social aspects is set out in this Directive. Contracting authorities should be encouraged to choose award criteria that allow them to obtain high-quality works, supplies and services that are optimally suited to their needs*").
[80] A. Castelli, "Smart Cities and Innovation Partnership" (2018) 3 EPPL 207.

to exist on the market, leading the local government to seek to foster its development thanks to a long term relationship with a private actor. Innovative partnerships have thus two phases: in the first phase, the private actor develops the innovative product, service or works to an agreed performance level; in the second phase, the local government purchases it against an agreed price without the need for a new procurement to be organised.[81] There is thus a two-step procedure based on the restricted procedure,[82] a standard procurement procedure. The result of the procedure is a contract containing several milestones comprising the research and development part (creating innovative solutions) and the supply of the newly found solution (supplying the innovative solution adapted to the specific needs of the public procurer).[83]

49. The core of this procurement route is the innovation that is supposed to be generated during the first stage of the procurement. This means that local government have to be careful in their procurement planning to clearly identify three elements: firstly, selection criteria that enable them to choose the private actor best capable in the field of research and development and best able to supply the real scale implementation of the innovative solutions; secondly, contract performance clauses that enable the local government to monitory the performance of the contractor, to measure how well he

[81] Preamble, recital (49) Directive 2014/24.
[82] Regulated in article 28 Directive 2014/24. It means that "any economic operator may submit a request to participate in response to a call for competition containing the information set out in [prior information notices or contract notices] by providing the information for qualitative selection that is requested by the contracting authority".
[83] European Commission, Consultation document on Guidance on Public Procurement of Innovation Draft version to be submitted to the targeted consultation, http://ec.europa.eu/docsroom/documents/25724

meets his target and thirdly, termination clauses in case the targets are not met or in case the market provides an alternative solution and the innovation partnership proves to become redundant.[84] This procurement route seeks to find a delicate balance between three objectives that are in tensions: firstly, spurring innovation, the development of a new product, service or work; secondly, not tying the hands of local government to solutions or contracts that have become obsolete and hence would not contribute to the general interest; thirdly, not stifling innovation by other private actors who would be keen to develop competitive solutions.[85] The combination of these three objectives leads to a sub-optimal solution: if local government can organise their escape from inconvenient contracts, either they will have to pay anticipatively the price for such an option or the private actors may be reluctant to commit too many resources to a contractual relationship which may appear rather tenuous. Maybe unsurprisingly then, it appears from anecdotical comments that the take up of the innovation partnerships seem low.[86]

50. As the first two procurement routes are not fully satisfying, local government can also explore a possibility mentioned in the Directive 2014/24 although not regulated by it, namely the pre-commercial procurement, for which the commercial and

[84] European Commission, Consultation document on Guidance on Public Procurement of Innovation Draft version to be submitted to the targeted consultation, http://ec.europa.eu/docsroom/documents/25724
[85] Cfr. Preamble, recital (49) *in fine* Directive 2014/24.
[86] European Commission, Consultation document on Guidance on Public Procurement of Innovation Draft version to be submitted to the targeted consultation, http://ec.europa.eu/docsroom/documents/25724

legal window are rather narrow.[87] The pre-commercial procurement[88] consists in procuring research and development services from several economic operators to stimulate innovation and development services.[89] Here, the research and development usually focuses on the final stage of development of an innovative solution, just before its commercial deployment. Because the pre-commercial procurement is a form of bridge to facilitate commercialisation of a product, it typically includes benefit sharing mechanisms: the local government accepts to leave the intellectual property ownership rights with the participating economic operators, while keeping license-free rights to use the research and development results and the right to (require the economic operators to) give licenses to third parties.[90] The idea is thus that economic operators are able to commercialise the solutions to other public procurers or in other markets (breaking in new markets where their solutions may address problems that have not yet been satisfactorily met), while local government have the right to use the solution and even to license it in any follow-up procurement.

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[87] The directive provides an exemption for research and development services where the public body does not reserve all the benefits from the research and development contract to itself, but shares them with economic operators under market conditions. (Directive 2014/24, preamble, recital (47) alinea 2).

[88] Origins: Commission Communication of 14 December 2007 entitled 'Pre-commercial Procurement: Driving innovation to ensure sustainable high quality public services in Europe', COM(2007)0799; European Parliament resolution of 3 February 2009 on pre-commercial procurement: driving innovation to ensure sustainable high-quality public services in Europe (2008/2139(INI)), (2010/C 67 E/03); Directive 2014/24, recital (47) alinea 2 confirms that the communication continues to apply. Adding that "this Directive should also contribute to facilitating public procurement of innovation and help Member States in achieving the Innovation Union targets." (A. Castelli, "Smart Cities and Innovation Partnership" (2018) 3 EPPL 208-209).

[89] A. Castelli, "Smart Cities and Innovation Partnership" (2018) 3 EPPL 209.

[90] European Commission, Consultation document on Guidance on Public Procurement of Innovation Draft version to be submitted to the targeted consultation, http://ec.europa.eu/docsroom/documents/25724

51. Local governments increasingly use this approach to develop smart cities. However, they need to comply with the legal requirements set by the procurement directive if they want to be exempted from carrying out a proper competition. This means that the product, service and technology needs to be on the verge of commercialisation and that there is no alternative available on the market. In this way, local governments have to carry out suitable research in the market; they need to have assessed in a suitable way that their needs cannot be met by available technologies and that the specific technology that they will help commercialise will indeed meet them. This can be a very challenging test. Pre-commercial procurement is thus an extremely grey area that seems to be at risk to develop into a convenient pretext to circumvening the application of competition under the 2014/24 directive. Besides this technical point, there is also a real risk for local government to get committed to expensive contracts where the benefits will be minimal as alternative – cheap – technologies may already exist on the market. Many local government may not be well equipped to engage into leveraging new technologies. It may make more sense for a "wise" and "careful" local body to build on existing proven technologies.[91]

52. These three procurement routes, namely the competitive dialogue, the innovation partnerships and pre-commercial procurement, all lead in many cases to the conclusion of one or more contracts. However, they can also be used to set up a corporate vehicle between the public and private actors.[92] This alternative currently

[91] C. Staropoli and B. Thition, "Smart city : Quelles relations public-privé pour rendre la ville plus intelligente ?", (11 september 2018) Terra Nova, 3.
[92] Commission interpretative communication on the application of Community law on Public Procurement and Concessions to institutionalised PPP (IPPP) (Text with EEA relevance) (2008/C 91/02); HM Treasury

offers a flexible solution for smart city projects.[93] It especially caters for two concerns. The first concern relates to the need to revise and amend often contractual terms as smart city projects often require to do. However, the EU directive on procurement regulates contractual changes: in case substantial changes are made to the contract, a new procurement has to be started all over again, with a new competition. The second concern pertains to the setting up of appropriate governance structure, enabling monitoring of the smart city projects and their implementation.

53. Yet past practice has shown that public private entities have also their own problems. It is not possible to change everything agreed upon in these corporate entities for instance.[94] Principles such as equality and transparency need also to be complied with. This means that changes to essential terms of the relationships between the public and private actors (such as the scope of the work or services) also require a new competition procedure to be organised. Furthermore, the governance of public private entities is not straightforward. On the one hand, it can lead to many conflicts of interests: public bodies have to pursue the local interest while private actors seek to reap profits. In some cases, this can be a "win-win" situation. In other cases, the two objectives are on a collision course. When it comes to smart city projects for instance, local

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Guidance prepared by Partnerships UK, *A Guidance Note for Public Sector Bodies forming Joint Venture Companies with the Private Sector,* December 2001; M. Andrecka Institutionalised Public-Private Partnership as a Mixed Contract under the Regime of the New Directive 2014/24/EU, *(2014) EPPP,* 3/174; C Bovis, EU Public Procurement Law, (2012) Edward Elgar, 436.

[93] Shobhan S. Kelkar, "Development of Smart Cities and role of Joint venture as a Public-Private Partnership (PPP): a major vehicle of resource mobilisation", (2017) *International Journal of Engineering Research and Technology*, 1; C. Staropoli and B Thition, *Smart city : Quelles relations public-privé pour rendre la ville plus intelligente ?,* (11 september 2018) *Terra Nova,* 3.

[94] Commission interpretative communication on the application of Community law on Public Procurement and Concessions to institutionalised PPP (IPPP) (Text with EEA relevance) (2008/C 91/02).

government may want to retain control over the technology (or part of the technology) developed to address their specific needs as part of it will has been developed thanks to their data, workshops, brainstorming sessions etc. However, the private actors may want to commercialise this same technology to recoup the money and resources they invested in developing it. On the other hand, too cosy relationships between public and private actors may also be suspicious and hide some form of confusion of interest. This has been so much the case in Belgium in the past, that the Flemish government came to forbid some mixed forms of collaboration through corporate vehicles.[95] Overall, criticisms arise about such public private vehicles as their governance may lead to a democratic deficit or at least a weak accountability system.

VI. Conclusions

54. This paper started from the growing importance of smart cities. This paper addressed from an administrative law perspective some of the problems associated with the setting up of smart cities. Smart cities are increasingly structured around public-private relationships. Technologies developed by private actors are more and more likely to play a decisive role in the policy making undertaken by local government to address local societal issues. This prompted scholars to warn against the increasing role of private actors in local governance and the risk for a "privatisation" of ownership

[95] Article 10 Flemish Decree 6 July 2001, *houdende de intergemeentelijke* samenwerking provides for cooperation only between local public bodies as a matter of principle. Cooperation with private bodies may only happen in two well defined cases (in the field of energy and waste management) since 2016. S. Van Garsse, "Publiek-private samenwerking op lokaal vlak: een inleiding" (2002) Tijdschrift voor gemeenterecht, 225-247.

of both infrastructure and data related to public service provision associated to addressing pressing local issues. This warning clearly calls for a systematic analysis of the ways in which power comes to become organised in these local public-private relationships. In 1990, a celebrated book, *Government by Moonlight: The Hybrid Parts of the State*,[96] already drew the attention on the need for administrative lawyers to carefully map the workings and interplays between the public and private actors.

55. In fact more light needs to be cast on the ways in which local government make their decisions in the lead up to the development of smart city projects and the ways in which it interacts with private actors. This is even more true as it becomes clearer that local government needs to remain in a strong position to ensure that the local interest is pursued. Furthermore, under the current system of representative democracy, local government has to be able to account for the working of their smart city projects to its local constituents and for the effects of these projects on their lives and daily routines.

56. One needs to think about how smart city structures can be developed, facilitated and contained. This is necessary as the old style PPPs, based on minutely designed standardised contracts, do not provide an answer for smart city projects. Even more, one can say: they are dead – definitively so in England since the budget announcement in October 2018.[97]

[96] By P. Birkinshaw, I. Harden and N. Lewis (London: Unwin Hyman, 1990) 336 p.
[97] https://www.independent.co.uk/news/uk/politics/budget-2018-live-updates-brexit-philip-hammond-statement-conservative-spending-austerity-may-party-a8606316.html.

57. Administrative law can help to structure "new" PPPs designed to foster ethical cooperation between multiple actors in order to tackle transversal issues plaguing local areas. A careful and well thought through implementation is needed. This paper identified three grey areas, common to most smart city projects. In all of them administrative law highlights the scope of choice that local governments have when it comes to designing and preparing the ground for the future cooperation with private actors.

58. The first challenge for local governments is exploring the scene, identifying the main relevant actors, setting up discussions with them and exploring possible solutions. The second challenge pertains to the fact that most often setting up smart city projects involves funding from local governments. The final challenge is to select private partners following a suitable procurement route. In all these three steps, local governments have a range of options that they have to carefully balance against each other : legal requirements such as public procurement rules, (financial, legal and political) accountability, equality among private parties and transparency need to be complied with. Each choice can impact the options that will be available later on down the line. This paper showed that many of the options currently used in practice (informal market dialogue, subsidies to set up local smart partnerships, use of pre-commercial procurement and even the recently identified institutional PPP as a solution for flexibility in long term partnerships) may not be the panacea. Besides addressing these "grey zones", scholars from the administrative law field have to keep in mind the need to address the next major challenge for good local governance: designing an administrative law framework to organise in a flexible way public private partnerships,

not only a contractual relationship but also as a corporate vehicle pursuing the local interests in an accountable fashion.