Public-Private Partnerships for SMART City Management

Recommendations for local governments to prepare and implement SMART PPPs

Uraia

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Public-Private Partnerships for SMART City Management

Recommendations for local governments to prepare and implement SMART PPPs

This document is the result of the discussions held during the Uraía Workshop which took place in Oslo on June 29 and 30, 2015. It is a working paper made in collaboration with the participants who attended the workshop including representatives of local governments, city networks, service and technology providers, civil society, international organizations and research institutes from all the five continents. It gathers general recommendations on city-business cooperation about SMART projects and it is based on the participants' experiences.

For additional information, contact the Uraía team at info@uraia.org

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COLLABORATORS

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ICLEI Local Governments for Sustainability

ISMB Istituto Superiore Mario Boella

nomadéis

OECD

PPP for CITIES | Specialist Centre on PPP in Smart and Sustainable Cities

INTRODUCTION
URAÍA & THE OSLO WORKSHOP

What is Uraía?

Uraía is a platform that supports innovation in local public management by introducing the use of SMART technologies in three main areas: 1) municipal finances; 2) management of public services and municipal infrastructure; and 3) transparency and accountability. With this aim, the Uraía Platform brings together local governments and their partners (networks of cities, private sector service and technology providers, universities, experts, research institutes, international organizations and civil society, plus the essential support from central governments). It offers three types of services: access to a systematized collection of inspiring practices, learning and capacity building opportunities such as meetings and workshops, and technical assistance to pilot projects.

Launched in June 2014, the platform is a joint project between the FMDV (Global Fund for Cities' Development), an international alliance that aims at supporting local governments in finding solutions to access the necessary financial resources for sustainable urban development, and the Local Government and Decentralization Unit of UN-Habitat which works closely with both central and local governments to establish mechanisms of dialogue, exchange best practices and support projects for the empowerment of local and regional governments through a fair distribution of responsibilities and resources. (Cf. ANNEX II – Institutional Description and ANNEX III- List of Uraía's partners).

Uraía's focus on SMART technologies and PPPs

SMART technologies, such as mobile phones applications, sensors or smart cards offer opportunities to improve local administration and to increase the connectivity, inclusiveness and efficiency of territories. Cities all over the world are increasingly using SMART and mobile technologies in the daily management of public services. However, they face challenges in adapting public management to this particularly changing environments and choosing the most appropriate products and mechanisms for technological innovation. Moreover, local governments frequently lack the technical capacity and financial resources to implement complex SMART technology projects. At the same time, technology and service providers develop innovative solutions to today's urban challenges and have the technical and financial capacity to translate innovation into products at the service of the cities. Hence, local governments and private enterprises can engage in complementary and mutually beneficial partnerships for driving SMART technology solutions in urban areas.

In this context, the representatives of local governments participating in the Uraía Launching Seminar held in Santander (Spain) in June 2014, expressed their concerns about the lack of expertise on the negotiation and implementation of contracts with the private sector, particularly when involving SMART technologies. They specifically stressed the difficulties related to outdated or inadequate procedures and to legislative frameworks that were designed for more traditional service provision. Considering that few institutions work on this specific topic, the Uraía Platform decided to focus part of its work on how local governments work with the private sector to develop and implement its SMART projects.

"Local governments often lack knowledge not only on how to design, promote, negotiate and implement actions in collaboration with the private sector, but also struggle with adapting their administrative structures to the use of SMART technologies. This is where Uraía comes in: it is a platform that aims to strengthen the capacities of local governments to integrate SMART technologies to their daily functioning, to identify the appropriate solutions and to negotiate PPPs on equal footing with the private sector."

Jean-François Habeau
Executive Director, FMDV

The Oslo workshop

To address the needs expressed by the members of the Platform, the Uraía team designed the first "Citizenship Series" work session in Oslo, Norway on June 29 and 30, 2015, under the title "Public-Private Partnerships Negotiation for SMART City Management".

More than 35 representatives of local governments and their associations, private sector, research centres, civil society and international organizations from Europe, Africa, Latin America and Asia attended the workshop. The two-day workshop included a field visit to a number of local SMART City initiatives, panel discussions, round tables and informal exchanges where participants shared their experience and knowledge on preparing, negotiating and implementing PPPs in the field of SMART technologies for improved public services delivery (Cf. ANNEX IV – Agenda Oslo workshop).

The Workshop highlighted common concerns and identified challenges, such as the need for increased exchange and dialogue between the private and public sector, improved communication between cities facing similar problems and difficulties in the negotiation of PPPs for municipal services provision. The informal, participatory and inclusive format of the Workshop allowed for engaging in open discussions based on the experiences of the participants, as well as an in-depth analysis of the needs of local governments in the process of establishing and implementing PPPs involving SMART technologies.

"SMART technologies are being increasingly applied to all types of service delivery, but they are becoming particularly relevant to urban development. Their potential to enhance efficiency and transparency in municipal management is a key factor for good governance, democracy and local development. However, there is very little guidance on how to strategically implement SMART tools and innovation to municipal administration. Uraía contributes to bridging this gap, facilitating the work of local governments in giving response to the needs and concerns of their citizens and to building resilient and more sustainable territories."

Diana Lopez Caramazana
Head a.i., Local Government and Decentralization Unit, UN-Habitat

A collaborative working paper

This document results from the discussions and exchanges amongst the participants of the Oslo Workshop. It aims to constitute a roadmap for local governments regarding the main steps and challenges faced when preparing, negotiating and implementing a SMART PPP. The document condensates the experiences of the partners present at the Workshop and gathers technical and political information shared by the participants. We sincerely hope that this document will inspire, guide and foster the exchange among local governments willing to implement SMART PPPs in their cities.

BACKGROUND ON PPPs FOR SMART PROJECTS

BACKGROUND ON PPPs FOR SMART PROJECTS

Definitions

Public- Private Partnerships According to the World Bank[1], PPPs are typically medium to long term arrangements between the public and private sectors whereby some of the service obligations of the public sector are provided by the private sector, with clear agreement on shared objectives for the delivery of public infrastructure and/ or public services. There is a wide variety of PPPs, ranging from task forces, formal organizations, corporations and even direct subsidies from public entities to private corporations. Partnerships may be of formal or informal nature[2]. The main sectors where local governments establish PPPs are water and waste management, as well as transportation infrastructure.

SMART PPPs PPP contracts including the use of SMART technologies may be established in a variety of fields: for large-scale infrastructure projects with a SMART component (for example, a transportation project with a management software and/or participatory application), SMART City projects such as the installation of a network of sensors or the development of Open Data policies, but also applies to smaller projects resulting, for example, in the development of applications for smartphones for the improvement of tax collection. Cities all over the world are increasingly including a SMART component in a wide range of public services: from water and waste management, public transportation to municipal revenue collection. In developing SMART projects, the local government may partner both with big service and technology providers, as well as with small and medium-sized local firms or start-ups, or engage in a technical partnership with local universities or research centres. SMART PPPs may involve comprehensive reforms of the legislation and procurement procedures or be based on relatively informal arrangements such as memoranda of understanding. Moreover, there is a wide variety of scales and topics in which local governments may establish SMART PPPs, as well as a wide range of legal arrangements available for the different parties. SMART PPPs are thus not to be considered a specific and rigid type of PPP but rather understood as flexible institutional arrangements between the public body and private actors that are based on the introduction of technological innovations to more conventional municipal service delivery.

Differences between traditional PPPs and SMART ones Public Private Partnerships in the SMART sector differ from traditional PPPs and deserve particular attention for several reasons. PPPs for SMART projects often represent small-scale projects involving technological infrastructure and solutions rather than large-scale physical infrastructure. In fact, SMART PPPs often build on conventional PPPs, adding a SMART technology element to infrastructure projects. For these reasons, they are sometimes less visible and tangible for the final user. Correspondingly, the efforts in establishing a PPP for SMART municipal management and service provision may be more difficult to justify to citizens who do not necessarily see a change in their physical environment in the first place. Also, SMART PPPs tend to require procedures and tools local governments are unfamiliar with. The development and implementation of SMART PPPs must therefore go hand in hand with the innovation in management processes and administrative procedures. This is particularly relevant given that technological innovation creates fast-changing contexts, which require responsive and flexible

"It is important to see PPP not only with private companies but also with civil society organizations. PPP means something more than Public-Private Partnerships: it also means People, Participation and Politics."

Geir Graff
Special Advisor on innovation,
Municipality of Asker, Norway

"There is a big difference in the ways we work, provide services and have access to new technologies – hence, we cannot go forward with the same approaches as we have done before."

Setsuko Saya
Head of division, regional policies for sustainable development,
Organization for Economic Cooperation and Development (OECD)

"I call SMART technologies 'invisible infrastructure': You cannot see technology, it is not like a road, it is a way of life."

Thiago Ribeiro
Coordinator of POA Digital,
Porto Alegre, Brazil

[1] Source: http://ppp.worldbank.org/public-private-partnership/overview/what-are-public-private-partnerships

[2] Source: http://www.regionalstudies.org/uploads/conferences/presentations/european-conference-2012/presentations/bevilacqua-et-al.pdf

administrative structures and legal frameworks. This proves challenging, since the pace of technological innovation stands in contrast with the nature of PPPs, usually based on middle and long-term contracts. Finally, new technologies often involve a set of 'personal feelings and preferences' and both citizens and local administrations may lack trust in the relevance and trustworthiness of this kind of solutions. For these reasons, an appropriate training and knowledge exchange on the specific nature of SMART PPPs at the local level seems crucial to ensure the success of SMART projects in the field of municipal service provision.

"*The main difference between SMART PPPs and traditional PPPs lies in the different evolution and changing pace of the proposed solutions and services. Even if this SMART PPPs characteristic is potentially critical because of the fast adaptation of processes and services that it requires, it also represents an opportunity because the Public-Private agreements can cover a shorter time period, leaving the door open to a healthy competition and greater transparency in the relationship between the administration and the citizens: if building a bridge or a railway requires signing an agreement lasting for decades, the introduction of SMART services and infrastructure can be ruled by shorter term contracts. ICT solutions also benefit from their modularity and flexibility: once broadband wireless coverage is brought to a territory (by one or more operators, which may also change in time leaving the technology unchanged), this paves the way for other service providers to step in and offer services based on that connectivity. This results in a heterogeneous and diverse environment where there is room for several operators.*" – Edoardo Calia
Deputy Director for Strategic Programs, Instituto Superiore Mario Boella (ISMB), Italia

"PPPs for SMART projects must be innovative; they cannot follow the same path as traditional PPPs. We need to identify those differences and specialties."

Geoffrey Makhubo
Member of the Mayoral Committee, Councillor for Finance, City of Johannesburg, South Africa

DEFINING A SMART CITY

ICLEI's vision

"Smartness" is a way of contributing to sustainable development and resilience. Thanks to sound decision making and the consideration of both a long and a short-term perspective, "smartness" facilitates good governance and the appropriate innovative use of techniques, technologies and natural resources. Core principles of sustainability, such as inter-generational and environmental justice, or social inclusion are in the foundation of "smartness".

A SMART City has "smartness" embedded into its operations, and is guided by the principle of becoming more sustainable and resilient. It analyses, monitors and optimizes its urban systems, be they physical (e.g. energy, water, waste, transportation and polluting emissions) or social (e.g. social and economic inclusion, governance, citizen participation), through transparent and inclusive information feedback mechanisms. A SMART city commits to continuous learning and adaptation, and through the application of thinking systems aspires to improve its inclusivity, cohesion, responsiveness and governance. SMART Cities are often defined based on the way data and integrated technologies are used to improve municipal management and public services efficiency. However, SMART technologies are only one of many tools in the SMART Cities tool box. While SMART technologies may be used to enhance the smartness of a city, smartness goes beyond the mere use of data and technologies and implies a critical and holistic approach, based on sustainability, good governance and the appropriate institutional infrastructure and processes putting people at the centre.

ICLEI – Local Governments for Sustainability (www.iclei.org/smartcities) is a global network of over 1,000 cities, towns and metropolises committed to building a sustainable future. Under its 'Smart Cities Agenda', ICLEI works strategically with businesses and business associations to improve cities' access to private sector partners and to promote city-business cooperation. Actions include: 1) events such as "Metropolitan Solutions", 2) the "Solutions Gateway" online platform which embeds technologies into holistic solution approaches for low-carbon development strategies, 3) city-business dialogues and early market engagement workshops to promote their mutual understanding, 4) research, publications and guidelines on city-business cooperation able to inform ICLEI member cities and business alike. Additionally, ICLEI engages in standardization processes to promote a well-reflected and critical approach to SMART Cities.

Reasons for choosing a PPP

Once a city has decided to implement a project that includes the use of SMART technologies: what financial models are available to the cities? In which cases should the city choose a PPP contract model and in which not?

Barriers to financing SMART City solutions can be summarized as follows[3]: Perception of high risk when investing in innovative solutions and energy efficiency measures; long-term delays before reaching maturity/profitability; limited capacity for public funding. Because local governments lack the financial resources as well as necessary capacities and expertise, they tend to turn to the private sector to carry out SMART projects.

Choosing a PPP to manage and finance a SMART project enables local governments to:

➜ Improve municipal finances through: diversifying the access to financial resources and capital without increasing local governments' indebtedness.

➜ Generate benefits in multiple sectors of public management, such as (1) increased transparency and cost identification; (2) improved planning linked to long-term fixed prices and output certainty; and (3) improved ability to procure other projects conventionally.

➜ Manage risks by:

- ↳ Transferring them to the party that is more capable of managing and reducing risks.
- ↳ Avoiding political volatility and ensure project continuity through a long-term commitment.
- ↳ Shifting from cap-ex to op-ex by paying for services instead of having to invest to set up an infrastructure

➜ Build capacities through:

- ↳ Benefiting from leveraging the expertise and resources of the private sector while preserving strategic control over the project or service.
- ↳ Guaranteeing skills transfer from the private to the public partner through training of municipal officers.

➜ Foster innovation, especially when the bid encourages competition (the private company will be more willing to propose innovative solutions to win a bid when competition is hard). And not only in the first years of the contract, but during all of the contract.

➜ Improve the efficiency of public services:

- ↳ Costs and result ratio is optimized thanks to the principles of 'no remuneration without results on the one hand, and to the acquisition of a managerial governance style on the other (simplification of procedures, knowledge transfer, training of personnel, modernization of tools and management information systems and the general improvement of internal control processes).
- ↳ Ensure good project performance, particularly when it comes to enhancing and accelerating service delivery.

➜ Foster local economic development. This is particularly true in the case of small-scale PPPs that involve local actors, allowing for faster project implementation and a more palpable impact for the population, as well as local job creation through the mobilization of local banks, resources and firms.

"The city needs to make sure that it really needs a PPP. Sometimes the private sector only wants to sell their products without taking into account the local needs. It is important to check other possible solutions: for instance, we have learned that the civil society can also be an interesting partner, although with a limited capacity to bring in capital."

Oliver Castañeda
General Coordinator of Administrative Modernization and head of the unit for regulatory improvement, Mexico City, Mexico

[3] Source: Financing Models for Smart Cities – Smart Cities Stakeholder Platform – Finance Working Group – Guidance Document – November 2013

FOCUSING ON A KEY ISSUE

Financing the SMART PPP process

The local government must be sure to have the necessary resources to finance the preparation of the PPP. Besides being time-consuming and costly for local governments, evaluation studies and the project conception do not always yield benefits and risk to fail. Thus, local governments should consult with central government and other national and international institutions about the possibility to access specific funds and technical expertise available to support the PPP process.

BENEFITS/SAVINGS SHARING PRINCIPLE. Most SMART PPPs projects aim at introducing higher efficiency and – as a consequence – lower costs. The savings obtained through the introduction of SMART technologies is often used to pay for the service and for the investment done by the service provider. In the energy sector this model is well established and known as ESCO (Energy Service Company, from the name/type of the companies proposing contracts based on that principle), but the same principle could be applied to other sectors such as transportation, city logistics, water management, garbage collection etc. In the ESCO model the most challenging aspect is the identification of the savings. If in the energy case this is quite an easy task because the energy costs show up in the utilities' bills, in other cases where the savings are not directly visible (they may come from lower pollution, less traffic, reduced health care costs, etc.) the calculation can be so complicated to discourage the administration to adopt such model [4].

SOME EXAMPLES OF FUNDING MECHANISMS FOR PPPS

NATIONAL PPP UNITS, INTERNATIONAL INITIATIVES AND PRIVATE ORGANIZATIONS. Support might come from central governments through the implementation of PPP Units. For example in South Africa, a PPP department was created within the National Treasury with a specific office dedicated to municipalities. Besides approving and validating PPPs, it also offers technical and financial assistance to local governments in the preparation of PPPs. In France, several initiatives promote PPPs and support public entities and private companies in their implementation: the IGD (Institut de Gestion Déléguée), a non for profit foundation composed by companies, adopts the role of a centre for promoting PPPs and works towards the improvement of the public management and legal framework of PPPs. The French Ministry for Foreign Affairs put in place a 'Mission to support PPPs' that provides technical assistance to local governments. Finally, a joint initiative of Expertise France, the French experts' agency, and the World Bank assists in putting into place PPPs by providing training, legal and technical expertise, field visits, and communication strategies for financial institutions of monetary unions in Africa, such as the UEMOA [5].

PREPARATION FUNDS. International organizations and bilateral cooperation agencies, such as the European Investment Bank and UNCDF offer preparation funds to help launch projects in the field of urban development and infrastructure, often through PPP. An example in Africa is the Local Finance Initiative (LFI) led by the United Nations Capital Development Fund (UNCDF) with different municipalities of Tanzania: the LFI offers technical and financial support to projects that are traditionally considered non creditworthy by commercial banks in order to bank the risk and to allow local governments to attract investors. In Europe, the European Investment Bank (EIB) has also developed a program of technical assistance for PPP development, and extended it to Mediterranean countries in the Maghreb.

SOME EXAMPLES OF FUNDING FOR SMART PROJECTS

INDIA SMART CITY PROGRAMME [6]. The Indian Government has launched in 2014 a five-year SMART City mission that will chose 100 cities to participate. Cities will be asked to prepare a 'Smart City Proposal' (SCP) containing the vision, plan for mobilization of resources and intended outcomes in terms of infrastructure upgrading and applications. The Ministry of Urban Development has prepared a toolkit to guide Indian cities in achieving their SMART goals. It will, in particular, facilitate access to technical assistance and financial support by making arrangements with a panel of technically qualified consulting firms and handholding agencies (foreign governments, bilateral and multilateral institutions and other domestic institutions). In addition, the implementation of the Mission at the city level will be done thanks to a Special Purpose Vehicle (SPV) created to this end. The SPV will plan, appraise, approve, release funds, implement, manage, operate, monitor and evaluate the SMART City development projects. Each SMART City will have a SPV headed by a full time CEO and nominees by the central government, state government and Urban Local Bodies on its Board. The government will encourage projects to be funded through PPPs which will be accomplished by the SPV. In this way, the management of the project will be transferred to an external actor with the required financial and technical capacities to implement.

NATIONAL AND REGIONAL FUNDING SCHEMES aimed to support innovation and research may be adapted for launching PPPs or for financing feasibility studies and innovative mechanisms. Some examples are Horizon 2020 an European fund, and national funding schemes, such as the Norwegian Research Council and private partners such as Innovation Norway" which combine different sources to finance a single project.

[4] Contribution of Edoardo Calia, Instituto Superiore Mario Boella

[5] Source: http://www.expertisefrance.fr/Domaines-d-activite/Developpement

[6] Source: http://smartcities.gov.in/writereaddata/SmartCityGuidelines.pdf

Risks and limitations of choosing a PPP:

➜ PPPs are time-consuming and costly. The local administration must be aware that the whole preparation process of the PPP (evaluation studies, tender procedure, drafting and negotiation of the contract) takes an average of 2 years. Thus, PPPs shall not be chosen to finance and manage urgent projects. However, in the specific case of PPPs for SMART projects at small scales (such as applications), the process might be less costly and time-consuming.

➜ Local banking sectors generally lack experience in terms of PPP financing (particularly for long-term lending).

➜ Lack of experience among public officials and private staff.

➜ The public perception of PPPs is not always positive as they are often associated with privatization, increased servicing costs, exclusion of those at the base of the pyramid and may be perceived as a disengagement of the public sector from service provision.

When choosing to engage in a PPP for a SMART project, local governments should:

➜ Check other financial options such as opportunities offered by public-sector financing (e.g. grants, tax breaks, national investment from innovation departments within specific ministries, etc.), international projects (for example European structural funds), etc. These, in certain cases, could be more sustainable and adapted solutions, this is particularly true when short-term financing is needed. The most effective type of financing depends on the type of infrastructure financed. For example, for single large-scale SMART city infrastructure such as an energy storage facility or a distributed renewable energy generation project, public financing will be the most effective source of financing. However, for programs involving the roll-out of hundreds of thousands of small city components, such as smart meters, building control systems or vehicle to infrastructure sensors, public-private partnerships are the most effective financing sources.[7]

➜ Make sure that both a SMART and PPP approach are adapted to local needs, demands, and conditions. The project should originate within the city and its citizens and not by the private sector alone (note that international companies often push their technologies to the cities, especially in developing countries, with little consideration of the cities' needs and capacities of adaptation).

➜ Make the choice collaboratively, by consulting the different internal services of the government as well as the population. Beforehand, it is important to present clearly the advantages and risks, and to engage in a process of negotiation and dialogue beforehand to "bring citizens along" rather than to "convince them".

➜ Build on existing infrastructure, capacities, and knowledge. The initiators of the project must start new discussions and evaluate the actual expertise within the city officials, including all sectors and age-ranges. It is also advised to open discussion with already existing local providers to check the possibility of building on what already exists.

➜ Ensure the affordability of the project and PPP contract (at all stages: from project conception, evaluation studies, contract development and implementation, monitoring and auditing, users cost, etc.).

"When engaging in SMART PPPs it is important that companies do not develop vertical technological solutions. Since the final users are the city and the citizens, companies should collaborate closely with them in order to ensure that the technological solution corresponds to the needs and expectations of the cities."

Lidia Cobas
Coordinator, United Cities and Local Governments (UCLG) Committee of Digital and Knowledge-Based Cities

[7] Source: http://www.cleanenergypipeline.com/Resources/CE/ResearchReports/Smart%20cities%20in%20Europe.pdf

➜ Pay attention to the size of the project: a project too expensive might be difficult to finance in countries with little experience in PPPs, and a small-scale project might not cover all legal and financial costs linked to the PPP process. It thus may be a solution to separate ambitious projects into different phases, or regroup projects (cross-regionally, for instance, or even across countries) so as to attract private operators and share resources and knowledge. It is also advised that the public entity initiates SMART projects with small pilot project at small scale.

➜ Consult with the central government and corresponding departments, in order to access technical assistance, financial support or guarantee, but also to prevent conflicts of interest.

FOCUSING ON SPECIALIZED INSTITUTIONS

Local governments around the world have been implementing projects using SMART technologies and often chose to fund and manage them through PPP contracts. Municipalities that are willing to enter this domain should learn from their peers' experiences to avoid most common mistakes and to ensure their projects' success. To do so, local governments can access national and international networks, platforms, policy documents, attend conferences and meetings, develop bilateral collaborations, realize technical visits, participate in capacity building activities, etc. In addition, such comparison of cases (good practices and bad experiences) might also be a powerful tool to motivate the private sector to do their best as projects become showcases for the international community.

Examples of institutions acting in the SMART Cities and PPPs area are:

Instituto Superiore Mario Boella (ISMB), Italy. ISMB is a non-for profit research centre focused on Information and Communication Technologies (ICT), which carries out research in partnership with private and public institutions. The mission of ISMB includes support to its partners in the evaluation of established or cutting edge technologies and of their introduction in the products and services of interest. Among the recent projects carried out by ISMB with public administrations, the most significant is the introduction of a intelligent system for the remote control and management of street lighting, based on the installation of low-cost electronics (an alternative to the typical, capital intensive upgrading of all street light using LED technology) to optimize the timing of turning-on/off operations. Actual measurements carried out with the support of the target administrations showed that this solution is able to provide savings of 10-15% on the street lights' electricity bills. Remote monitoring and control can also be extended to thermal energy management, with even higher savings. ISMB is currently developing an offer based on two main principles: transparency and saving sharing model. Transparency is obtained by giving the customer web tools to actually check the energy consumption. The saving sharing model is applied by calculating ISMB's compensation as a share of the actually obtained (and jointly measured/verified) savings. The model is not yet finalized and approved, mainly because it is quite different and innovative if compared to the usual, existing rules for the payment of services.

PPP for Cities is a centre belonging to the International Centre of Excellence on PPPs of the United Nations and hosted by IESE Business School in Spain. The PPP for Cities task is to help cities around the world to transform themselves into Smart and Sustainable Cities by embracing the Sustainable Development Goals of the United Nations. PPP for Cities focuses its efforts to address goal number 11: "Make cities and human settlements inclusive, safe, resilient and sustainable" using PPPs as one of the most successful mechanisms. PPP for Cities is also a partnership platform between companies and administrations from all over the world, where they can further explore the dynamics of PPPs, create guides to good practices and standards and design solutions to the issues facing cities. The Smart City concept does not just provide a new urban model in which technology serves the city in an effort to improve its citizens' quality of life and promote economic growth, it is also a new model of governance that encompasses city planning and management bearing in mind the different areas and dimensions that shape a City with the goal of promoting its strengths and improving its weaknesses.

The European Innovation Partnership on Smart Cities & Communities is an initiative of the European Commission that seeks to streamline initiatives in the SMART City sector and to complement them with other actions when necessary. It looks to establish strategic partnerships between industry and European cities to develop the urban systems and infrastructures of tomorrow.

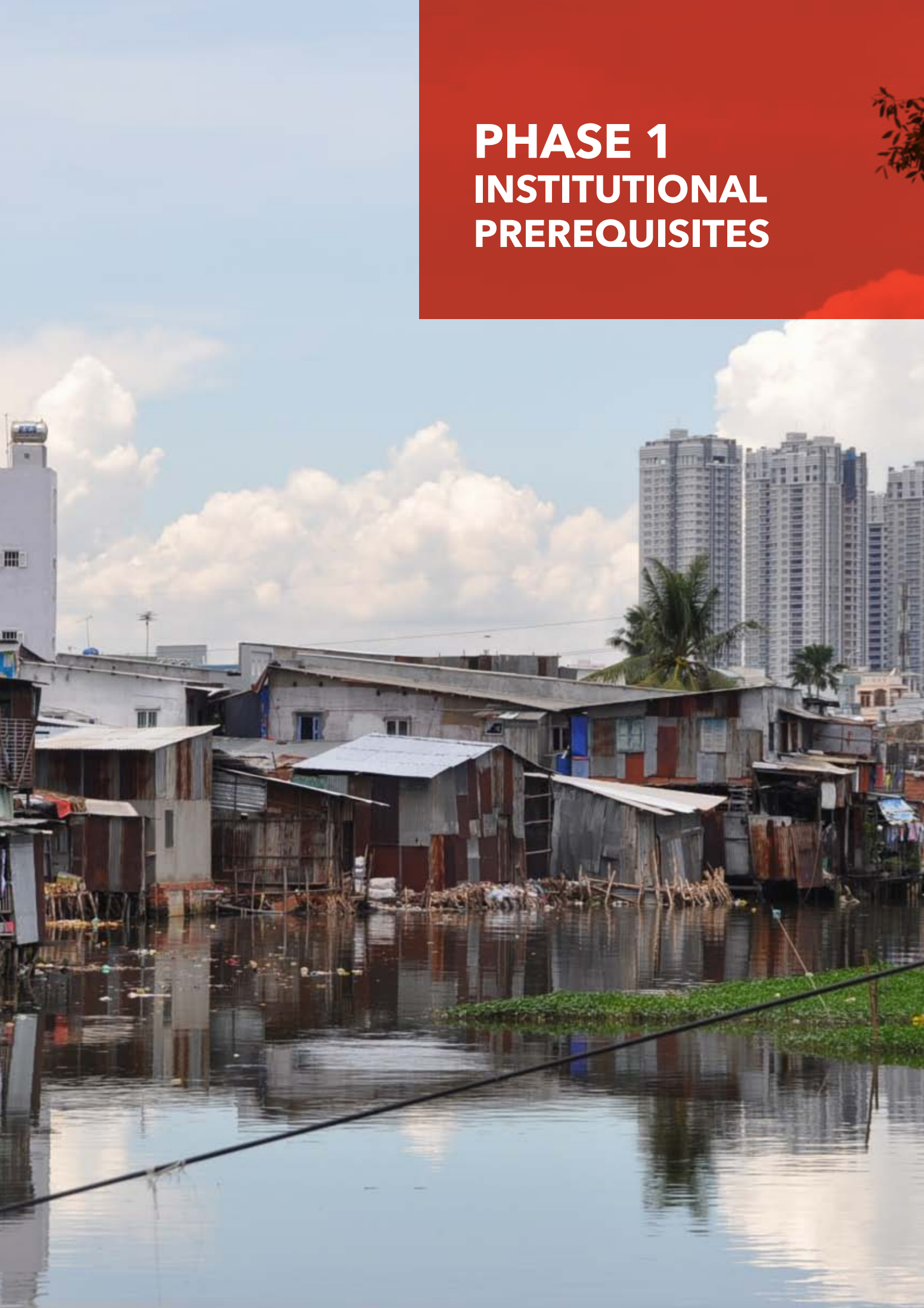
Once the city has decided on the type of SMART project it wants to implement (mobile application, network of sensors, open data policy, etc.) and has taken the decision to finance and manage the project through a PPP, the PPP development process enters a three-phased process that can be summarized as follows

Step 1
Institutional perequisites

Step 2
Preparation and negotiation

Step 3
Implementation and management

PHASE 1
INSTITUTIONAL PREREQUISITES



PHASE 1 INSTITUTIONAL PREREQUISITES

Before setting the SMART PPP contract, local governments should make sure that the legal framework is able to support the project; that they have the internal capacity, and can rely on the necessary preliminary studies to implement the project.

Legal framework and regulations

In order to avoid 'legal gaps' and problems in the project implementation, local governments must make sure that there is a clear, predictable and legitimate institutional and legal framework able to facilitate PPP in general and SMART projects in particular. Unfit regulatory frameworks are one of the main obstacles to the roll-out of SMART projects, thus local governments must carefully check the national and (when applicable) regional legislation regarding PPPs and SMART technologies, and specifically, how the innovative component may influence procurement regulation. They must ensure that the regulatory framework makes the project feasible and is able to provide the necessary flexibility and adaptability to accommodate new technologies and innovative solutions to common problems. Local governments must also ensure that regulations are enforced. If necessary, they have to create specific municipal regulations on the matter.

According to the 'Recommendation of the Council on Principles for Public Governance of Public-Private Partnerships' (2012) of the OECD: "While the contract is the main basis for a PPP, it is necessary to have a clear and transparent regulatory framework that all parties can trust, is enforced and that does not create barriers to entry. Such a framework fosters competition and helps minimizing the risk of conflicts of interest, regulatory capture, corruption, and unethical behaviour."

The World Bank offers a comprehensive list of legal and regulatory aspects that must be taken into account when designing a conventional PPP, mainly for the ones addressing infrastructure projects[8]. Additionally, when the PPP relates to SMART projects, local governments must pay specific attention to the following issues:

➜ Make sure the project complies with privacy and data protection (particularly important when it comes to projects involving the massive collection of data through sensors). In many cases, the devise of a local open data policy is advisable. In the European context, for example, privacy regulation is influenced by the EU Data Protection legislation, which needs to be considered (under current revision).

➜ Make sure that the relevant procurement regulations are identified, allowing for the necessary flexibility in the procurement of SMART technologies.

➜ Other sectorial regulations that need to be checked may include: frameworks facilitating smart grid deployment or the installation of smart meters; the definition of minimum standards for sustainable construction of new and refurbished buildings, etc.

➜ Analyse the possibility of introducing legal clauses on updates related to technological changes or improvements, and the adaptation of legal frameworks to obsolete technology.

[8] Source: http://ppp.worldbank.org/public-private-partnership/legislation-regulation

FOCUSING ON A SPECIFIC COUNTRY

NORWAY data protection and procurement regulation for R&D

DATA PROTECTION. In Norway, data protection has become an area of much public focus and attention, especially when it involves initiatives exchanging data related to health and personal issues. Oftentimes, technology enables service providers to enter a blurry field related to privacy, and this is often addressed as interoperability challenges. The recent years have shown increasing attention to find solutions to the following areas of interoperability:

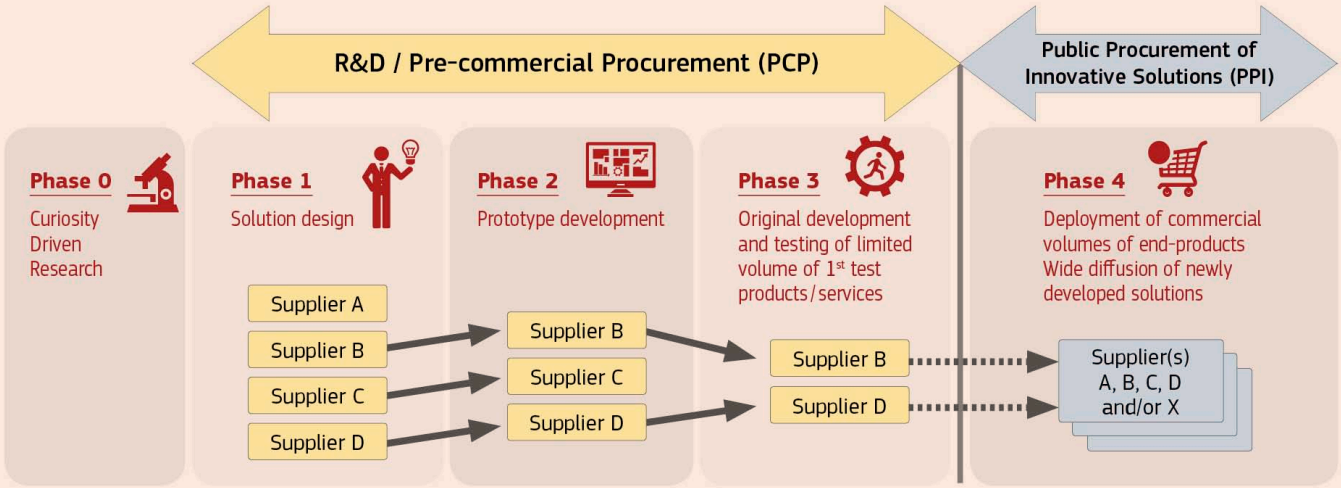
- Organizational interoperability (addressing barriers for cooperation between people and organizations),
- Semantic interoperability (addressing barriers pertaining to language and semantics between people, organizations and technologies) and
- Technical interoperability (addressing barriers to integration between technologies, systems and data flow).

At the moment, there is also an increasing focus on resolving issues pertaining to the area of "legal interoperability" seeking to address the legal and judicial barriers for an efficient cooperation and delivery of services to citizens.

On the area of health-related technologies, there can often be a fine balance between what is being defined as "data privacy" (protecting your personal, health-related data) and "patient security" (protecting your health). In Norway, the individual person has a strong level of protection[9] against government authorities' sharing and cross-using of personal data besides what is defined as "necessary use". This is being monitored and audited by The Norwegian Data Protection Authority [10].

Sometimes, providers can deliver better services to the individual if they share data among themselves. There is a growing focus on the possibilities allowed by the legal framework for an extended cross-use of data when the person receiving treatment or services gives his active or passive consent. This trend has led to the development of digital solutions for consent-based use of wider datasets, alongside increased legislative changes towards the "tacit consent". A good example is constituted by tax returns where laws were modified in 2008, to facilitate that Norwegian tax payers do not have to submit their tax returns by themselves. The tax authorities provide to citizens the information about their income and taxation, and if there are no changes to it, the citizens do not have to do any particular action[11], the form is then tacitly accepted, instead of the citizen having to actively submit this information by himself.

PROCUREMENT REGULATION. The municipality of Asker in Norway has, alongside all other Norwegian municipalities, adopted the national and EU-based regulation that allows exceptions in procedures regarding procurement when it comes to R&D. This 'innovative procurement' procedure seeks to circumvent some of the rigidity of standard procurement procedures both in Norway and the EU, and in doing so, stimulating the private sector to actively pursue the research and development of new services and products. In short, this "R&D-clause" is valid



[9] More information at: http://app.uio.no/ub/ujur/oversatte-lover/data/for-20001215-1265-eng.pdf

[10] More information at: https://www.datatilsynet.no/English/

[11] More information at: https://www.skatteetaten.no/en/International-pages/If-you-work-in-Norway-you-need-to/Submit-a-tax-return-/Submit-a-tax-return-/

in the purchasing of services regarding R&D when [12]:

- the purchaser does not pay in full for the service developed or
- the service does not fully belong to the purchaser for using it in their organization

In addition to this, it is important that there is a significant element of R&D and that the contract should be able to use this clause. The contract may for instance deal with:

- The development of new technologies
- New products
- New services
- New areas of application for existing technologies
- Development of new knowledge

It is important to state that the purchaser still has to follow the basic guidelines given in the procedures for public procurement, concerning creating competition (when possible), giving equal treatment to all participants, showing transparency and verifiability in all its practices.

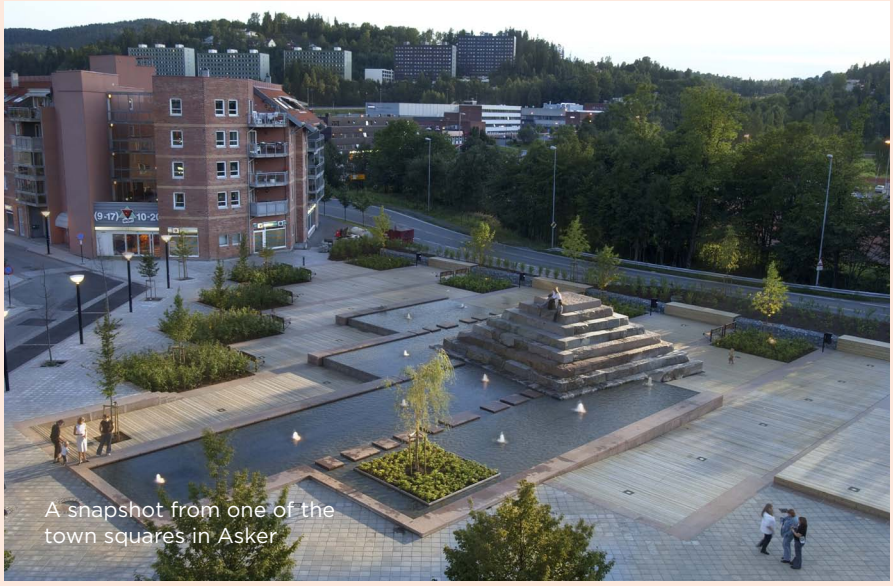
As a standard rule, for the municipality to be able to use the R&D-clause the project must have as its purpose to bring forth something that is not already available in the ordinary market. There has not been a widespread use of this clause, not in Norway, nor in the EU, so the EU-Commission has therefore given several suggestions on how to make better use of it in procurement.

In seeking to use the R&D clause, Norway follows up on the EU regulations in this area, as shown i.e. in the initiatives "Innovation Union" [13] and "Digital Agenda for Europe" [14], a part of the "Horizon 2020" [15] – framework program. "Digital Agenda for Europe" especially emphasizes the use of two procedures for innovation procurement, called "Public Procurement of Innovative Solutions (PPI)" and "Pre-Commercial Procurement (PCP)". See picture above and foot note for details of these procurement practices.

The Town Hall in Asker municipality

Asker municipality is working closely with the Norwegian authorities responsible for the procurement regulations, and they focus strongly on innovative procurement and e-procurement [16] as means to better facilitate a healthy and bilaterally useful relationship between the public and private sectors in developing SMART local communities and cities in the nation of Norway.

Asker is a Norwegian municipality of 60 000 inhabitants. It is in line with the current Scandinavian paradigm shift within the delivery of municipal services, in which the role of the citizen as a consumer of public services and the municipality as a service provider are challenged and intertwined in new combinations of co-creation and an extended definition of what citizenship really means. In this context, Asker's service providers are challenged both when it comes to role definitions and possible alterations of core tasks, and the municipality launched a strategy for innovation called "an eye for possibilities" to maintain an open and inclusive mind-set in all the city's practices. One such area of innovation and development of public service [17] delivery is to be found in projects and activities focusing on digitalization of public services. There is a strong focus on this both nationally and in the Asker municipality, seeking to adapt the municipal service delivery to an increasingly digitalized body of citizens, that are constantly adopting new, digital tools in their everyday life.



A snapshot from one of the town squares in Asker

[12] More information at: http://www.anskaffelser.no/kva-er-innovasjon-i-offentlege-anskaffingar/forsknings-og-utviklingsoppdrag/fou-unntaket (site in Norwegian only).

[13] More information at: http://ec.europa.eu/research/innovation-union/index_en.cfm?pg=key

[14] More information at: https://ec.europa.eu/digital-agenda/en/innovation-procurement

[15] More information at: http://ec.europa.eu/programmes/horizon2020/

[16] More information at: http://www.anskaffelser.no/e-procurement

[17] More information at: http://culturedigitally.org/2014/09/digitalization-and-digitization/

Internal organization and technical capacities

Local governments shall avoid introducing highly sophisticated tools and developing legislative and financial complicated business models if they lack the capacity to deal with them. Thus, before initiating the PPP process, local governments should make sure they have the necessary internal organization structure and technical capacities to conceive and manage a PPP contract for a SMART project. In case that they do not have the necessary competencies, resources or experience in establishing PPPs, consulting financial, legal and technical experts is key to achieve the level of knowledge of the private sector to ensure a balanced negotiation process. Some of the options to strengthen institutional capacities are:

Reinforce the innovation department It can be useful for the municipality to expand its IT team or appoint a chief innovation officer.

Create new institutions adapted to new needs: for example, a municipal service dedicated to IT solutions, or the creation of a specific PPP Unit within the local government might be useful as it condensates the expertise and centres knowledge. The unit may be composed of lawyers, economists, financial experts, engineers, and technicians. It is important that such a unit adopts a central role within the government body and disposes of sufficient authority vis-à-vis the departments and stakeholders involved in the project. To this end, it is necessary to build the project under an explicit political leadership and vision and to establish clear links between the PPP Unit and political decision makers.

Training for city officials. The local administration may consider collaborating with external actors to train its employees, such as local universities, research centres, consultancy firms, and national or international institutions. A possibility is also to include clauses on training as part of the PPP agreement to ensure continuous training of officials by the private company during its implementation.

Partner with other stakeholders that have the required skills and are able to act in lieu of the local administration (the municipality might consider signing an agreement with local universities, civil society organizations or hiring a consultancy firm).

Benchmarking When dealing with new technologies, this is a particularly challenging issue, and this is why peer-to-peer review of other cities experiences becomes so critical. Collaborating with other municipalities involved in similar projects might be particularly relevant for small and medium-sized cities.

Each of these options involves a cost, both in terms of time and financial resources. Generally, the local government should privilege sustainable solutions with long-term benefits, that is, opt for solutions that will reduce the costs of similar operations in the future. In this sense, internal training of public officers shall be privileged, since it will enable them to manage future processes reducing the costs associated with the project.

"In some cases, PPPs lead to complex structures that demand new capabilities that are usually more present in the private than in the public sector. Consequently, governments need to create the necessary capabilities through an approach that combines the creation of new institutions and the training of public officers in the use of external expertise"

Lidia Cobas
Coordinator, United Cities and Local Governments (UCLG) Committee of Digital and Knowledge-Based Cities

FOCUSING ON AN EXPERT POINT OF VIEW

Interview with Cédric Baecher,

Co-founder and Managing Partner Nomadéis Consulting (France)

What advice would you give to a city that wishes to develop a SMART PPP?

When wishing to engage in a SMART PPP, the municipality must, before anything:

- Define its own understanding of the concept of SMART City at its scale and in its specific context ;
- Map and identify all already existing initiatives and tools that are working to achieve the SMART City;
- Define its own strategic vision with specific goals BEFORE turning to private partners.

According to you, what are the key elements that guarantee the success of a PPP for a SMART project?

Among the elements identified as key to a successful SMART PPP are:

Leadership Top decision-makers from the municipality (and from the private partner) must be involved in the process from its inception to guarantee ownership, vision and real commitment over the long-term. Leadership must come with pedagogy to explain the vision, especially to future generations.

Participation The elaboration of a SMART city strategy must be the occasion for all local stakeholders of the city ecosystem to express their needs, understand their role and find their own way to create social, economic and environmental value. Local businesses of all sizes, community organizations, academia, but also, of course, city staff and technical departments all have a significant role to play.

Pragmatism A SMART city is not only about high tech equipment. It is also about organization, capacity building, project management and finding the right "business model" for the city and its partners. Priority must be given to the actual needs of the city, along with its available resources and capacities. It also requires cross-sector management and risk management as a SMART city may come with some externalities to be taken into consideration.

Flexibility As for any large-scale, long-term, cross-disciplinary project, the actors of a SMART city must be ready to adapt to unexpected challenges of all kinds. Performance measurement is key to monitor progress but also fine-tune partnerships and engagement models to ensure all stakeholders involved can deliver optimal results.

What can be the role of independent consulting agencies like Nomadéis?

Independent consulting agencies like Nomadéis (www.nomadeis.com) can play a major role to accompany cities and local governments in their effort to address the challenges of SMART city.

They can for example provide support in order to:

- map all existing local skills, tools, projects and initiatives which constitute the starting point of any new integrated strategy for SMART city development;
- consult with all relevant local stakeholders to ensure a participatory approach in the definition of a robust, widely accepted SMART city strategy;
- design a custom-made strategic framework, integrating local constraints (resources available, characteristics of the territory, etc.) and key expectations from stakeholders (including those of the city staff and technical departments);
- draft a pragmatic action plan and road map with clear priorities and recommendations for the organization and governance of the SMART city strategy;
- establish a reporting framework with adapted indicators to facilitate monitoring and performance review.
- conduct regulatory watch to follow trends and best practices.
- realize national and international benchmarks to provide local decision-makers with external insights and documented best practices to feed the debate and guide the decision-making process.
- elaborate comparative analysis and assessment of proposals, commercial and/or R&D offers submitted to cities and local governments by potential private review, to ensure that they meet local requirements. Consultants can also advise on the best partnership scheme to frame the cooperation.

Ex-ante evaluation

Although it is sometimes difficult for public entities to elaborate the necessary studies (mostly due to the lack of technical capacities, funding or time), local governments willing to initiate a SMART project must make sure to design the necessary evaluation requirements well beforehand. This is a key element for success, and its absence might bring negative consequences, such as unforeseen costs or collateral effects for citizens. Typically, local governments may conduct the following studies when developing a PPP (both 'traditional' and SMART PPPs):

General research prior to project elaboration:

➜ Needs assessment to choose the project most adapted to local citizens' needs;
➜ Benchmarking studies to acquire knowledge regarding existing products and providers, and the use that other local administrations have made of them;
➜ Analysis of the local administrative capacities.

"First of all, and prior to launching any study, the local government should analyse if the project follows the strategic plan of the city or, in other words, the promoter unit should propose those projects defined in the strategic plan that have been designed taking into account the needs identified by all of the departments of the city council".

Eva Bufi
Executive Director, PPP for Cities

Feasibility studies to determine the best modalities of the PPP project (in terms of type of remuneration, duration of contract, etc.):

➜ Financial analysis: affordability. Analysis of the ability of the project to secure the return on investment. Business cases should take into consideration the specific time frame of the PPPs. While a five or six years' return is the average to attract private partners, SMART projects may take even longer.
➜ Financial analysis: bankability If other investors than the local government are willing to finance the project.
➜ Financial analysis: a value for money analysis identifies the benefits and costs of the project, including its indirect effects.
➜ Risk assessment: Evaluating the benefits and risks for the public sector, the private sector and for the citizens. This study should optimize the risk-sharing and risk-transfer between the parties and make sure that benefits are equally spread and financial risks are not exclusively shouldered by the local government.
➜ Impact analysis: evaluates expected outcomes, the impact on the lives of the final users of the project. The citizens should be at the core of the project during all phases.

To elaborate the above-mentioned studies may take up to two years. In the case of PPPs for SMART projects, it might take the local government even longer, due to the difficulties in establishing the real impact and unforeseen costs, because of the innovative character of SMART PPPs. According to national legislation and capacities, the studies can be conducted by: the local administration itself; a consultant firm; national or international institutions that can offer technical assistance; or the private sector that owns the technology.

"*Since results of SMART PPPs can be of a more intangible nature, it is of crucial importance to have a firm grip on two aspects from the earliest phases of the project: (1) the stakeholder analysis and (2) the benefits realizations plan. The stakeholder analysis must include a plan for communicating the results to the two main stakeholders - the general public and the municipal workers. Both groups need to be told the "story of the better future" in terms that are understandable and trustworthy. This needs to be an integral part of the SWOT-analysis for the project, to balance the benefits realizations plan, which in turn must prepare the service delivery organization for what is to come. Statistics show that innovations that alter either the core tasks of persons or the role of administrators of these tasks are likely to be resisted. If this is not met with the appropriate understanding of role innovation, this might halt the project or diminish the results from it.*" Geir Graff, Special Advisor on innovation, Municipality of Asker, Norway

"Being in a rush is the enemy of any successful PPP, since it takes time to build the necessary technical and political maturity of a project and in particular a SMART project. We advise that municipalities take two or three years to make the necessary evaluation studies to make sure that the project has a return and in order for the private sector to be willing to invest in the project. It is very difficult for the private sector to invest in projects where the return on investment takes several years to appear."

Bruno Cohades
Business Unit Director, Thales, France

"Without the right knowledge and information, the government cannot take decisions."

Councillor Chengula
District of Kinondoni, Municipality of Dar-Es-Salaam, Tanzania

FOCUSING ON A SPECIFIC TOOL

Brazil's Procedure of Manifestation of Interest

In 2006, in Brazil, the national government created a tool called "Procedure of Manifestation of Interest" (PMI). Through this mechanism, public administrations emit a request for the private sector to elaborate, assuming the risks, the preliminary studies necessary for establishing a PPP project that has been identified as priority. These studies aim at evaluating the risks and opportunities of the PPP and may include judicial, operational, economic and financial aspects. The public sector is thus enabled to choose the most interesting proposals. If the PPP is finally implemented, the public authority will compensate the expenses of the studies, but no compensation will be offered to the projects not selected. Between 2007 and 2012, Brazilian States have already launched 73 PMIs. However results are still uncertain as only 14% of initiated PMIs between 2011 and 2012 effectively reached the procurement phase. This situation might discourage the private sector as there is a strong risk of initiating costly PMI studies without them being concretized.

FOCUSING ON A PRACTICAL EXPERIENCE

Bridging the disconnect – community upgrading through SMART technologies Agra, India

Agra is a city of 1.7 million people. Despite being a city of historical importance, most of the metropolitan area is underserved. Half of the city's population lives in one of the 432 slum settlements with very poor access to municipal services. Since 2005, the City has been collaborating with the development organization 'Centre for Urban and Regional Excellence' (CURE) on developing and implementing a plan of action for making Agra slum-free (adopted in 2013).

Citizens' involvement in planning and implementation processes conducted by the public sector is essential to improve the living conditions of low-income communities. The challenge, however, is to find effective channels to involve communities in the former and to scale-up community participation. In this context, the municipality has launched, in partnership with CURE, a pilot over three years (2015 – 2017) that will use mobile technologies to create a digital interface to simplify data and information collection and sharing at the slum and city level, and to promote the participation of communities in sustainable slum-upgrading solutions. Concretely, the pilot project will result in the creation of a mobile-based application that is integrated with the city systems (an interface composed of so-called idea cells). The pilot will allow the citizens to prioritize the problems their communities are facing, suggest solutions, contribute to creating a citizen-city dialogue, and channel the information into the planning process, allowing for a cross-cutting cooperation between the civil society and government levels. The information collected through a variety of mobile devices (mobile phones, smart phones, computers, tablets, etc.) in the communities will be transferred to the IT Hub of the City. CURE will be responsible to help interpret the information and translate the latter into planning tools and actions on the ground. The project will target 22 settlements and approximately 8,000 households corresponding to 40,000 people.

The project develops in four steps (n°2 and 3 being simultaneous):

1. Assessment of skills and access to mobile devices. A household survey, conducted in 15 slum settlements, determined not only the percentage of population having access to mobile devices (mobile phones, smart phones, computers), but also assessed their level of skills in using the latter. Thanks to the preliminary study, CURE was able to conceive its project in line with actual capacities and realities on the ground. In fact, the first surveys revealed that it was feasible to implement the project in the slum settlements, if adapting the communication channels to local capacities. This example stands for the crucial importance of conducting feasibility studies in the project's conception phase.

2. Development of an application, in partnership with the IT area of the City and a private service provider. After the careful evaluation of different ICT tools and options that resulted from the survey (SMS, calls, WhatsApp, Google and its applications, emails, Instagram, etc.), the project team decided for a recharge method for the pilot phase. A partnership is currently being negotiated between CURE and a small local start up, u2opia mobile, to develop the application, and provide the USSD platform for information sharing, aggregation and analytics. The application will expand the project beyond conventional SMS services.

3. Application of the ICT interface to community processes. This phase involves using the ICT tools to bring larger numbers of people together in a community, particularly marginal groups, building consensus on solutions, organizing collectives and amplifying their voice and negotiating skills. The pilot will run on an uncomplicated message-polling system; citizens will receive a USSD code from the service provider which will open the application when dialled. The first step of the application shall be aimed at prioritizing existing problems. In the second step, users would be able to suggest best solutions, and/or new ideas. Technological moves will be interspersed with community meetings, focus group discussions, brainstorms, roundtables, etc. A platform for people-municipal interactions will need to be developed to relay the collected information to city servers and take ideas to the execution stage. For the poorest households and/or technologically excluded people, CURE will collaborate with retail service providers – cyber cafes, mobile repair shops etc., to allow their participation in the process. The Interface processes shall include the following: the use of SMS and other interfaces pushes to share information, get opinions and ideas, pick champions and leaders, and have a dialogue between local organizations and communities; the realization of pulse surveys to check opinions on plans and projects; the definition of Word Clouds to depict keyword metadata (tags) for quickly perceiving the most prominent terms for using these words as navigation aids; and Crowd sourcing ideas and proposals for upgrading slums.

4. Scaling-up. The application shall be collaborated with Agra's IT infrastructure and systems to enable escalating the technology to all of Agra. CURE over time has generated large amounts of information on various indicators; however, being both large and complex, these data are hard to share with the community and/or city officials. The system interface architecture envisaged under the pilot is simple, and easily understood by people and city functionaries at all levels. Data visualization tools such as the dashboard will be created for information dissemination and strengthening and making objective their decision-making processes.

Lessons learned.

When willing to develop a project utilizing SMART technologies with low-income communities, the municipality must make sure to:

Conduct all the necessary needs and capacities evaluation beforehand. In this specific case, the household survey was crucial to determine if a mobile-based initiative was viable in the slums of Agra, to adapt the project to real capacities and make sure it will be effective.

Complement the technological initiative with traditional ways of communication. As the household survey revealed that technology is biased to women, the illiterate, and the elderly, to reach the most marginalized communities, CURE has to go through a process of door-to-door communication, round tables, face-to-face discussions, and other non-technology-based mobilization.

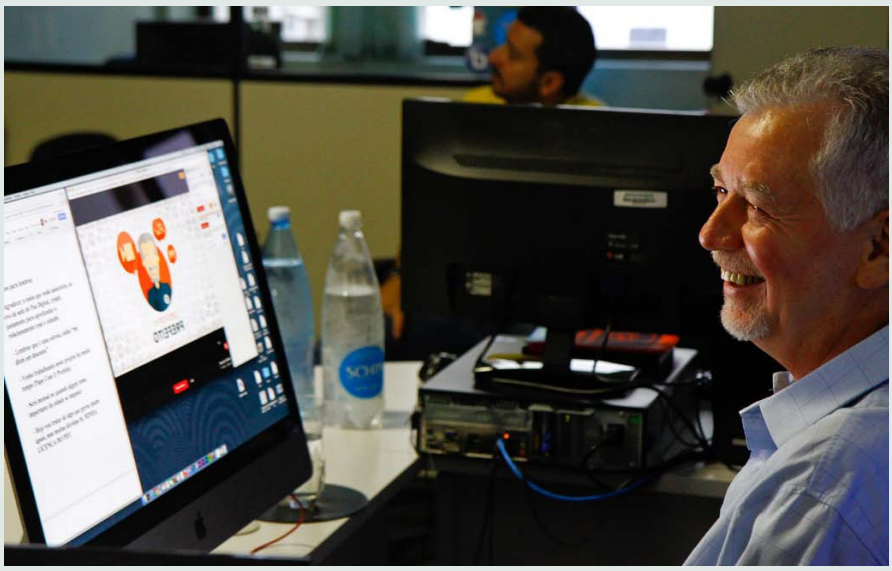
Work closely with civil society organizations to reach marginalized communities. When it comes to SMART projects for slum communities, the private sector might lack valuable knowledge on local issues. Thus, the municipality must collaborate closely with local, well-established and visible organizations to lead the project. In this case, CURE is a valuable partner for the municipality, given its longstanding footprint in Agra. Thus, the municipality shall seek out a private service provider only when the latter has a very clear understanding of demand generated through the NGO partner on the type of service and product it wishes to develop. This is to make sure that the technology will be adapted to real needs and capacities of the people on the ground.

FOCUSING ON A PRACTICAL EXPERIENCE

The POAdigital initiative, Porto Alegre, Brazil

Porto Alegre is a city of 1.5 million inhabitants internationally known as the cradle of contemporary participative democracy. As a result, the city often introduces important innovations in municipal management. The municipality is aligned with other world administrations in considering the opportunity made available by new ICT and online platforms able to optimize government's response to the population demands. With the aim of increasing transparency and citizen participation in public management, the Municipality of Porto Alegre created in 2013 #POAdigital, a department linked to the Social Communications Office. Its mission is to coordinate the municipality's online communication actions and to look for more efficient management solutions and stronger interaction with the community through the use of new technologies. As the municipality's platform of creativity, its main goal is to connect people and promote collective action in areas such as communication, education, entrepreneurship, etc. The City Council has observed that, since launching of the initiative, there has been a significant increase in the population's engagement in municipal projects.

The #POA digital initiative works as an umbrella for a series of digital projects, amongst them: #CurtindoPoA, a collaborative agenda of the City; the #POAapp official guide of the city; the Usina project, the Laboratory of Creativity that trains teachers and students in public municipal schools. The flagship initiative of the municipality, launched in November 2013, is the DataPoA, an Open Data policy that makes available to the public specific and very detailed data regarding mobility, health, education, environment, budgeting, tourism, urban cleaning, among others. The final goal is to invite the population to know more about the municipal services and to foster the development of intelligent solutions based on collected information to improve the quality of urban services. The data can serve as material to hackers, students, programmers or entrepreneurs interested in creating web platforms, applications and software that will help improve the quality of life in the city, and thus, foster innovation and entrepreneurship resulting in the creation of new start-ups. The program hopes to create collaborative links between the municipal government, enterprises, programmers and citizens. Since 2013, the City Council has organized several Hackathons resulting in the creation of more than 30 applications based on 60 datasets. Amongst them, applications that make it possible to localize the trajectory of municipal buses; to identify the closest health centres or to know the best path for biking. The success of the initiative can be measured by the number of solutions created, the constant demand for accessing new datasets, and also in the fact that firms like Google or Microsoft use the platform as base to some of their products.



To implement the #POAdigital initiative, the City Council established several partnerships with the private sector, a necessary strategy as the City Council faced financial, technological and staff limitations. These collaborations did not follow the traditional Public-Private Partnerships as defined by Brazilian law as they are based on the signature of cooperation agreements following a 'win-win' logic. These partnerships do not involve specific financial exchange but 'payment' is made through other currencies such as data, promotion, access to networks, etc. From there, companies can adapt their business models and identify the best financial methodology. In this way and according to Thiago Ribeiro, coordinator of the #POAdigital initiative, "SMART PPPs might differ from traditional PPPs in that they offer the opportunity of designing SMART business models, identifying synergies and opportunities that do not necessarily involve financial contributions".

Amongst the partnerships developed within the #POAdigital initiative, the City Council collaborated with:

- A local private company, Procon, set a mechanism to improve the defence customer service by creating an application to facilitate the relationship between the users and the municipality. In a few months, 40% of the complains had migrated from the traditional attendance call centre service to this new tool.
- The Israeli company Moovit created an application to improve the public transportation system by offering real time information and organizing travel planning. In 2015, the application had more than 230 000 users, which represents 40% of public transportation users.
- Colab.re created an application allowing the citizen to report problems, propose ideas and evaluate services.
- Twitter created a system of alerts for emergency cases.
- Google Maps improved the applications for public transportation; Google Street View valorised public spaces, and the Google Hangout app helped create the "Chat with the Mayor" initiative.

- IBM facilitated the launching, in July 2015, of the internet portal #POAdigital. Developed on the IBM Bluemix platform, it will gather information about innovation, technology and entrepreneurship in the region. The Portal will offer local Start-ups the opportunity to advertise information, to explore new trends in information technologies; to access information about incubators, financial resources or work spaces; to access the latest news and events happening in the city, such as workshops and training courses; or to map the local ecosystem.

According to Thiago Ribeiro, the collaboration with the private sector for technological innovation projects in public management is necessary, but it should not be limited to the procurement of services and purchase of products of the private company by the public entity. On the contrary, the municipality should understand that it can benefit from the private sector's expertise, but it can also offer great opportunities to local enterprises and foster the start-up sector. In this sense, Porto Alegre collaborated with a variety of companies to develop specific applications and took advantage of the infrastructure made available by Procempa, the company in charge of the city's data processing. On the other hand, the municipality has been trying to create a culture of innovation and foster technological entrepreneurship by offering incentives to start-ups, collaborating with local incubators and accelerators, and with the creation of the Gaúcha Start-ups Association (AGS). In the same way, the municipality made the DataPoA platform available to actors from the private sector so they could use public data and authorized the creation of paying applications and programs based on public data, with the belief that it will help to create business and job opportunities.

The municipality of Porto Alegre identified the following elements as essential in guaranteeing the success of a project such as #POAdigital and the partnership with private stakeholders:

- **A strong political leadership, a clear vision of benefits and difficulties and a strong internal communication process** are key to ensure understanding and acceptance of the initiative and to face any opposition. In Porto Alegre, the commitment and political will of Mayor José Fortunati contributed to make the difference. Main obstacles to develop the project were encountered within the municipal council. One obstacle was ideological: municipal agents are often resistant towards any technological innovation because it is often intangible with results that cannot be observed immediately. Another one was technical and due to a quite limited culture of data management and processing within Brazilian cities.

- **Inspiration from other municipalities' experiences** helped build a solid project and define the shape of the partnerships with the private sector. In the case of #POAdigital, the municipality was inspired by the experiences of San Francisco, Barcelona, New York and Tel Aviv, and collaborated with the same consultant that built a similar project in San Francisco to adapt it to the local context of Porto Alegre.
- **Holding a close dialogue with private partners to quickly build a relationship based on trust** is of utmost importance. In the case of Porto Alegre, the #POAdigital initiative has an innovative approach to relationships which follows a similar organizational model used in managing private companies'. This facilitated the relationship between the City Hall and its partners, whom, from the beginning, understood that they were bound to develop strategic partnerships and not merely commercial ones.
- **Establishing partnerships with a variety of institutions** such as universities, civil society organizations, national and international specialized institutions, ensured that #POAdigital benefited from a lot of expertise and was built in a collaborative way.
- **Transparency and communication** towards the local population, as well as towards private actors and other municipal services, guaranteed acceptance, participation and legitimacy.
- **Legislating over the project allows its durability beyond political cycles**. The Municipality of Porto Alegre designed a project of Law structuring administratively the Municipality to create the new department for the #POAdigital and establishing the Open Data policy as a permanent policy of the city by a municipal decree. The next step will be the adoption of a specific budget line to ensure the functioning of the #POAdigital unit.
- **Clearly defining the transfer of knowledge between the private partner and the municipality** should contribute to guarantee the continuity of the project and the autonomy of the city council with regard to the private firm.

PHASE 2
NEGOTIATING THE PARTNERSHIP

PHASE 2
NEGOTIATING THE PARTNERSHIP

Once the local government has checked the legislative and institutional framework, clearly set its needs, carefully analysed its capacities and elaborated the necessary studies, the next stage relates to the public procurement that commences with the publication of the procurement notice and ends with financial close, the point at which project activities may start. It involves (1) the bidding process that shall allow for choosing the private partner and (2) the negotiating and drafting of the PPP contract that comprehends the period from the selection of the preferred bidder to financial close.

Choosing the right private partner

Public procurement of SMART products and services. The "Guidance for Public Authorities on Public Procurement of Innovation"[18], elaborated in 2013 by ICLEI and the Procurement of Innovation Platform, identified lessons for local authorities launching procurement processes in the innovation sector. According to the document, the contracting authority must:

➜ Carefully plan before initiating the procurement process. This includes taking the time to assess the needs, identifying existing products, consulting other public or private organizations who have procured similar services, choosing the most adapted procurement procedure, etc.
➜ Get to know the market. Thoroughly understand the potential supply chain for an innovative product or service is essential and preliminary market consultation might be necessary.
➜ Assess and actively manage risks by dividing responsibilities between the public and private partner should help avoiding that an innovative procurement will fail.
➜ Ensure competition. Although it often appears that only a small number of companies could answer a bid regarding innovation projects, it is crucial that the local authority guarantee a fair competition in order to obtain the best the market has to offer.
➜ Prefer flexible procedures such as "innovation partnership", "competitive dialogue" or "competitive procedure with negotiation" over open or restricted procedures. Although it might take longer to conduct, these should improve dialogue with the market and refine requirements.
➜ Not over-specify or it could block innovation. Local authorities must guarantee enough flexibility in innovation tenders for suppliers to propose solutions.
➜ Make information freely available. Transparency is particularly important in public procurement of innovation. The information must be understandable by all actors who might be able to respond to the bid. Data can be shared well before the start of the procedure or it can be included in tender documents.
➜ Define an intellectual property strategy should help the municipality to capture the benefits of innovation and only purchase rights of services and products that will be used in the future.
➜ Reflection about the contract format and clauses should be led before the launching of the procurement process. Performance indicators, incentives and penalties, licensing rights, termination and renewal clauses are particularly important for procurement of innovation.

"Before initiating the tender process to select a private partner, the municipality must be sure of what it is wishing to achieve, and it is advised to check if the project can be designed internally. In Johannesburg for example, we designed a new application through our Engineering Services: ICT department on Load Limiting. Only then we opened up to the market and looked for a private company that would actually produce the service. In this way, the municipality conserved intellectual property rights and control over the process, and made sure that the project actually responded to effective needs within city administration."

Aubrey Mochela
General Manager ICT, City Power, Johannesburg, South Africa

"A fair and transparent competition is essential to build trust between local authorities and service and technology providers."

Xavier Maitrerobert
Business, Development and Cities Direction, Véolia, France

[18] Source: https://www.innovation-procurement.org/fileadmin/editor-content/Guides/PPI-Platform_Guide_new-final_download.pdf

The bidding process. Although the selection process of the private partner depends on the national and local legislation and the type of procurement process selected, the aim should always be to establish a fair competition and a neutral, transparent and non-discriminatory process. In the beginning of the bidding process, the local government issues the procurement notice, and invites to tender. This announcement allows for the public entity to explore the market reaction and gather information and for the candidates to regroup and organize themselves. It also allows a first pre-selection of candidates according to their know-how and experience, as well as first interactions with potential private partners, for instance through a bidders conference. The local administration must make sure that the terms of reference leave space for the greatest number of candidates (it sometimes happens that the contracts are put together in such a way as to exclude certain enterprises, and in particular small and medium enterprises, from entering the bid). Local government must make sure big companies apply as well as small and medium (local) enterprises.

The selection criteria. In continuation, the bidders are evaluated based on previously defined and transparent technical, financial and social selection criteria made available to the public. They have to be clear and their ponderation has to be defined in advance in order to guarantee clarity, fairness and transparency in the notation process. When it comes to SMART projects, it is advised that the public administration partners with several private companies with complementary skills, products and services. If the city lacks the skills regarding SMART technologies, it is recommended to set up a technical advisory committee that could help with the evaluation. When selecting the private partner to manage a SMART project, the local administration must ensure the reliability of the private company by conducting extensive due diligence and gathering information on past projects and track records (analysis of its history regarding financial aspects but also human resources). This becomes more difficult when regarding the use of SMART technologies as there may be little precedent in this sector. In addition, the municipality must demand the 'proof of concept': if a private company is new on the market, it first has to prove that its concept works. However, in the case of SMART projects, the goal of the partnership between the private and public actor might specifically be to prove a concept, and in some cases the local government might offer the private partner the opportunity to test several products at a small scale and use the city as a 'living lab'.

Partnering with local companies. When initiating the bidding process, the local government must make sure to check the capabilities of the local service and technology providers. In some cases, the local enterprises may sometimes lack the expertise, especially when it comes to SMART projects, which means that the municipality tends to turn towards multinational firms. However, the municipality must be careful when collaborating with international private companies as this may result in the outsourcing of benefits, power imbalances and the limitation of the local impact of the project in terms of employment generation and local economic development, plus the possibility to lose local control over the outcomes. For this reason, the public body must foster the participation of local companies in the PPP. When the partner is an international company, it is important that the bidder engages with local companies in order to enhance knowledge exchange and local benefits (note that international companies may deliberately partner up with local companies that are not capable of dealing with the project and at the same time leave the reliability and accountability with the local counterpart). In Johannesburg, South Africa, for instance, municipal regulation requires that all international companies entering a PPP engage and collaborate with local companies.

"There is a gap between the capacity to organize competitive procurements, particularly at the local level and when it comes to including small and medium enterprises, as well as a public perception of the lack of transparency when signing PPP contracts. Therefore, the selection of the private counterpart should be carried out through a transparent, non-discriminatory and neutral selection process that enhances competitiveness and achieves a balance between the need to be cost and time efficient and the need for transparency and the acquisition of the proposal."

Lidia Cobas
Coordinator, UCLG Committee on Digital and Knowledge-Based Cities

"The City of Maputo has policies for PPPs and adequate procedures to contract private companies; nevertheless, we have struggled to tune our selection process to choose reliable and good companies. In spite of this, Maputo has an interesting experience in SMART PPP and in particular with a partnership with the national electricity company for waste tax collection. This partnership allows the municipality to increase its collection coverage at a municipal level as the tax is included in the invoice that the electricity company sends to its own customers. This experience allows the municipality to have the waste tax collection covered in about 90%, which is not observed with other municipal taxes that are collected differently."

Irene Boane
International Relations Department Coordinator, Municipality of Maputo, Mozambique

FOCUSING ON A PRACTICAL EXPERIENCE

The Valencia Smart City Platform Valencia, Spain

The City of Valencia is the third most important city in Spain with a population of 800,000 inhabitants. In 2013 the ICT Service and the InnDEA Valencia Foundation, (part of the City Council department of Innovation and Entrepreneurship), launched the Valencia Smart City Strategy to foster innovation, efficiency and transparency in urban governance, as a consequence of the eGovernment Plan approved in 2008. One of the main projects of the Smart City Strategy is the Valencia Smart City Platform (VLCi), which has made Valencia the first Spanish city to centralize municipal information through a technological solution based on cloud service, Valencia is also the first city in Europe using the European open standard Fi-Ware in a city management platform.

The Valencia Smart City Platform will offer a wide range of services: the integration and management of the information about the different services provided by the City Council; the definition, presentation and management of key indicators (as per now, the software includes a total of 350 indicators monitoring and integrating data on municipal services such as traffic, street lighting, public gardens, local police, pollution, street cleaning, waste collection and the weather); and the coordination with other existing administrative management tools. The platform is designed to set out strategies able to increase efficiency in service delivery and to improve the quality of life for the citizens and visitors.

Developing a transformative project involving more than 50 municipal services is a complex task. The city Council identified the following key elements of success for the implementation of this particular SMART city-business collaboration:

- **Chose a standard technology.** In this specific case, Valencia selected FI-Ware, the open platform that the European Commission chose as standard to improve innovation in cities. Fi-Ware is a public-private collaboration that began in 2011 between the European Commission and major European ICT companies to define an open platform representing an option for the development and global deployment of applications on the Future of Internet. The platform is actually offered by Telefonica Cloud.
- **Take the necessary time to work on a SMART City plan or strategy and to involve all the areas of the municipality** In the case of the VLCi project, the City Council defined a strategy for a SMART city; analysed the state of technological innovation in the municipal services and defined city, citizen and service management indicators before addressing the private sector. To build a successful relationship between public and private sector in a SMART city project, it is necessary to have a Plan, defining the specific objectives and strategic lines to be followed. In Valencia's case, the Smart City Strategy-VLCi is aligned with the objectives of the European Commission for 2020, and the City's Director Plan.
- **Be sure that the legislative and regulatory environment enables SMART projects.** To foster innovation, the Valencia 2020 Strategic Plan has foreseen the inclusion of SMART clauses to newly established municipal contracts. The objective is to require bidders to include innovative elements to their services to ensure that the information systems proposed by the bidders are compatible with the data integration on the VLCi Platform, and that contractors collect relevant indicators for the required service. Finally, to request the experience of municipal services to provide their expertise in identifying new requirements on the side of the demand. This is to ensure that the city engages with the most innovative offer and seeks to integrate new projects with the Smart City Platform. The SMART clauses also constitute a first step towards an 'innovative public procurement framework' on which the city is currently working.
- **Guarantee a transparent and fair public procurement process: select the private partner based on clear criteria.** The ITC Service of the City Council launched a public tender in November 2013 for the development of an integrated City Platform. The contracting authority or 'expert committee' (composed of a Delegate Councillor, a member of the Municipal Legal Counsel, a municipal auditor, the municipal Vice-Secretary General, the President of the Procurement Service, the Head of the Section I of the Procurement Service and the Chief of the Service promoting procurement) was responsible for evaluating the proposals based on an evaluation grid in which the proposals could reach a maximum of 60 points. The technical and administrative criteria of evaluation clearly outlined SMART City aspects and a concern for the implementation of an open and easily accessible platform, adding the element of transfer of knowledge to the public sector. Correspondingly, the expert committee evaluated the compliance of the proposals with the following aspects: standard and open technologies, an open platform and the usage of an Ap-

plication Programming Interface (API), security and privacy (data protection), Internet of Things principles. Innovation and an efficient operation and management of the interface were given particular value, as were the proposals supporting the transformation of municipal services into operational, technological, legal and financial terms, moving towards a more efficient, transparent and user-friendly municipal administration. Among the 7 companies that presented their proposal, Telefonica I+D obtained the best score in the evaluation process, doing particularly well in the Internet of Things components, winning the public tender in July of 2014. Telefonica I+D and the City Council established a four-year contract, which is currently in its second year of implementation. The budget for the development of the platform amounts to a total of € 4,8 million.

- **Make sure that the contract reflects a concern for the transfer of skills from the private to the public sector.** The VLCi contract establishes the obligation of the private company to transfer the technological solutions to municipal staff according to a training plan to be approved by the Municipality. The training plan establishes that the following municipal services will count with the necessary knowledge to operate the platform: IT, Citizen Service, and the Administration. According to the contract, the Municipality may also suggest specific users that are to be trained.
- **Make sure the property rights are addressed in the contract.** The VLCi contract establishes that any items or products protected by property rights will be transferred to the City administration by the end of the contract.
- **Adapt the 'architecture' of the solution to the specific needs of the Platform.** The VLCi contract establishes a set of specific principles that need to be integrated to the solutions proposed for the Platform. Some examples of this are: Horizontality, or the ability to integrate information from different areas of the city (Internet of things); Interoperability and Heterogeneity, or the integration of heterogeneous technologies, devices and information systems belonging to different urban services; Robustness and Scalability in both size, speed and volume of storage and data processing; Adaptability, or the capacity to integrate new elements; Security and Privacy provided for instance through different access profiles to the Platform; Modularity, or an architecture adaptable to different environments and reuse of existing infrastructure.
- **Have the backing of political leaders and establish a tight management system during the implementation and monitoring phase.** A strong backing from political leaders and top policy makers of the City of Valencia from the beginning of the initiative was crucial to guarantee its success. Strong leadership and vision were also key to coordinate municipal services and guarantee a solid management of the initiative. The governance scheme of the VLCi project is the following: the Project Manager, appointed by SERTIC (Municipality), is responsible for controlling the management of the service, prioritizes working steps and validates the attribution of resources to the projects. A technical team assists the Project Manager in harmonizing, coordinating and managing the different tasks, and InnDEA Valencia Foundation is in charge of communicating the Smart City Strategy, the dissemination of activities, and for setting up an 'innovation hub' attracting entrepreneurs in the field of SMART cities. The private counterpart also appoints a Project Manager, responsible for directing the company's working group, composed of 3 functional analysts and 6 senior programmers and in direct and permanent contact with the municipal Project Manager. The monitoring committee meets, at least, once a month. In these meetings, the Project Manager of the private counterpart presents a report on the advancement and the prevision of projects, indicating projected and utilized resources. The Municipal Project Manager is entitled to review and adapt the working plan, as well as the size and composition of the working group. Any changes to the working group have to be integrated by the private counterpart within a month's time.
- **Inclusivity and cross-sectorial cooperation.** The municipality must partner with a variety of actors and involve all city departments concerned by the project. In particular, it must involve in the decision-making process those organizations of the city working in R+D and innovation. In Valencia, technological centres, research departments, scientific parks, company associations, regional governmental bodies, etc. have been involved at all stages of the project, in the initiative called "Local Covenant for Innovation", active since 2002.

Negotiating and drafting the PPP contract

Drafting the contract. Typically, the terms of reference and contract are drafted by external consultants who are hired by the local government and the private partner. The consultants drafting the contract can be consultancy firms (both local and international), specific public national agencies, or international institutions. However, the contract can also be drafted by the public entity in the case that it has enough experience on the subject, but it should never be written by the private company alone. Legal advisers should be involved at all stages in preparing the PPP contract. In addition, it should be mandatory for technical consultants to make detailed presentations to the local body so that the contract is clearly understood.

Clauses of the contract. International and national agencies provide extensive guidelines and sample clauses for PPP contracts. Some examples of this are: the PPP infrastructure research centre and the Public Private Infrastructure Advisory Board of the World Bank [19]; the European PPP Expertise Centre [20]; and the knowledge centre of the Dutch Government [21]. Typically, PPPs must balance the three 'Rs': Responsibilities, Risks and Rewards, and should take into account the rights and obligations of the parties; risk allocation; service performance standards and targets; payment mechanisms; the conditions for revision, penalties, rewards and termination; among others.

Key elements. The challenge for establishing PPPs that involve SMART technology lies mainly in calculating for fast moving technological innovation and dealing with imprecise or outdated legislative frameworks. Therefore, when it comes to drafting a PPP contract involving the use of SMART technologies, the local governments must pay close attention to insert in the contract clauses related to the following key elements:

➜ There must be a fair and efficient risk valuation and distribution between private and public actors. If too much risk is assumed by the public partner, there may be severe consequences for the municipality's credibility should the project fail, as well as negative budget implications. On the other hand, if the totality of risk is transferred to the private sector, the partner may back out or engage additional guaranties that decrease project efficiency. This point is of crucial importance for SMART projects; since there are few experiences, benefits are difficult to quantify and risks remain largely unknown.

➜ The intellectual ownership of the outcomes after project implementation should be clearly defined in the contract. In this regard, it is preferable for the public entity to keep as much control over the distribution license as possible.

➜ Measures must be taken when drafting the contract to ensure the continuity and sustainability of the project and the PPP beyond political cycles. There is an inherent tension between the nature of PPPs (that constitute relatively important investments paying back only on the long-term, sometimes after 20 years) and short-term political thinking and volatile political contexts. This is even more relevant for SMART PPPs that generally rely on fast-changing technology. Ensuring the sustainability of the projects is thus key to their success. To do so, local governments must build long-lasting consensus over legislation periods and political change, and build consensus among the population, city officials and, where possible, all members of the political spectrum.

➜ When engaging in SMART PPPs, data protection should be at the core of the contract that should establish clear limits and guidelines for privacy, data management, etc.

"Local governments need to choose very carefully the type of contract they are willing to sign with the private company and must explore different alternatives before setting the right amount of formality and responsibility of the contract. Long-term contracts might not always be the best option. As an example, in Clarendon Parish Council, we opted for a one-year Memorandum of Understanding to establish a transportation centre that would help ease the congestion of the city. This ensured that any unforeseen problems or opportunities could be taken into consideration without being legally bound by a document over the long term. The agreement also allows the Council to declare the Memorandum of Understanding null and void if it forms the view that the operation is contrary to the best interest of the citizens of the parish of Clarendon."

Scean Barnswell
Mayor of Clarendon Parish Council, Jamaica

"The adoption of ICT service, the corresponding return on the investment and the clauses of SMART PPP contracts must be carefully planned and evaluated to guarantee safe execution as the technology changes very quickly and services must be frequently updated."

Edoardo Calia
Deputy Director for Strategic Programs, Instituto Superiore Mario Boella (ISMB), Italia"

[19] Source: http://ppp.worldbank.org/public-private-partnership/overview/practical-tools/sample-clauses and http://www.ppiaf.org/sites/ppiaf.org/files/publication/Public-Private-Partnerships-Reference-Guide.pdf, respectively

[20] Source: http://www.eib.org/epec/g2g/ii-detailed-preparation/index.htm

[21] Source: https://www.government.nl/topics/public-private-partnership-ppp-in-central-government/contents/difference-between-ppp-and-traditional-procurement

➜ Ensure transfer of skills. SMART projects require high level management capacities. The contract shall mention the transfer of skills from the private sector to public officials, to avoid dependence of the public entity on the skills of the private partner. In short, the public entity should be capable to manage the project on its own after the termination of the contract.

➜ Ensure a good distribution of the responsibilities in terms of management and maintenance of the project and the infrastructure on the long-term. This is particularly relevant for SMART projects that may lack precedent on maintenance requirements in terms of costs and technical capacities.

Negotiating the contract. Local governments and the public sector in general are often less well prepared to negotiate the terms of reference of a PPP due to a misbalance in capacities between the private and public sector. Therefore, and in order to guarantee the success of the negotiation, local governments have to engage in trainings and learn from past experiences, and their peers to strengthen their contract negotiation skills. It is also essential to prevent dependency from the private sector by ensuring autonomy and finding alternatives, such as collaborations with civil society organizations or local entities. An additional element to guaranty the success of the negotiation is building reliability and trust between partners. This is only possible if both parties are willing to engage in a transparent, open and honest dialogue and a long-standing partnership. Sharing the strategic plans and missions, goals and objectives openly with the private company is one way of enhancing trust. Organizing the meetings in neutral ground might also improve communication between parties.

Challenges, risks and pitfalls when dealing with the private partner. All too often, misunderstandings and a lack of knowledge on the management and working culture, constraints and capabilities of the partner lead to conflicts that may impede the signing of the contract. In fact, the private and public sector often do not 'speak the same language', for which they have to engage in a process of exchange and dialogue, identify common interests, strive for win-win situations, and in some cases, refer to intermediaries in the negotiation process.

Reinforcing negotiating skills. One way for the local government to avoid difficulties with the private sector is to be sure about what it wants and what the company can offer: for instance, when the city owns the intellectual property rights, has developed its own innovative products and approaches the private sector with a clear idea and demands, it strengthens its negotiation power. On the contrary, the municipality may lack negotiation power when the private sector comes with a "ready to use solution" that does not necessarily adapt to the local context and does not allow for the local government to keep control over the product.

"In Portugal, PPPs are very common. In fact, they contributed to the financial crisis. It is therefore crucial to carefully analyse the risk and rewards of PPPs, since in some cases the local government takes over the risk, while the private sector is transferred the reward. PPP negotiations must lead to a situation where risks are equally shared among both parties"

Carlos Sousa
Co-founder and Global Alliance Vice President, Change tomorrow, Portugal

"Establishing long lasting trust between the public and private sector is essential to guarantee the success of the partnership."

Xavier Maitrerobert
Business, Development and Cities Direction, Veolia, France

"The notion of partnership is central. Local government and private sector must understand that they are at the same level, that it is a win-win situation and not one where one partner has all the solutions and the other has to learn everything."

Edoardo Calia
Deputy Director for Strategic Programs, Instituto Superiore Mario Boella (ISMB), Italia

"It is important that the local government engages in a balanced partnership, creating a win-win situation and not a situation where the municipality is demanding and the private partner provides the solutions. For this reason, Mexico City opted to develop in some cases its own projects in collaboration with the civil society. In this way the city makes proof of independence, creativity and autonomy from the private sector."

Oliver Castañeda
General Coordinator of Administrative modernization and head of the unit for regulatory improvement, Mexico City, Mexico

FOCUSING ON THE PRIVATE SECTOR POINT OF VIEW

Interview with Xavier Maitrerobert and Genest Cartier from Veolia Innovation and Markets Department, France

Can you quickly describe Veolia's action in terms of SMART projects by describing the 'Smart Water Box' project in Lyon?

Veolia is a French company offering adapted solutions for local governments and industries around the world in three complementary sectors: water, waste and energy. These services correspond perfectly with the growing "SMART Cities" approach.

As an example, in 2014 Veolia won the tender launched by the Urban Community of Lyon (Greater Lyon) to manage the city's water services. The 8-year contract, which started in February 2015, includes managing the production and distribution of drinking water through developing a smart water management system. To this end, smart meters, and numerous sensors have been implemented across the city's network, in order to gather data in real-time to identify possible leaks, follow up on costumers' consumption, evaluate the condition of the network, measure the water quality, etc. Managing the service will be done more efficiently thanks to the real-time monitoring of water plants, networks and customer care, through the same control centre in charge of managing and analysing raw data. The possibility to cross-check information from different sources is the main innovative point, allowing the municipality and the operator to have a transverse and shared vision of the service. The water service of the Urban Community of Lyon will benefit from an operational and integrated monitoring centre offering the complete traceability of water and a transparent operating system

The project will allow the Greater Lyon to: reduce the leak rates (approximately 13 million m^3 will be saved every year), accelerate the interventions aiming at solving the problems, reduce the average users' bills by 20%, reduce the energy consumption by 6%, strengthen the control capacity of the municipality, etc. Overall, Veolia's "Smart Water Box" will allow the municipality to gain money on operating the system (the profitability objectives fixed by the company are 85% by the end of 2016) and to improve the service's efficiency in terms of data sharing, facilitating decision-making, and collaboration between the services, agencies and citizens. The project contributes to more sustainable and energy-efficient urban development.

In your opinion, what are the main differences between a classic PPP and a SMART project PPP? What is the role of the private partner in a SMART PPP?

PPPs focusing on the implementation of SMART instruments differ greatly from classic PPPs. On the one hand, a classic PPP (for example a concession contract or a lease or management contract) deals with managing an established public service in order to make it more efficient, more useful or more sustainable thanks to the operational efficiency brought by the private partner, and/or new investments that are needed. On the other hand, a SMART PPP deals with implementing innovative IT tools within the public procurement framework in effect (which, generally speaking, is not similar to the procurement rules for "concession" contracts in Europe). The cost of implementing these innovative tools is often high (software, material, agent training, including them in the city's information system, taking into account impact on the organization, etc.), but represent important improvement tools for the operational efficiency and the quality of the public services provided by the city to its citizens/users. In those cases, the assistance given by the private partner aims at guaranteeing that the procedures are revised and upgraded in order to reach the operational excellence brought by the new SMART environment. Beyond the mere implementation of the tools, this assistance can be subject to "performance contracts", by measuring the performance improvements in addition and guaranteeing the good implementation of the tools, either by providing new efficiency (be it economic or operational) or by improving the quality of the service.

An interesting example of a contract that can be used in SMART projects is the PPS (Peer Partnership Solution). In this specific case, the operator is responsible for the gains but not for the operations, and gets paid depending on the results, through the sharing of the savings generated for the city. It is the case of a project with the city of New York where Veolia signed a PPS different from the partnership with Lyon, which is a public service delegation contract for which Veolia is responsible of both the gains and the operational management of the service.

From the point of view of the private sector, what are the main obstacles and challenges in collaborating with the local public sector in the specific case of SMART projects, and how can they be overcome?

During the setting up of a partnership with a local government for a SMART project, the main difficulty is linked to a kind of resistance to technological innovation projects. Indeed, while classic PPPs favour investments in big infrastructures, SMART projects do not usually deal with capital investments, but rather with less tangible aspects such as know-how and technique for implementing innovative solutions. At the same time, the changes in organization also have a cost, which is difficult to estimate beforehand. Therefore, a change in paradigm is often necessary in order to make sure that a SMART project is clearly understood, and that low running costs are made possible thanks to

"invisible" tools – a benefit for the local government, even though we are not talking about a physical infrastructure.

A "silo-based" structure, which is very frequent in municipal management and a distinctive feature of "classic" infrastructure PPPs, can be a considerable obstacle in the implementation of a SMART project. The cross-sector approach is an important feature of SMART PPPs: the richness of a technological innovation project comes from the interaction of various data and from exchanges between different sectors. In this way, it is essential that the private partner works closely with the corresponding municipal services and agents, in order to build an integrated and multi-businesses vision, and therefore guarantee the performance of the project, as well as better efficiency for the services, by going beyond sectorial organization and decompartmentalise information.

Generally speaking, what advice would you give to a city wishing to develop a PPP for a SMART project? What are the key elements that guarantee the success of a partnership?

- First and foremost, the municipality must ensure that the SMART project is included in the **development strategy of the city**, for instance a resilience or digital strategy. In this way, the Smart Water Box project fits in the digital strategy of the Urban Community of Lyon. This is a guarantee that the private partner will respond to the needs of the city and that the municipality retains its control on the project. That is why that the SMART projects need to be seen as something else than merely IT improvement projects. Above all, these are processes for the management of change, and IT instruments are simply a way to help the local government in meeting its needs for changes and improvements in public services. Defining clear objectives that are common to all the actors, for instance established in an urban strategy, allows all stakeholders to develop an instrument that is adapted to the real needs and taking into account the local economic, social and political context.
- It is also essential that the project is built following a **territorial dynamic** involving all local actors and not only negotiated between political agents and contractors. The aim is to hold a dialogue with all municipal services, local economic actors (especially commercial and industrial users), the academic world, and the citizens. The two major advantages are that the project can be better adapted to the local challenges, capacities and needs, and that the parties involved can better understand and accept it.
- In order to guarantee the success of a SMART project in partnership with the private sector and benefit from a quick return on investment, the municipality must be ready to invest in the initiative on the long term (often for a longer time than a political mandate), hence **planning all the expenses** in its budget is essential in order to avoid having to account for unforeseen expenditure on a political level.
- Creating a relationship based on **trust** between the local government and the private partner is probably one of the most important elements in a SMART PPP. Therefore, it is crucial to take the time to exchange with the client for the project to be fully developed. In the case of Lyon, reflections on the project started in 2011,while the call for bids was won by Veolia in 2014, which made it possible to work out solutions that are adapted to the local needs, thus guaranteeing a sustainable project and a strong partnership.
- **Transparency** is also essential in building a trust relationship between the partners and consequently in the success of the partnership and the performance of the project, and this is one of the main strengths of the Lyon 'Smart Water Box' project. The management system of the project was designed in such a way that the private partner and the local government have access to the same information, placing them at the same level for understanding and controlling the city's drinking water management service.
- Regarding the Grand Lyon project, Veolia opted for working with IT solutions available on the market. This is particularly interesting because, at the end of the contract, it allows for the municipality to be "technologically independent" from the private partner that implemented the service. This approach is in line with the **importance for PPPs to be reversible** by, at the end of a contract, allowing the public partner to, eventually, ensure the follow-up of the project independently of the private partner.

FOCUSING ON A PRACTICAL EXPERIENCE

the Landfill Gas-to-Energy Project Johannesburg, South Africa

Johannesburg, a city of 3.8 million people, has to handle more than 1.6 million tons of waste annually and to oversee eight landfill sites, which harm the environment and the surrounding communities. In addition, the City is facing serious difficulties regarding energy provision and particularly load-shedding issues. In this context, the City launched a landfill gas-to-energy project in 2007. The project uses gas turbines to drill out methane gas, caused by the degradation of bioorganic compounds at its landfill sites, and to generate renewable energy for the municipal grid, thus offsetting largely coal derived electricity. The project, which should be fully operational by the end of 2015, was developed through a Public-Private Partnership (PPP) with the British company EnerG Systems under a 20 years contract. To benefit from additional revenue, the City initiated a Clean Development Mechanism (CDM),which was completed in November 2012, and signed a Power Purchase Agreement (PPA) with the national electricity company, Eskom, to sell the energy produced in the landfill sites. Since 2011, wells to extract and flare the greenhouse gases as well as energy generators have been built in the five landfill sites selected for the project. Energy commercialization started at the beginning of 2015. The expectation is to produce 19MW per year starting in 2016 from the five landfill sites, which should be enough to provide energy to 12,500 households. By now, the project has managed to reduce pollution and noise for surrounding communities,produced137,888 Certified Emission Reductions (CER's) and destructed18,288,457 Nm3 of landfill gas.

Choosing a PPP

The City of Johannesburg, through its Environmental, Infrastructure and Services Department (EISD), decided to finance the landfill gas to energy project through a Public-Private Partnership (PPP) mainly because the City could not fund the project on its own (the expected development cost of the project was USD 765 million), and lacked technical expertise. As such, a PPP should ensure dividing responsibilities and risks. In this specific project, the negotiation allowed the City to be the owner of the facilities and the private sector to build and operate but not take the demand risk (which remained with local and national electricity providers, City Power and Eskom). In addition, the City expected that offering the implementation of the project to a private company would help with the challenge of community ownership by reducing theft and vandalism towards state assets such as municipal electricity and waste infrastructure; unlicensed trading with state assets by illegal businesses; and culture of non-payment for municipal services. According to the City's former Project Manager Palesa Mathibeli, "We would rather take a risk-averse process and have a private party come in to develop and invest in the project at no cost to the City."

Choosing the private partner and negotiating the contract.

The City initiated a tender process in 2006, which brought several potential service providers. A year later, the British company EnerG Systems was selected because they had put in place similar systems in various places around the world, including South Africa, and had the necessary capability, expertise and acumen with LFG extraction projects. However, although the partner was appointed in 2007, the contract to construct and operate the landfill gas-to-energy project over 20 years was only signed in 2009. The negotiation phase took so long because of the elaboration of the feasibility studies; but mainly because the private party presented the City with an inadequate draft contract, assuring that another municipality had signed. To strengthen its negotiation skills, the City referred to the National Treasury that had an expert assisting with municipal PPP projects. This assistance helped the City in determining that the contract was one-sided and would not benefit the municipality. It took one year to renegotiate the contract and sign a new, comprehensive one. In addition, the municipality employed in 2008 an outside legal firm with expertise on LFG project negotiations, the North American company Lee International. For about a year, the consultants provided financial, legal, and environmental experts to advice on each aspect of the project and contract.

Drafting the contract

According to the municipality, a strong contract is crucial to ensuring that the project stays on track. Among the key elements to take into account when drafting the contract are:

- When a municipality is drafting a contract for a long-term PPP of a big infrastructure project, such as the landfill gas-to-energy project, it must carefully **plan beforehand and build timelines that provide both a best-case and worst-case scenario, and anticipate the financial implications of both scenarios.** In fact, when it comes to such a time-consuming and expensive project, it is fundamental to manage expectations by anticipating unexpected changes, as every delay might bring extra costs. For the landfill gas-to-energy project of Joburg operating costs are estimated at 10% of capital cost per year and security alone is 3% of the contract value, and these need to feature in future budgets and financial projections for the project. Even though the PPP was designed in order for the project to reduce costs for the municipality, the City had to invest more than R200-million (USD15 million). This includes the price of the consultants and experts that assisted with the agreements and legal requirements and that are often not taken into consideration in project budgets (in this specific case, the cost of the consultants was not foreseen in the initial budget of the project). Moreover, the delays in themselves are not free: time and energy that could otherwise be spent on other revenue-generating projects are opportunity costs for the City as a whole. In the same way, the legal processes should be best exploited for efficiency in order to reduce impact on the project timelines.
- In a technologically complex project such as the landfill gas-to-energy, **transfer of capacity and skills are a critical issue.** The City must ensure the development of matching skills to the service provider and skills transfer as per contracts. This is an issue that has not been resolved yet with the Joburg program, as City Officials mentioned: "The people managing our landfills should be qualified engineers, as land filling is engineering. At 'Pikitup', the municipal company for waste management, there are two

engineers on the disposal side and they are far stretched. Capacity and skills are a critical issue. If the (service provider) were to get out of the city right now, we would not know where to start. And this is a risky place for a municipality to place itself, as the time and cost for the project to reach this stage are very high. The project will continue for another 15 to 20 years and needs to ensure skills transfer."

- Big infrastructure PPP contracts must have clauses ensuring that the service provider **will contribute to local development**. This usually means that the project benefits surrounding communities and works closely with local actors such as small and medium enterprises and civil society organizations. The City of Joburg agreed that EnerG Systems would provide employment opportunities for local people to construct, operate and maintain the system. With this purpose, the company: established an EnerG Educational Community trust which is financed with the revenues of the project; committed to spend 1% of the revenue from the project will be spent on socioeconomic development in the local community; committed to a local content spend of 42%; defined targets of Employment Equity according to which 84% of employees must be South African; 65% of total employees and 50% of skilled employees must be Black People; and 22% of employees must be local). According to the City of Joburg, the project has contributed to creating approximately 400 waste recovery officers and 80 technicians.

Difficulties.

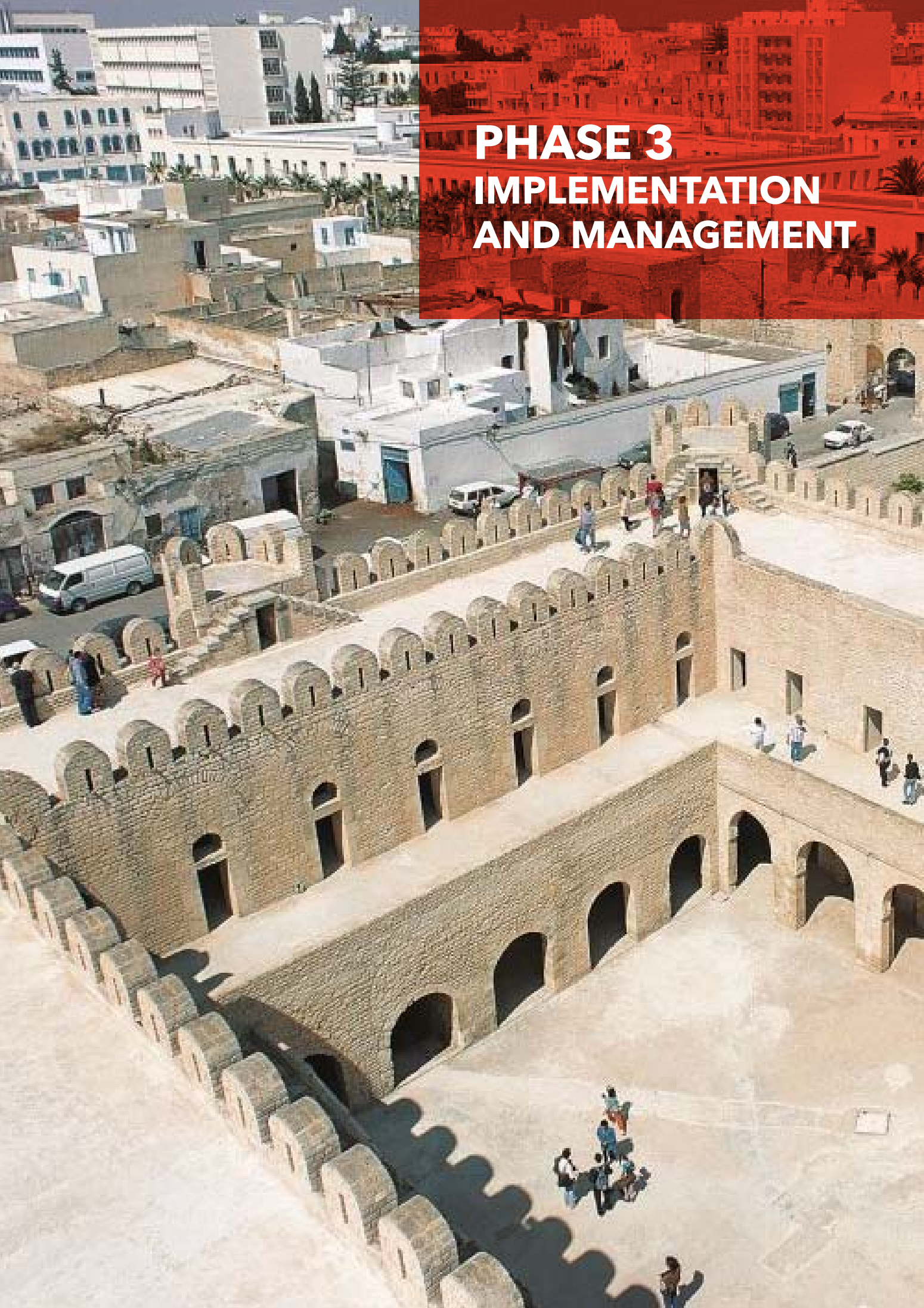
Joburg's landfill gas-to-energy project was a very complex and time-consuming process: while the dialogue for this project started as early as 2004, the actual construction of the equipment took place only in 2011, and it became fully operational in 2015. The design and implementation process of such a PPP has a multitude of work-streams happening simultaneously over a number of years and 'go – no go' decisions. It is critical that these activities are synchronized and mapped out. **The main difficulty that the municipality encountered in the process was the necessity to comply with regulatory and legislative frameworks.** The landfill gases and their management are not complicated, but the legislation and the myriad requirements arising from local, national and international norms made the process very complex. Compliance with national and provincial legislation is essential to guarantee the success of the project and the city's project managers and team members had to engage in intensive due diligence for more than four years to put in place the legislative and financial requirements to get the project off the ground. Several different agreements, legislative issues, tenders and other legal documents have bearing on the success of LFG gas projects. An understanding of how each of these will impact timelines, outcomes, costs and results is critical, and can either enable a project team or clarify challenges. In addition, the municipality must anticipate regulatory and legislative changes. While this is a difficult task, it is important to anticipate that there will be some changes in regulations and legislation when a project extends over a period longer than five years. In addition, the international scenario in the energy world for carbon credits and other measures can change, which can have significant impacts on the project. It might be of value to assign one member of the team to follow regulatory and legislative changes. Among the pieces of legislation, document requirements and agreements that had bearing on the LFG project are:

- Environmental Impact Assessments (EIA) were conducted in 2008 on each landfill site.
- Consent Use to implement the LFG projects at each site was received in 2010.
- Power Purchase Agreement was signed between the Department Of Environmental Affairs (DOE - Ministry), the municipality and the service provider as an Independent Power Producer (PPP) in 2013.
- A Wheeling Agreement and a Connection Application were signed between the company, City Power and Eskom in 2014 to allow the use of national infrastructure and connect distribution networks to the power production in the landfill sites.
- At the end of 2012, after a process of two and a half years, the municipality received the authorization to sell CERs according to the Clean Development Mechanism process of the UNFCCC and the Kyoto Protocol of 2002.

Key elements for success

The municipality of Johannesburg has identified two key elements that should help guarantee the success of the implementation of a PPP contract for a SMART project. These are:

- **Build a strong governance model and tight management process with multidisciplinary and multi-stakeholders teams with clear mandates**. To manage the landfill gas-to-energy project, the City nominated one Senior Project Manager who was exclusively dedicated to follow-up on the project and contract and ensured the coordination between all departments of the City and other stakeholders. Having members across various City departments provided critical input and time-saving to later processes. A Steering Committee was also established, composed of representatives from all parties (the Gauteng provincial Finance and Environment department, the City of Johannesburg Legal & Compliance, and Finance departments, City Power, the City's Environment, Infrastructure and Services Department (EISD), Pikitup, and EnerG Systems). It met monthly and detailed minutes were elaborated to ensure follow-up. A Technical Team was also established composed of members from EISD, Pikitup and EnerG Systems. They met monthly to follow up on timelines, check on progress and identify any issues to address. The project steering committee and technical teams, especially during the earlier stages, were crucial in getting the project moving.
- **Build strong partnerships with a variety of actors.** To implement the landfill gas-to-energy project, the City of Joburg collaborated with a variety of local, national and international actors (National Treasury, consulting firms, etc.). One specific actor that brought an important contribution to the project ant particularly in the monitoring activities was the Geography, Archaeology and Environmental Sciences department of the local University of Witwatersrand.



PHASE 3
IMPLEMENTATION AND MANAGEMENT

PHASE 3 IMPLEMENTATION AND MANAGEMENT

The signed contract must include a "contract management plan" that identifies tools and processes, available resources, a timeline and guidance on conflict resolutions to make implementation successful for both the public and the private partner. The implementation and management phase includes three key aspects: governance, monitoring and evaluation, and the revisions of the contract.

Governance

Generally, the organizational structure of a PPP contract includes the following groups:

➜ A project or contract management team that gathers representatives from the departments of the municipality that are directly concerned by the PPP management and the project thematic such as: IT and innovation department, the financial department and the public service sector that the PPP is addressing. Tasks must be clearly distributed between each municipal department: the team can be led by a project officer responsible for the follow-up of the PPP project. This team can or cannot be the same as the procurement team, but it is important to ensure skill and knowledge retention over the period of the contract, even if there are changes in the team.

➜ It is essential – but all too often overlooked – to establish a communications team, able to define a communication strategy to inform city officials, citizens and private sector about the project (using traditional and new communication channels such as radio, TV, discussion groups, door-to-door information, internet tools, etc.).Communication and transparency between different services of the public entity are vital. When engaging in a SMART project, communication is generally straightforward since users are prone to have easy access to mobile phone and internet related platforms.

➜ An auditing and evaluation team. An external stakeholder should be responsible to monitor and evaluating the technical and social impacts of the project. The team can be composed of consultants hired on that purpose, university, research centres or civil society organizations.

➜ Another possibility is to create a Steering Committee gathering representatives from the public sector, the private company, and the end users. The Committee should regularly schedule face to-face meetings to develop an effective relationship between the government and the project implementers.

➜ Expert consultants that can be punctually hired to follow-up on financial, juridical, and legal aspects of the contract. These should be particularly trained in the legislation concerning the use of new technologies. Public agencies must remember to balance the use of internal capacity and external advisors to guarantee retention of knowledge and skills.

Physical proximity of the different teams is in some cases an appropriate means for ensuring municipal control over the project and for enhancing commitment and responsibility of all stakeholders. Some cities have opted to create a specific public-private organization that is responsible to manage all the SMART projects of the city. In Amsterdam for instance, the organization called 'Smart Cities Amsterdam' gathers 70 institutions and must, among its responsibilities, manage the PPP contracts of the SMART initiatives.

FOCUSING ON A KEY ISSUE

Continuous communication and participation

Communication is key for the successful implementation of a SMART PPP project and to ensure that citizens remain interested in the project and its impacts. Hence, a communication strategy, involving different methodologies and sectors (public, private sector and civil society), should be implemented at all levels and in all phases. Local governments should:

- **Diversify communication.** Make use of new technologies, collaborate with young generations that are familiar with new technologies and may adopt the role of 'project ambassadors', but without neglecting traditional communication channels such as radio or TV, group discussions, information stands in public spaces, and door-to-door communication.
- **Send clear and compact messages.** It is important to translate technical and complex information into easily accessible and understandable messages. This is particularly true for SMART Projects, since their technical and practical implication often lie beyond the common understanding of the citizens (particularly of the elderly or less technologically connected sectors of society). Adapting the communication by groups of people (age, gender, social background, directly concerned or not by the project) might help the understanding of the project.
- **Pay attention to inclusivity.** As technology is not always accessible to all segments of society (the poor, the elderly, etc.) it is important to work with grassroots organizations, to enhance technological education and provide trainings, among others.
- **Allow venues by which the private sector can meet and communicate with the user community and the IT environment** (Open House, Public/Private Meet & Greet)
- **Be transparent.** Present clearly the advantages and risks of the project, including the budget.
- **Manage expectations and put people first.** People need to know at all times what is going on, what are the different steps, the difficulties, the timing of the project, so they do not expect too much, and know the issues at stake.
- **Make sure the communication flows in two ways:** from the local authority to the citizen, but also the other way round. Thus, not only should the government pass information to its citizens, but citizens can in fact participate by expressing their preoccupations, giving ideas and solutions. Ideally, citizens are not only asked to give their feedback on a project, or consulted to validate the latter, but actively participate in the conception of the project.

"You need to involve citizens from the beginning when you want them to endorse a project. This is particularly true for SMART projects in developing countries. For instance in Lusaka, we developed an electronic payment system for the intercity and local bus stations through a PPP. However we met strong resistance among the citizens that did not trust the automatic system. Resistance also came from youth who derived their income from illegal gate takings and transactions related in the bus stations. We kept the project because it resulted beneficial for the municipality as it increased revenues by 300% and avoided pilfering, but an intense communication campaign was necessary."

Daniel Chisenga
Former Mayor of Lusaka, Zambia.

"Local governments must try to build consensus with citizens, not only consult them. Leadership from political leaders is vital to achieve consensus."

Setsuko Saya
Head of Division, Regional policies for sustainable development, OECD

"The biggest challenge when developing a SMART PPP is communication. We need to take time to find out what citizens really need. We have to be careful not to exclude anyone at any stage and in particular at early stages of the project. Three key aspects: 1) being open and communicate; 2) make sure it is really what people need; 3) show both private, public and citizens there is a win from PPP."

Geir Graff
Special Advisor on Innovation, Asker Municipality, Norway

"SMART technologies represent a huge opportunity for local governments to strengthen their link with their citizens and improve services management. For instance mobile phone technologies allow reaching citizens in informal settlements. However, it is necessary to work bottom-up and include citizens in all the stages of the project and PPP process so they understand and accept it."

Richard Chengula
Councillor, District of Kinondoni, Dar Es Salaam, Tanzania

Monitoring and evaluation

A successful PPP depends largely on the capacity of the government to keep the contract on track. This entails setting clear requirements in the partnership, monitoring the performance of all parties, reporting on results, and enforcing contract provisions that are not being met. The type, the regularity and the indicators of the monitoring and evaluation must be defined during the procurement process and drafting of the contract.

Monitoring is conducted throughout the project duration to ensure its performance. The monitoring process may include the assessment of:

- ➜ risk mitigation;
- ➜ relationship management;
- ➜ contract administration;
- ➜ service delivery and performance.

Technical and financial performance-monitoring procedures can include self-reporting, independent audits, regular meetings and reports, and automated data collection and reporting processes.

PPPs are usually contracts that include **outcome-based performance specifications** which focus on facility goals rather than prescribing methods and materials for achieving the latter. This intends to make service delivery more efficient by allowing the concessionaire flexibility to decide how to best achieve the intended results. There is a natural tension, however, between flexibility and accountability in performance management. If a standard is too flexible, the public sector risks not obtaining the highest possible level of performance from a concession. If a standard is inflexible, it may not adapt to changing technology needs as it is often the case in SMART projects.

Monitoring can be ensured by different entities available to support or take full responsibility for monitoring progress against the targets specified in a contract, these entities include:

➜ A contract-monitoring unit, established within the local government to receive and verify reports on progress against the contract terms. It may be located within the PPP unit and be composed of a project officer (ensures the good performance of the PPP, resolves disputes, etc.); an accounting officer (provides financial oversight, manages financial flows, reviews the financial performance of the PPP, etc.); technical advisory experts (responsible for IT as well as legal and regulatory issues, etc.).One way for the contract monitoring team to understand and manage contract provisions is for team members to have played a role in the development and negotiation of the contract.

➜ An external regulation entity that will make sure the private sector respects the goals and guarantees the financial and social accessibility of the service. The regulator has the mandate to monitor compliance against the regulations and the license, publishes reports on performance, and enforces any penalties for non-performance. Like the contract-monitoring unit, the regulator must have procedure manuals to dictate the application of its responsibilities.

➜ Independent technical and/or financial auditors. This may be in addition to or put in place instead of the role of the contract monitoring unit or regulator. In some cases, the auditor provides an independent assessment of the performance, ensuring credibility and support to the overall monitoring. In other cases, this contracted expertise replaces the need to retain an ongoing regulatory function.

Evaluations are usually conducted at midterm or the end of the PPP and aim to highlight good and bad practices, make information and lessons learned available, and build institutional memory. Evaluation may include: social and economic impact analysis; cost/benefits analysis; among others. Evaluations may be conducted by the final users, external consultants, internal auditing, etc.

In both the monitoring and evaluation, the **participation of the population** is crucial for ensuring transparency and the adaptation of the project to the needs of the final user. The population may be given the possibility to: give feedback to local government, express opinions through the implementation of a complaint system (online forum, applications, e-mail, door-to-door, depending on the context); participate in a social auditing; etc. Before putting in place these mechanisms, it is important to ensure that the public administration is able to attend to the citizens' demands, to give feedback and to signal that their comments have been registered. Otherwise, these mechanisms may be perceived as a 'dead-end' and have negative impacts on the project perception.

FOCUSING ON A CITY'S POINT OF VIEW

Interview with Oliver Castañeda, General Coordinator of Administrative Modernization and Head of the Unit for Regulatory Improvement, Mexico City

In your opinion, what is the difference between a conventional PPP and a SMART PPP?

Traditionally, PPPs have focused on urban infrastructure and usually the private sector provides the totality or the major part of the financial resources, while the government provides concessions and permits that allow for recovering the returns of the private sector, and to a much lesser extent for the public sector; at the end of the term, the infrastructure and the benefits are recovered by the government in its totality. SMART PPPs should be orientated towards increasing the experience of the citizens with the city thanks to the use of new technological tools that allow for a better access to urban infrastructure and services in a more interactive way.

In your opinion, which are the main difficulties when dealing with the private sector in the framework of SMART projects?

Generally, I think that the main obstacle is the traditional vision according to which the government 'buys' and the private sector 'sells' (a service or an infrastructure). Secondly, the misbalance between the knowledge and economic capacity between the private and the public sector that means a disadvantage for the government in the course of negotiations. Third, the lack of comprehensive and adapted analysis, and adequate public policies that path the way for the governments and indicate the necessary alliances to be made.

From a city's point of view, which are the key elements to guarantee the success of collaboration with the private sector in the specific case of SMART projects?

The government needs to be able to base its decisions on precise analysis of the alternatives and possible solutions to the problem it seeks to address; so as to identify whether a PPP is an adequate option to tackle a public issue. The government should also be able to rely on professionals trained on PPPs, as well as financial and legal experts that help establish a balanced negotiation with the private sector. Finally, the government needs to constantly put

collective well-being at the centre of its efforts, which is why the citizens should have a voice in governmental decision-making and help prevent that the government creates 'white elephants', meaning projects that involve large investments of little use value benefitting only a few.

Revisions, disputes and end of contract

Revisions. During the implementation of a PPP, unforeseen events might occur and the contract may need to be revised and renegotiated before its termination. Particularly in the case of PPPs for SMART projects, the contract must be flexible enough to respond to necessary revisions that arise from technological and political changes, and modifications of the institutional framework, among others. There are different types of modifications with different implications[22]: changes regarding unexpected costs or benefits (both parties need to reach agreement on how to distribute such savings or additional costs); changes in the contract proposed by the public sector or the private entity (both parties need to renegotiate in order to define possible compensations or modifications in the payment regime for example), among others.

Retributions: awards and penalties. A PPP contract which clearly defines the expected outcomes, must also define the retributions for when they are not met (penalties) or when they are exceeded (awards).Penalties typically consist of payment reductions or retentions and non-compliance or default points. Once noncompliance or default points reach a certain level, they can result in increased oversight, work by the owner at the contractor's expense, suspension of work, or termination of the contract.

Dispute resolution. Given the long-term nature of PPP projects, there is a reasonable possibility of disputes arising with regards to a party's contractual obligations and allocated risks. Contracts should therefore include agreed mechanisms for settling disputes aiming to reduce the risk of legal conflict over technical issues or differences in contract interpretation. A proper dispute resolution framework should lead to a quick resolution, which in turn reduces costs for both parties and minimizes negative publicity. Dispute resolution approaches include: discussions between the parties, putting in place a dispute resolution board, determining an external expert, mediation, arbitration or going to court. Alternative dispute-resolution processes may include mediation and third party arbitration following a period of time allowed for both parties to make good faith efforts to resolve the dispute themselves. The Contract Management Plan should identify which resolution approaches are preferred, how the project shall be continued during conflict resolution, and which party bears the costs of dispute resolution.

Termination of the contract. In order to ensure a smooth termination of the contract, the project hand-back and termination conditions should be outlined in the Contract Management Plan clearly specifying the conditions under which the private partner should hand over the project outcomes, and the financial consequences in case of failing to meet the required standards. A thorough monitoring is crucial for a successful contract termination.

[22] For a detailed list of possible modifications of the PPP contract refer to: http://ppptoolkit.icrc.gov.ng/contract-management/contract-monitoring-framework/

FOCUSING ON A PRACTICAL EXPERIENCE

Project to improve the tax recovery on license fees on terraces, Sousse, Tunisia

An important source of revenue for the city of Sousse is generated by the tourism and business sectors in concept of license fees for the use of public space by terraces, cafes, restaurants or shops. In recent years, urban sprawl has increased the existence of informal facilities up to a 60% in 2014. In addition, municipalities have suffered from a loss of authority since the political turmoil of 2011, and as a consequence, recovering the license fees on terraces has constituted an important challenge and municipal revenues in this sector have decreased by 30% from 2011 to 2014.

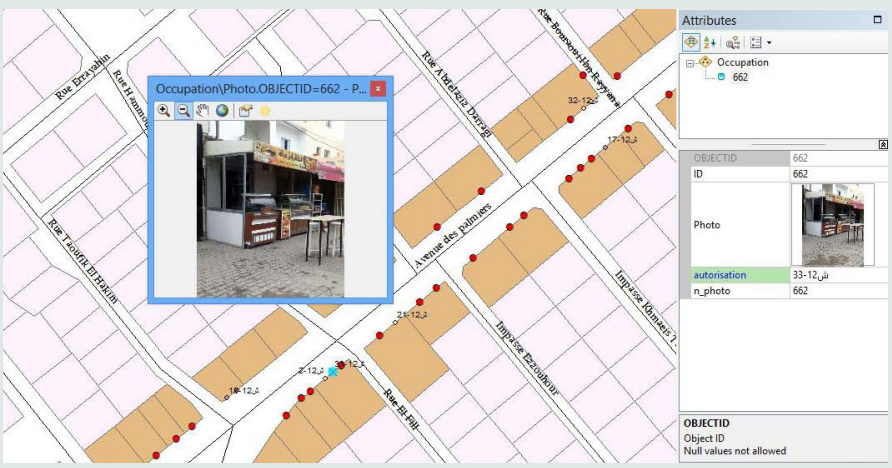
With the aim of improving fiscal revenue, the municipality established a partnership with a local start up to develop a series of IT products able to improve tax collection. The project involves the creation of a digital map based on an aerial photo (a GIS layer of existing terraces); a data base including the geo-localization of the terraces and their tenants; an IT program that allows the follow upon payments as well as the mechanism for law enforcement and patrolling. Additionally, the municipality plans to develop a function that enables the interaction with the tenants by sending SMS notifications and providing the possibility to consult payments online, followed by a system that allows citizens to complain about abusive occupations of walkways by directly geo-tagging on photos.

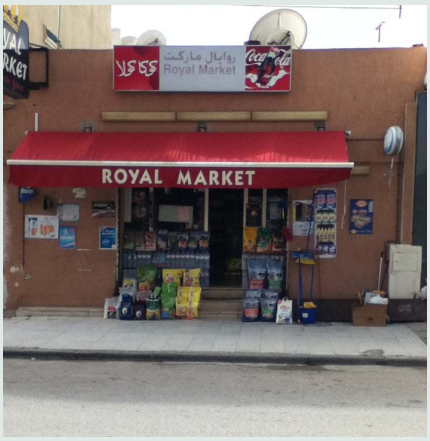
Operational since July 2015, the project has helped to update the localization of the terraces and in particular identify informal ones. Before the project started the City had registered over 700 terraces, now this number has tripled and reached a total of 2147. The application has also changed the management of the department responsible for collecting the fees, reducing the time spent on recovering them and increasing the number of notices distributed per day. The project is expected to increase municipal revenues by 20% in 2015.

The partnership with the private company: In absence of a legal framework for PPPs in Tunisia, the municipality opted for signing a contract with a local private company – a start-up – on the basis of procurement rules and market competition prices. The choice to collaborate with a company was mainly due to the city's lack of internal capacities, but was also made to galvanize the city's start-up sector and to promote the partnership between private businesses specialized in ICT and the municipal services. The selected start-up was the only one in Sousse to have such a complete mapping system, but also the one able to ensure the sustainability of the initiative.

According to the municipality, the **key elements to take into account in order to guarantee the success of the project and of the partnership** were:

- **The transfer of responsibilities and private sector expertise to the municipality,** in order to ensure that, once the contract is finished, municipal services will be able to properly maintain and update the project. In this way, the municipality of Sousse has negotiated with the company to hold seven training sessions for the city's civil servants, so that they got accustomed to the map, the database and other applications.





- **Including the program's final users in all the processes of conception, implementation and assessment.** The City Council should be careful not just to inform them on the project, but also to consult them for its collective elaboration. The city of Sousse worked in close cooperation with municipal agents to involve them in the process so they did not feel the application was designed to control them, but rather to assist them in their various daily tasks. Several consultation meetings took place with the agents before and during the development of the application, and some of their suggestions were included in the project design.
- **The communication with the population in order to guarantee the adoption and support to the initiative.** One of the main difficulties faced by the city of Sousse was the adoption of this new management method by shopkeepers, who were forced to comply with the regulatory demands while being on time for their payments. This could be solved by communicating frequently with the population in general, and with shopkeepers in particular so that they could understand the importance of equality for all taxpayers.
- **A strong coordination between the different municipal services and other stakeholders involved in the initiative.** Within municipal services, the project was carried out by three main structures: the Collection Service for license fees on terraces; the Urban Directorate, and more specifically the GIS unit; and the IT Directorate. Regular meetings, as well as the clear definition of everyone's tasks, were vital to the success of the project. Moreover, in order to ensure that the initiative benefited from good governance, a team was set up from the very beginning to monitor the project, composed both by city officials and the private company staff.

SUMMING UP

We have seen that, although there is a great variety in the forms of collaboration between local governments and the private sector, Public-Private Partnerships for SMART projects follow the same steps as traditional PPPs. In general, choosing a PPP for a SMART project is interesting for municipalities because they can benefit from the expertise and skills of the private partner, and, in turn, it is interesting for the private companies, because they have an opportunity to test their products and services. Gathering experiences and point of views from a variety of institutions have enabled us to identify key elements to which local governments must pay specific attention when developing a PPP in the SMART sector. These can be summed up in the following recommendations:

1. Chose a project that corresponds to the city's strategy and thus responds to real needs and demands.

2. Make sure that the national and local regulation is adapted to the development of a SMART PPP. In particular, it is advised to check data protection legislation and flexibility of public procurement rules.

3. Make sure to have the necessary budget to finance the PPP process and the technical capacity to manage it. Local governments must not invest in too sophisticated tools that create digital dependency or incapacity to manage the project on the long run.

4. Take the necessary time to evaluate all aspects of the project, and in particular carefully assess risks and return on investment beforehand. Feasibility studies are essential to attract the private sector on SMART projects with unknown risks and slow return on investment.

5. Ensure a competitive, fair and transparent public procurement process. The tender should foster innovation among applications and allow all interested private partners to engage in the project (including big but also small and medium enterprises, international and local companies).

6. Ensure continuous communication and participation at all stages of the SMART PPP development towards the population as well as municipal officials and the private operator. Participative processes are essential to guarantee endorsement of the project by actors involved and the citizens. In addition, strong political leadership should help gather different actors around a common vision, and guarantee acceptance. This is particularly important for SMART projects where people are often reluctant towards this "invisible infrastructure" with less tangible results.

7. Build a relationship of trust with the private partner by maintaining a close dialogue and being transparent should help guarantee the success of the partnership.

8. The local government must position itself at the same level of the private actor and perceive the relationship as a 'win-win' situation and not as one where the private actor has all the solutions. As such, municipalities must build strong negotiation skills by, for example, referring to other municipalities' experiences and collaborating with specialized institutions.

9. Make sure that the PPP contract is flexible enough in order to allow for adaptation to quick technological changes.

10. Guarantee a fair distribution of risks and responsibilities between the private and public party. The contract should transfer risks to the actor that can most appropriately handle them.

11. Address issues related to intellectual property rights. This should allow the municipality to keep control over the project and a strategy should help avoid buying the rights of products and services that will be useful for the future.

12. Ensure skills transfer from the private partner to the municipality in order to ensure independence from the partner's skills once the contract is over.

13. Build a tight management and governance structure during the implementation and monitoring of the SMART project.

ANNEX I
References on PPPs for SMART City Management

There are numerous documents produced regarding PPPs. However, those focusing on SMART issue are still very rare as SMART cities programs are quite recent. Here is a list of selected documents that explore PPPs in general or PPPs for SMART projects in specific.

WBCSD – ICLEI (2014), Innovative City-Business Collaboration: Emerging good practices to enhance sustainable urban development.

This report looks at six initiatives around the world that aspire to facilitate city-business collaboration with holistic, multi-stakeholder approaches. It provides insights into lessons learned and draws on the common aspects of the cases as well as some of their differences. The review is based on the following observation: Innovative city-business collaboration takes place along a continuum that starts with early, strategic collaboration to help shape a city's overall sustainability vision and goals and then extends to later stages dealing with implementation. The document can be downloaded here: http://www.wbcsd.org/innovative-city-business-collaboration-report-case-studies.aspx

Smart cities stakeholder platform finance working group (Nov. 2013), guidance document on public procurement for smart cities.

This guidance document has the objective of assisting cities to implement the most appropriate public procurement mechanisms, while advising the European Union and national authorities of potential reforms. The document can be downloaded here: https://eu-smartcities.eu/sites/all/files/Guideline-%20Public%20Procurement%20for%20smart%20cities.pdf

Coordinated by ICLEI (2013), Procurement of Innovation Platform, Guidance for public authorities on Public Procurement of Innovation.

This Guide demonstrates the opportunities for public procurement of innovation under the new EU procurement directives. It shows the way by highlighting successful approaches and experiences. The document can be downloaded here: https://www.innovation-procurement.org/fileadmin/editor-content/Guides/PPI-Platform_Guide_new-final_download.pdf

European Commission Directorate General Regional Policy (2003), Guidelines for successful public-private partnerships & Resource Book on PPP case studies.

In recognition of the importance attached to financing environmental and transport infrastructure and the developing interest in PPPs, DG Regional Policy developed these Guidelines. The Guidelines aim to present a working tool for the identification, preparation and implementation of PPP projects within the general context of an association of private funds with grant financing and specifically with respect to the use of European Commission grants. The document can be downloaded here: http://ec.europa.eu/regional_policy/sources/docgener/guides/pppresourcebook.pdf

Regional Studies Association (2012): Smart specialization strategies: the role of Public Private Partnership in planning smarter cities.

Conference paper: This paper explores the performance of PPPs in the realm of Smart City Initiatives in the United States. The document can be downloaded here: http://cludslab.blogspot.fr/2015/02/smart-specialisation-strategies-role-of.html

Smart Cities Stakeholder Platform (2013), Financing models for smart cities.

The purpose of this document is to identify the barriers and potential solutions for the financing of smart city innovative technological solutions, in particular in the areas of low-carbon energy and transport, as well as ICT. The document can be downloaded here: https://eu-smartcities.eu/content/financing-models-smart-cities

UN Habitat (2015), E-governance and urban policy design in developing countries.

The purpose of this book is to illustrate the synergies, contradictions and potentials that are emerging through the intersection and interplay of three global trends: urbanization, the near ubiquity of information communication technologies (ICT), and the increasing role of local governments. The book examines, through a series of case studies, how ICT enabled governance is applied to urban policy design. The document can be downloaded here: http://unhabitat.org/books/e-governance-and-urban-policy-design-in-developing-countries/

UCLG (2012), Smart City Study: International study on the situation of ICT, innovation and Knowledge in cities.

The report addresses the efforts of cities made since the Bilbao Summit in 2005 in implementing the new city model 'Smart City' in 28 cities in different regions of the world, and their performance in the areas of economy, mobility, environment, citizenship, quality of life, and management. Each of these six performance areas is addressed and evaluated separately in the report, allowing the reader to identify particular experiences and good practices, and contributing to facilitating the exchange and learning among cities. The document can be downloaded here: http://www.uclg.org/en/media/news/smart-cities-study-situation-ict-innovation-and-knowledge-cities

International Bank for Reconstruction and Development / The World Bank, Asian Development Bank, and Inter-American Development Bank (2014), Public-Private Partnership Reference Guide 2.0.

This document provides general Guidelines on PPPs, from project conception to implementation. The document can be downloaded here: http://www-wds.worldbank.org/external/default/WDSContentServer/WDSP/IB/2014/09/08/000442464_20140908133431/Rendered/PDF/903840PPP0Refe0Box385311B000PUBLIC0.pdf

ANNEX II
Institutional description

The Uraía Platform was established in collaboration between two international institutions that work to improve urban citizen's life around the world: The Global Fund for Cities' Development (FMDV) and UN-Habitat. Both believe that SMART technologies can help build stronger local governments capable of responding to urban challenges and attending their population's demands.

FMDV: The Alliance of Local and Regional Governments on local economic development and financing for subnational action. Created by UCLG and Metropolis, and acting as a match-maker, FMDV (Global Fund for Cities Development) provides solutions and expertise to create and implement the enabling environment, appropriate conditions and mechanisms allowing local and regional governments' access to the necessary resources to fund their urban development strategies, especially through long-term and hybridized financing. The Alliance promotes a holistic approach on urban economy and urban development financing, both in terms of their traditional tools (local taxation optimization, bank loan, bond emission, public-private or public-public partnerships) and in their endogenous variation (local socio-economic revitalization, urban productivity and attractiveness, responsible green economy, local resources valorisation and mobilization, and social and solidarity economy). FMDV also leads the debate between multi-scale urban stakeholders via the publication of reference works on the topic, thematic case studies and the organization of dedicated seminars. Its operating and coordination methods promote a multi-stakeholder culture based on dynamic cooperation and exchanges between local authorities, notably South-South or through South- South-North triangular partnerships. Based in Paris, FMDV has Regional offices for Africa based in Rabat, for Latin America based in Mexico City, for Middle East and West Asia based in Mashhad in Iran, and three national representations in Istanbul for Turkey, Brasilia for Brazil and Washington DC for the US.
More information on: www.fmdv.net

UN-Habitat is the focal point for cities within the United Nations System, supporting local and territorial governments as essential agents for development and general welfare, as the closest entity to the citizen and primary responsible for the provision of basic urban services. The UN-Habitat Local Government and Decentralization Unit works closely with local government and their associations in a) fostering urban governance, focusing on the need to establish permanent structures of dialogue between the local and central governments on one side, and the public and private sectors on the other b) institutional and financial sustainability: to be able to do their jobs, local governments need both good public financial management systems to ensure that public services reach the poor and that capital generated in cities is able to benefit the poor and c) transparency: governing without the citizen has become almost impossible. Local governments are in need of instruments to better communicate and understand the needs of their constituency, and citizens across the world are requesting better instruments to control the action and use of scarce public resources.
More info on: www.unhabitat.org

ANNEX III
List of partners of the Uraía Platform

As of September 2015, the partners of the Uraía Platform were

Local governments

Autonomous District of Abidjan (Ivory Coast)
Dakar City Government (Senegal)
Municipality of Johannesburg (South Africa)
Urban Municipality of Antananarivo (Madagascar)
Kinondoni District - Dar Es Salam (Tanzania)
Urban Community of Marrakesh (Morocco)
Urban Community of Nouakchott (Mauritania)
Makati City Government (Philippines)
Kathmandu Metropolitan City Office (Nepal)
Seberang Perai Municipal Council (Malaysia)
Regional Government of Brussels Capital (Belgium)
Regional Council of Ile-de-France (France)
Municipality of Turin (Italy)
Santander City Council (Spain)
Valencia City Council (Spain)
Metropolitan Area of Barcelona (Spain)
Municipality of Morón (Argentina)
Municipality of Belo Horizonte (Brazil)
Municipality of Porto Alegre (Brazil)
Municipality of Guarulhos (Brazil)
Regional Metropolitan Government of Santiago (Chile)
Bogotá D.C. - District Capital (Colombia)
Medellín City Council (Colombia)
Municipality of Cartago (Costa Rica)
St James Parish Council, Montego Bay (Jamaica)
Government of Mexico City D.F. (Mexico)
Municipal Government of Acapulco (Mexico)
Caracas Metropolitan Municipality (Venezuela)
Montevideo Municipal Government (Uruguay)
Mashhad Municipality (Iran)
Nilufer Municipality (Turkey)
Istanbul Metropolitan Municipality (Turkey)
Municipality of Bitlis (Turkey)
Municipal Government of Montréal (Canada)
Maputo City Council (Mozambique)
Municipality of Chefchaouen (Morocco)
City of Asker, Norway

Networks of local governments

All India Institute for Local Self-Government
ANCI: National Association of Italian Municipalities
UCLG Committee of Digital and Knowledge-Based Cities (Spain)
Spanish Network of Smart Cities – RECI
Brazilian Mayors' Association (FNP)
Citynet (Asia - Seoul, South Korea)
Medcities (Spain)
Metropolis (Spain)
ICLEI

Central governments

Ministry of Foreign Affairs of France

Private Sector

SAP Industry Business Unit Public Services (Germany)
Telefonica (Spain)
Orange Labs (France)
Citymart (Spain)
Veolia (France)
Proyectos Integradores (Venezuela)
Sendacity
Change tomorrow

International organizations and Civil Society

Transparency International (Germany)
UNCDF – United Nations Capital Development Fund
OECD
PPP for Cities (Spain)

Universities, Research Centres

Institute Mario Boella (Italy)
University of Cantabria (Spain)

Experts network

Cities Today Magazine (England)

ANNEX IV
Agenda of the Oslo workshop, June 2015

MONDAY 29th JUNE

09.00 – 12.00

Field trip visit to an experience of the City of Oslo – Analysis of the impact of technological innovation in public management.

12.00 - 12.30 *Lunch*

12.30 – 13.15

Opening remarks
› Lasse Hansen, General Director, the Norwegian Association of Local and Regional Authorities (KS).
› Diana A. Lopez Caramazana, Acting Head, Local Government and Decentralization Unit, UN-Habitat.
› Pascal Lecamp, Norway Country Director, Business France

Introduction to the workshop: methodology, objectives, expectations and participation. Round of participant presentations.
› Jean François Habeau, ExecutiveDirector of FMDV

13.15 – 15.00

Sharing experiences – Building SMART strategies through PPPs
Participants will be asked to answer the following questions in their presentations: How to identify the good solutions? Which processes in the preparatory phase of the project? What are the best ways to contract and manage PPPs: from public procurement to the implementation and management phase? What are the main challenges, risks and pitfalls? What are the necessary national and local legislative frameworks to facilitate SMART services procurement? What are the lessons learned and key elements for success?

ROUND 1. Focus on: PPPs preparation phase (services selection, public procurement procedure, legislative framework, etc.)
› Oliver Castañeda Correa, General Coordinator of Administrative Modernization and Head of the Unit for Regulatory Improvement, Mexico City
› Richard Chengula, Councillor of Kinondoni,Dar-Es-Salaam, Tanzania
› Geir Graff, Municipality of Asker, Norway
› Scean Barnswell, President of the Association of Local Government Authorities of Jamaica (ALGAJ).
› Xavier Maitrerobert, Innovation & Markets department, Vice-President Business Development Cities, Veolia
› Bruno Cohades, Business Unit Director, Thales Norway
Moderation: Jean François Habeau, FMDV

15.00 – 15.30 *Coffee Break*

15.30 – 17.00

ROUND 2. Focus on: PPPs development and management phase (implementation, monitoring, etc.).
› Thiago Ribeiro, Coordinator POA Digital, Porto Alegre, Brazil
› Aubrey Mochela, General Manager: ICT, City Power, City of Johannesburg, South Africa
› Gema Roig Pallardó, InnDea Valencia, Spain
› Daniel Chisenga, Former Mayor of Lusaka, Zambia
› RenuKhosla, Director, CURE, India
› Carlos Sousa, CEO, ChangeTomorrow, Portugal
Moderation: Diana Lopez Caramazana, UN-Habitat

19.00 *Dinner offered by URAIA*

TUESDAY 30th JUNE

09.00 – 10.30

Working group for the elaboration of the Guidelines for SMART PPPs.
Participants will be separated in three groups, each will focus on a specific aspect of the negotiation and implementation of public-private partnerships that refer to the use of SMART technologies in public services management:
– GROUP 1. The institutional prerequisites for project and PPPs conception
– GROUP 2. Preparation and negotiation of the PPP contract
– GROUP 3. Implementation and management of PPPs
Restitution of the results of each group.

10.30 – 11.00 *Coffee Break*

11.00 – 12.30

PPPs, from theory to implementation: recommendations by experts.
› Cedric Baecher, Founder and associate director of Nomadéis, France
› Setsuko Saya, Head of Division of Regional Policies for Sustainable Development, OECD
› Edoardo Calia, Instituto Mario Boella, Italia
Moderation:Geoffrey Makhubo, Councillor for Finance of the City of Johannesburg, South Africa

12.30 – 13.30 *Lunch*

13.30 – 14.45

Interactive Round Table – Creating collaboration opportunities between municipalities and technology providers. Speakers will present their projects and participants will react with recommendations.
› Ben Abdessalem, representing the City of Sousse, Tunisia, Medcités and the Metropolitan Area of Barcelona, Spain.
› Mohamed Sefiani, Mayor of Chefchaouen, Morocco
› Ossemane Narcy, Maputo City Council, Mozambique
Moderation: Mariana Nascimento, UraíaCoordinator

14.45 – 15.00 *Coffee Break*

15.00 – 16.00

Debate and wrapping up.
Next steps for the Platform Uraía: creating bridges between Uraía and others partners' initiatives, and in particular thematic networks, among witch:
› Seana Nkhahle, Executive Manager, South African Local Government Association (SALGA)
› Lidia Cobas, Coordinator of the UCLG Digital and Knowledge-Based Cities Commission
› Olga Horn, ICLEI – City-Business Cooperation, Smart Urban Infrastructure Team
› Teresa Oliver, Project Officer, MetropolisSecretariat General, Barcelona, Spain
Closing remarks and feedback from the participants
› Jean-Francois Habeau, FMDV
› Diana A. Lopez Caramazana, UN-Habitat

Uraia

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FMDV
Supporting local authorities to access funding