



# SME4SMARTCITIES

## Deliverable 3.2.2: Diagnosis of the existing & needed support services for innovative & technological SMEs in the MED region

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## Executive Summary

As cities continue to grow, so is the number of challenges they are facing. Environmental, economic or social emerging issues call for new, innovative solutions. This increasing need will result in the development of a significant number of smart cities initiatives, creating new business opportunities for Mediterranean SMEs. To address these challenges, public authorities and SMEs have to work together to come up with the best technological solutions.

Cities recognize the benefits of diversifying their supply chain with the innovative drive, flexibility and creativity of SMEs (defined in the EU as companies with less than 250 employees and either turnover of up to €50 million or a balance sheet total of up to €43 million). By better understanding the experience and needs of SMEs, and the required knowledge, skills and processes that support the successful implementation of innovative products and services for the smart city market, it is possible to increase the potential of synergic collaboration.

This document identifies the existing support services that cities provide today for innovative & technological SMEs in the Mediterranean region and the needed services to support increasing successful collaboration between SMEs and municipalities. Then, it extracts recommendations for needed support services for SMEs.

The document also identifies functionalities & services that should be provided by the network that the SME4SMARTCITIES project intends to create to support SMEs that offer sustainable innovative services and products, to engage with Mediterranean cities in order to successfully implement their offerings.

This report is based on the analysis of the cumulative and integrated results of the studies conducted during the SME4SMARTCITIES project as well as continued engagement with cities, SMEs and analysts.



## Introduction

Mainstreaming climate and sustainability goals into their strategies is becoming critical for cities across the world to ensure sustainable urban development and climate readiness. It is especially critical for cities in the Mediterranean region, as the region is one of the world's hotspots for climate change and as urbanization around the Mediterranean is rapidly increasing.

As cities continue to grow, so is the number of challenges they are facing. Environmental, economic or social emerging issues call for new and unproven urban solutions. The increasing need for urban innovation will result in the development of a significant number of smart cities initiatives, creating new business opportunities for Mediterranean SMEs. If we want our cities to be efficiently managed and more livable for communities, public authorities and SMEs have to work together to come up with the best technological solutions.

This document identifies the existing support services for innovative & technological SMEs in the smart cities market in the Mediterranean region and & needed services to support increasing successful collaboration between SMEs and municipalities for the benefit of the city residents and visitors. Its aim is to identify functionalities & services that should be provided by the network that the SME4SMARTCITIES project intent to create, and to support SMEs that offer sustainable innovative services and products, to engage with Mediterranean cities in order to implement successfully their offerings for the mutual benefits of the city residents, municipalities and the SMEs.

This report is based on the analysis of the cumulative and integrated results of the studies conducted during the WP3 stage of the SME4SMARTCITIES project, such as the research and writing of the Procurement Trends Guide for SMEs (A.3.1.2), City challenges survey (A.3.1.3), the cities support group meetings (A.3.1.4), and the SME survey for Identification of the training and capacitation needs of technological and Innovative SMEs (A.3.2.1) as well as continued engagement with cities, SMEs and analysts.

By better understanding the current experience and needs of SMEs, and the required knowledge, skills and processes that support SMEs in working to successfully address the smart city market with innovative products and services, it is possible to increase the potential of synergic collaboration with municipalities and with other SMEs, resulting in increasing the odds of winning contracts in tender processes and of successfully tapping public procurement market opportunities.

The chapters of these report describe first the existing services that cities provide today to assist and nurture SMEs. It then continues to explore major topics, needs, developing trends and success criteria that were unveiled at the earlier stage of the SME4SMARTCITIES project. Then it extracts recommendations for needed support services for SMEs.

## Smart Innovation

As described in the Current Procurement Trends Guide, smart innovation is the adoption and implementation of innovative products, technologies or services that support urban resilience, sustainability, social, economic and environmental well-being. Areas where Smart Innovation is of high benefit to cities and residents include mobility, energy, water, food, waste management, ecology, urban nature, climate, circular economy, sharing economy, citizen engagement and education.

From 2010 onwards, public procurement of innovation (PPI) became a very prominent topic across Europe. This was partly in response to the financial crisis, which pointed to a need for substantial public investment in

social and environmental projects while increasing the efficiency of state spending. This is reflected in the 2014 EU Procurement Directives, which allow innovative characteristics to be taken into account in award criteria and include procedures designed to procure goods or services not currently available on the market.

## SMEs

In the EU, an SME is defined as a company with less than 250 employees and either turnover of up to €50 million or a balance sheet total of up to €43 million.

The increasing need for urban innovation will result in the development of a significant number of initiatives, creating new business opportunities for Mediterranean SMEs. Today, some initiatives to promote SME access to tenders are aimed at domestic or local SMEs, while others are open to SMEs from any country.

## The Building blocks of sustainability: SDGs

Smart innovation can support the accomplishment of the 17 goals of Sustainable Development (SDGs) that were adopted by all United Nations member states<sup>1 2</sup>. The SDGs are important landmarks to design, develop and evaluate products and offerings. While the 17 goals are diverse and cover the entire array of sustainability needs, zero environmental impact and decent quality of life, different projects and products can work towards one or more of the goals.



The 17 Sustainable Development Goals of the 2030 Agenda for Sustainable Development. Source: United Nations<sup>3</sup>

Many municipalities recognise the power of procurement of environmentally friendly and sustainable goods, services and technologies to alleviate environmental, residential and public health issues that increasingly affect cities today. By purchasing goods, services and works with a reduced environmental impact, public

<sup>1</sup> [UN: The 17 Sustainable Development Goals](#)

<sup>2</sup> <https://youtu.be/OXTBYMfZyrM>

<sup>3</sup> [UN: progress made on sustainable development goals](#)



authorities can make an important contribution towards local, regional, national and international sustainability goals.

## Green Public Procurement

The current environmental, public health, social and economic challenges of cities required the establishment of green procurement criteria. To assure that new product and services contract do adhere to sustainability and resilience goals, and the SDGs at large, municipalities adopt evaluation considerations and concepts that are known together as **Green Public Procurement (GPP)**, GPP includes life-cycle costing, specification of sustainable production processes, and use of environmental award criteria to help contracting authorities identify environmentally preferable bids. The concept of **Sustainable Public Procurement (SPP)** includes both environmental and social criteria in purchasing decisions.

GPP is a major driver for innovation, providing industry with real incentives for developing green products and services. GPP can also provide financial savings for public authorities – especially when considering the full life-cycle costs of a contract and not just the purchase price. The result is a win-win positive cycle for both public authorities and for innovative businesses<sup>4</sup>.

European DIRECTIVE 2014/24/EU<sup>5</sup> enables public authorities to take environmental considerations into account (note: for entities operating in the water, energy, transport and postal services sectors directive [Directive 2014/25/EU](#) is of more relevance). The European Commission Green Public Procurement (GPP) guidance (last updated 2019), provides an overview of the legal framework for public procurement, with criteria and guides for implementation of GPP<sup>6</sup>. For SMEs, knowing these procedures is useful for their work with municipalities.

A detailed list of EU policies, strategies and legislation related to green public procurement can be found in the Annex to the "Buying Green" handbook<sup>7</sup>. While these guidelines are intended for policy makers and procurers, SMEs will also find them useful.

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<sup>4</sup> [Current Municipal Procurement Trends Guide](#)

<sup>5</sup> <https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:02014L0024-20200101>

<sup>6</sup> [Commission guidance - GPP - Environment](#)

<sup>7</sup> [A handbook on green public procurement 3rd Edition](#)



The "Buying Green" handbook

ICLEI provides a range of guidance and resources for implementing Sustainable Public Procurement, which include purchasing criteria for six product groups (buses, cleaning products & services, electricity, food & catering services, IT products, building construction & renovation) in [Procura+](#), a network of more than 40 European public authorities and regions that connect, exchange and act on sustainable and innovation procurement.

Resources include a manual for SPP implementation and a collection of Best Practice Case Studies available on the website.

The Current Municipal Procurement Trends Guide provides useful resources in specific countries for SMEs.





# 1. Existing Support Services

Many Municipalities are aware of “Smart Cities” trends and offerings. Some cities are highly proactive in pursuing “smart cities” practices that include technological, environmental, economic and citizen experience levels while other municipalities are taking initial steps in the Smart City Journey.

Some municipalities have appointed dedicated innovation managers and innovation units that proactively seek and embrace new initiatives to improve citizen quality of life, municipal services, optimisation of the Public Administration tools and municipal logistics. Some municipalities publish calls for proposals and initiate events such as hackathons. Cities also participate in European Projects such as the Interreg Europe Pure Cosmos project, that develop highly integrated approaches to cut costs and improve the quality of public administration while improving the effectiveness of public support for SMEs by reducing regulatory complexity, bureaucracy and uncertainty for the development of SMEs<sup>8</sup> and other initiatives

## Examples:

The Interreg Europe BETTER project<sup>9</sup>, Genova Smart City Association<sup>10</sup> (Italian), ERDF OPERATIONAL PROGRAMME - Liguria<sup>11</sup> (En), Kfar Saba Sustainability and Innovation<sup>12</sup> (Hebrew), Herzliya Strategy and Innovation<sup>13</sup> (Hebrew), Tel Aviv Start-up City<sup>14</sup> (Hebrew), Haifa Smart City<sup>15</sup> (Hebrew)

## Municipal Innovation Districts

innovation districts are residential and commercial areas which offer favorable environment and amenities that attract research institutions, high-growth firms, and tech and creative start-ups. “Innovation districts facilitate the creation and commercialization of new ideas and support metropolitan economies by growing jobs in ways that leverage their distinct economic attributes. These districts build on and revalue the intrinsic qualities of cities: proximity, density, authenticity, and vibrant places. Given the proximity of many districts to low-income neighborhoods and the large number of sub-baccalaureate jobs many provide, their intentional development can be a tool to help connect disadvantaged populations to employment and educational opportunities” (Brookings Institute)<sup>16</sup>.

In the Mediterranean region, Barcelona and Beer Sheva have remarkable examples of innovation districts. In Barcelona, the 22@Barcelona Innovation District has started as a governmental initiative to transform an old industrial district into an innovation zone. By developing a synergy of an attractive living environment with an advanced work environment, the 22@Barcelona district has become a center for SME companies surrounded

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<sup>8</sup> [Interreg Europe - PURE COSMOS](#)

<sup>9</sup> [Interreg Europe - BETTER](#)

<sup>10</sup> [Genova Smart City Association](#)

<sup>11</sup> [ERDF OPERATIONAL PROGRAMME - Liguria](#)

<sup>12</sup> [Kfar Saba Sustainability and Innovation](#)

<sup>13</sup> [Herzliya Strategy and Innovation](#)

<sup>14</sup> [Tel Aviv Start-up City](#)

<sup>15</sup> [Haifa Smart City](#)

<sup>16</sup> Brookings - Innovation Districts



by museums, galleries, bars and restaurants. The district has an area of 4,000,000 sqm of offices, commerce and research, 220,000 sqm of green spaces, residential and social housing buildings.

The district drives technological and economic innovation by bringing together innovative companies, universities, learning centers and research centers. It attracts local and international talent. By 2020, the district had more than 93,000 people in 9,000 companies and 25,000 students at the local universities. 16% of the residents are from other countries around the globe.



The 22@Barcelona district. Source: [More than Green](#)

In Beer Sheva, the district that borders the university, large medical center and the municipality building had started developing as a grass roots initiative yet following a national grant and a project led by municipal-government- university-medical center-industrial park consortium, the district has developed significantly and become a home to 58 Hi-Tech, Med-Tech and Arid environments technology and agriculture companies.

## Shared Workspaces and Innovation Centers

Cities provide warm hospitality for SME businesses and budding initiatives also on a much smaller scale than large district projects. Many municipalities are converting public buildings such as former schools, libraries and historical facilities into inviting co-workspaces. Such spaces can also provide value-added mentoring and community services, growing into bustling innovation centers that attract incredible talent.

Such are for example the Maze 9 historical building<sup>17</sup> and Hasifriya in the Shalom Tower<sup>18</sup> in Tel Aviv and the Raanana local entrepreneurship, innovation and economy center<sup>19</sup>.

<sup>17</sup> <https://mazah9.org.il/en/work-spaces/>

<sup>18</sup> <http://www.thelibrary.co.il/>

<sup>19</sup> <http://raanana.ladpc.co.il/RaananaBusinessCenter/Pages/default.aspx>



## Accelerator programs

Municipalities and academic centers offer workspaces and mentoring for budding start-ups, supporting the SMEs as they develop and start to promote their innovative products. They also provide financing support. In Tel Aviv, the Capsula.TAU center at Tel Aviv University nurture innovative entrepreneurs of smart mobility products. The Capsula.TAU program provides a no-equity investment, along with a 3-4 month residency at the Porter Building at the university<sup>20</sup>. It also provides mentors and market fit methodology that focuses on Customer Discovery & Validation. Tel Aviv Municipality and Tel Aviv University nurture together innovative Urban solution start-ups at the CityZone center. CityZone hosts startups, multinationals, and policymakers in its living lab, innovating in real-time, under real-city conditions<sup>21</sup>.

## Competition and Hackathons

Cities may conduct special events, exhibitions, competitions and development hackathons in the search for innovative products and services. These are usually announced on municipal internet sites and promoted on professional magazines and social media. Following municipal newsletters, Facebook, Twitter and similar media channels, helps SMEs and entrepreneurs find such opportunities.

Some examples are the Urban Labs Innovation Challenge: Delhi led by the Government of the National Capital Territory of Delhi, University of Chicago and the Tata Centre for Development<sup>22</sup> and the Tel Aviv Municipality Smart Communities' tech platforms Hackathon<sup>23</sup>.

## Events and Exhibitions

Events and exhibitions are another channel to promote urban innovation, smart city practices, SMEs and start-ups

Examples:

[Smart Cities Expo World Congress in Barcelona](#)

[Israel cities and SMEs participation in Barcelona Smart Cities Expo](#)

[Greencities & S-Moving Forum Málaga](#)

[DLD Tel Aviv Conference](#)

## Standards, Eco-Labels and green award criteria

Current standards and Eco-Labels provide other opportunities to SMEs that comply with them, to be awarded contracts. ISO 20400:2017<sup>24</sup> is a standard aimed at guiding organizations on integrating sustainability within

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<sup>20</sup> <https://www.capsula-tau.com/>

<sup>21</sup> <https://www.city-zone.co/>

<sup>22</sup> <https://epic.uchicago.edu/events/event/urban-labs-innovation-challenge-delhi/>

<sup>23</sup> <https://www.tel-aviv.gov.il/Business/BusinessLicense/Pages/hackathon.aspx> (Heb)

<sup>24</sup> [ISO 20400:2017](#)



procurement, and ISO 26000<sup>25</sup> for assuring social responsibility. Many public bodies also implement GPP/SPP criteria based on national or regional criteria, or the common EU GPP criteria<sup>26</sup>.

The 2014 directives allow contracting authorities to make reference to one or more specific ecolabels, provided the labels are appropriate to define the characteristics of the goods or services being purchased, the criteria for the label are based on scientific information and adopted using a procedure in which all interested stakeholders can participate, and all suppliers can apply for the label.

Under the 2014 procurement directives, all contracts must be awarded on the basis of Most Economically Advantageous Tender (MEAT). Financial evaluation may be based on life cycle costs (see below) of the solution, and not just the purchasing price. Environmental criteria may be viewed as determining the value of the proposal if they are linked to the subject matter of the contract, do not restrict the choices of the contracting authority, enable effective competition, are expressly mentioned in the contract notice and tender documents, together with their weightings and any applicable sub-criteria, and (in Europe) comply with the Treaty principles.

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<sup>25</sup> [ISO 26000 Social Responsibility](#)

<sup>26</sup> [EU GPP criteria](#)



## 2. Success Factors

Designing sustainable, carbon-neutral and zero environmental impact products and services, that are cost-efficient over their entire life cycle is important to address cities need and sustainable development goals. So are also products and services that easily integrate with other products to create easily-manageable solutions across the board. Here are some important design and development considerations that will greatly increase adoption likelihood.

### The Sustainable Development Checklist

As cities and countries are committed to climate impact and sustainability goals, SMEs are advised to make sure that their offerings are compatible with the following targets, compared to current products and services already in place at the city over their full product or service lifespan.

- Reduce the overall product/service life-cycle cost to the municipality
- Reduce the waste created
- Reduce greenhouse gas emissions
- Reduce air, water or land pollution
- Improve energy efficiency, mainly by reducing energy consumption
- Support zero energy impact
- Support climate change mitigation
- Decrease polluting fuel-based transit
- Reduce dependence on remote resources from outside the city
- Increase self sufficiency
- Increase resilience to external hazards
- Support one or more of the UN sustainable development goals

### Waste Reduction and Life Cycle Cost Reduction

These two top goals are key targets for municipalities. They are closely related. Products with a cost-efficient and long lifecycle, with fewer maintenance needs and reuse / recycle properties allow also for significant waste reduction. Delivering on these goals is a highly important consideration for new product or service development and introduction.

To meet the demands of Green Public Procurement (GPP), it would be advised to design products and services that follow the “R” principles of waste reduction – Reduce future waste creation, design for Reuse and for Repurpose and only as a last resort, allow for Recycling Also, designing and creating products with low total lifecycle costs (the total costs during the product lifecycle, including transportation, operation, maintenance and waste disposal), sustainable manufacturing processes and zero environmental impact, are important considerations to stand out in Green Public Procurement processes.

The true cost of a product is not in its direct purchase price, but in the total costs during the entire product lifecycle. lifecycle costs emphasize the advantage of products which are more efficient in using resources (thus





reducing ongoing usage costs) or that do not contain hazardous substances (thereby reducing the cost of maintenance and disposal). There are also external costs of environmental, public health and social impact to be taken into account.

Articles 67 and 68 of the EU Regulations 2014/24/EU<sup>27</sup> and Sections 83 and 87 of the EU Regulations 2014/25/EU<sup>28</sup> guide tender planning on the basis of total lifecycle costs.

## Engaging in the Circular Economy

A transition from a linear economy, that is characterised by large-scale exploitation of natural resources and the creation of landfill trash at the end of the product usage, to a circular economy that emphasized reuse and recycling is rapidly gaining momentum. It is becoming a major consideration in public procurement processes.

Recent EU directives for investment in R&D and in the stock market, prioritise investments in circular economy<sup>29</sup>. In section 13 of the directive, circular economy is defined as “an economic system whereby the value of products, materials and other resources in the economy is maintained for as long as possible, enhancing their efficient use in production and consumption, thereby reducing the environmental impact of their use, minimizing waste and the release of hazardous substances at all stages of their life cycle”

Under the EU Circular Economy Action Plan<sup>30 31</sup>, minimum levels of mandatory criteria for green public procurement are presented, which can be a useful guideline for SMEs in planning new products and services.

## Products as a Service

Delivering products as a service agreement is increasingly offered as an innovative method to reduce waste, simplify maintenance and achieve a more efficient use of materials. Product as a Service offerings include leasing, rental and utility services. New innovative services emerge and spark new businesses.

The Finnish company Martella offers "workspaces as a service" in Scandinavian countries. An innovative circular economy model. Organizations can rent furniture and facilities as a flexible service that is monitored and optimized for efficiency and for the convenience of employees. Usage and recycling measurements and employee experience surveys are used to monitor and improve the service. In the UK, UK Mats is offering rag renting services<sup>32</sup>. Philips developed a lighting-as-a-service offering, rather than selling light bulbs. The customers benefit by paying only for the light they use, while ditching the hassle of burnt-out bulb replacement and disposal as well as navigating system upgrades. More important, Philips retains control of its products, making it easier to reclaim valuable materials, while maintaining an ongoing customer relationship. In the US with Signify Lighting Services<sup>33 34</sup>.

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<sup>27</sup> [Directive 2014/24/EU](#)

<sup>28</sup> [Directive 2014/25/EU](#)

<sup>29</sup> [EU Directives \(eu\) 2020/852](#)

<sup>30</sup> [תוכנית הפעולה לכלכלה מעגלית של האיחוד האירופי](#)

<sup>31</sup> [Towards a circular economy – Waste management in the EU](#)

<sup>32</sup> [UK Mats](#)

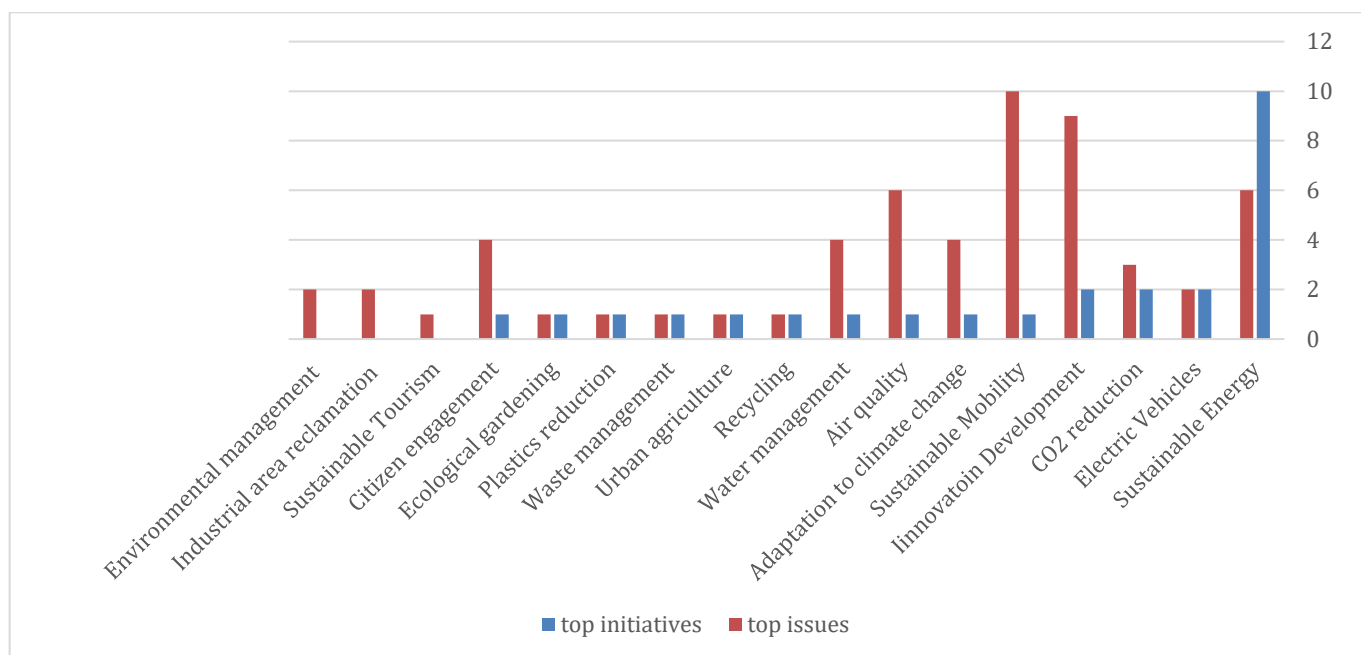
<sup>33</sup> <https://www.usa.lighting.philips.com/services>

<sup>34</sup> <https://www.ellenmacarthurfoundation.org/case-studies/selling-light-as-a-service>

## Application Areas that Meet City Needs

While developing and offering innovative solutions for cities, It is obvious that there is better likelihood for them to be adopted by municipalities if they address top needs and issues in the cities and if there is a large gap between the needs and the actual level of existing implementation of solutions.

The Urban Challenges Identification Survey, a study of 34 Mediterranean cities, was conducted as part of the SME4SMARTCITIES cooperation project, to find the aptitude and readiness of policy makers in the cities for sustainability and innovation. The participating cities were asked to indicate the environmental issues that **needed** to be addressed and the ones that **were being** already addressed. As can be seen in the following graph, there is a clear distinction between the topics indicated in the two cases.



**Figure 2: Top areas of environmental initiatives**

The top issues noted were sustainable mobility, urban nature, waste management, air quality and energy. However, the majority of solutions actually implemented, were in **sustainable energy**, ranked only no. 5 on the list of issues, and no. 1 on the list of solution, with a significant gap. Sustainable energy is obviously a lucrative area for municipalities, probably due to financial backing from the EU and high business interest. Conversely, sustainable mobility and innovation development, revealed an opposed trend; sustainable mobility ranked no. 1 on the list of issues, and at the end of the list on solutions, innovation development was ranked no. 2 on the list of issues and at the end of the list on solutions. It should be noted, that most climate adaptation issues, also exhibited comparable trends (adaptation to climate change, water management, air quality).

Understanding this gap, suggests many opportunities to create and provide the best solutions accordingly.

## Bridging the Knowledge Gaps

While some municipalities are highly proactive in pursuing “smart cities” practices, others are still watching. While the gradual, hesitant adoption of innovative “smart” solutions is tied to many factors, such as economic circumstances and city leadership readiness, a major barrier that was found in the urban challenges study was



lack of knowledge and skills in ICTs and their applications, including both lack of technical expertise and difficulty to follow rapid developments and tell what is really a useful development and what is a hype.

Looking from the business world to the civil service world, SMEs need also to understand the civil service language, to understand how processes work and to have the know-how required to understand tenders and apply to them effectively.

This knowledge and understanding barrier between “Tech” language and “administrative” language goes both ways. Same as a meeting between two distinct cultures, it requires the simplification of access and an effort for listening and learning on both parts to clear the gateways and to create rewarding communication channels.

## Clustering – Collaborating to Create a Winning Synergy

Collaboration between solution providers to create clusters of innovative, sustainable solution bundles can make it easier for cities to find and implement solutions. Instead of competing and creating a sense of overwhelming confusion, they can cooperate through integrated solutions. This collaboration will make it much easier for municipalities to implement comprehensive solution in top priority application areas

In Israel, PublicZone<sup>35</sup> was established in 2005 to provide Interdisciplinary planning, public transport platform design, Landscape and accessibility design, engineering and on-site installations to provide integrated services for public transportation projects & spaces.

In a similar manner, SMEs can create consortiums or clusters that integrate their services into a single Interdisciplinary offering that can be easier to implement and assure municipalities that all aspects and factors have been taken care of and no unexpected conflicts between silos of solutions will emerge.

## Adopting True Ecosystem Thinking

The principles of ecosystems have evolved in nature over eons. They have been shaped by stark challenges and have survived the test of time. Learning from the wisdom of ecosystems is key to sustainable success. Following the concepts of Ecology, cities can be considered as biomes which have interacting ecosystems<sup>36</sup> that provide the habitats<sup>37</sup> for all stakeholders within the city. Therefore, any new development that is introduced into the complex fabric of the city must find its place and fit in harmony into the ecosystem fabric

In an Ecosystem design approach, everything is connected and co-related through a complex network of interrelations and cross impacts. There are no silos and no barriers. Each component is affecting the entire system. Therefore, any product or service must be in equilibrium with all other components.

All ecosystems have cycles of persistent processes. The cyclic processes ensure 100% efficiency and waste is unaccepted. Co-dependent cyclic processes nurture spirals of growth while maintaining balance and equilibrium. Adopting a similar state of mind and design methodology, can lead to similar efficient and sustainable results, especially when driven by bio-inspiration and partnership with renewable natural factors. A good example for this approach is the successful adoption of Green building standards.

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<sup>35</sup> <https://publiczone-tr.com/en/services/>

<sup>36</sup> <https://sciencing.com/differences-between-biomes-ecosystems-8163420.html>

<sup>37</sup> <https://wildernessclassroom.org/understanding-habitats-ecosystems-biomes/>





Ecosystems<sup>38</sup> have niches with varying conditions, that provide habitats for different plants and animals. “stakeholders” may be adapted to a certain niche and to operate only within this niche, but the niches are still a part of the big picture and are correlated. There may be different ecosystems with very different conditions. In nature, there are freshwater ecosystems (rivers, lakes), Marine (seas), forests, grasslands and desert ecosystems. They are strikingly different, but they are built upon the same ingredients, just with varying conditions and they are cross-related. In a city, we may speak of a social, business, technological or environmental ecosystems, and each has its own variety of niches and provide a wealth of habitats to a rich diversity of stakeholders such as residents and businesses. They affect each other and they create communities that are also cross related, impact other communities and form part of the mega-ecosystem or the biome<sup>39</sup> - the city and its region.

## Relevancy of Success Stories and Case Studies

Studies show that the unique characteristics and the challenges of Mediterranean cities are different from those of North European cities. Though the EU directives are the same, there is still a discrepancy between Mediterranean European and North European cities. Therefore, the case studies of North European, Asian and American cities do not necessarily apply to the Mediterranean region. Instead, the case studies of Mediterranean cities such as Barcelona, Malaga, Genova and Tel Aviv should be used by SMEs and municipalities to learn from.

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<sup>38</sup> <https://www.nationalgeographic.org/encyclopedia/ecosystem/>

<sup>39</sup> <https://www.nationalgeographic.org/encyclopedia/biome/>



### 3. Needed Support Services

Based on the above review, providing some additional support services by municipalities and the academia to these already existing, and the adoption of current successful services in some Mediterranean cities by other Mediterranean cities, can increase successful collaborations and implementations of beneficial sustainable solutions across the Mediterranean region.

#### Learning: Procurement Processes and Criteria

Several methods can be used to support SMEs in their quest to navigate the procurement maze – understand the terms and the public service language, understand tender processes, the different regulations in different countries, finding how to register to supplier pools in cities, and similar challenges.

The Current Municipal Procurement Trends Guide for SMEs<sup>40</sup> was put together and published by the SME4SMARTCITIES project. It describes current public procurement channels and trends and provides information as to how to access public procurement and green procurement opportunities in EU and Mediterranean countries.

Learning resources can be made available to SMEs in the form of practical guides, workshops and webinars. The SME4SMARTCITIES E-Learning Training Programme was designed to prepare SMEs to address the smart sustainable cities solutions market, to support SMEs in the establishment of cross border cooperation relationships with other MED SMEs & cities, to build local capacity allowing to upscale the knowledge generated within the project & capitalize the project training tools and to provide information & training to rapidly elevate SMEs tendering skills & win-rate & help them to adopt a strategic approach to tendering in terms of making good decisions on what to bid for.

#### Understanding Green Public Procurement Criteria

Since Green Public Procurement (GPP) criteria and processes holds many opportunities for SMEs and since GPP is a major driver for innovation, providing incentives for developing green products and services, getting acquainted with GPP criteria and learning how to develop products accordingly is a major winning factor. This is particularly true in sectors where public purchasers represent a large share of the market (e.g. construction, health services, or transport). GPP can also provide financial savings for public authorities. The result is a win-win positive cycle for both public authorities and for SMEs. For SMEs, being familiar with directives and resources such as European [DIRECTIVE 2014/24/EU](#) and [Directive 2014/25/EU](#) and the "Buying Green" handbook ([A handbook on green public procurement 3rd Edition](#)), although these guidelines are intended for policy makers and procurers, is useful for their work with municipalities.

#### Facilitation of SME access to public tenders

Existing practices across Europe present solutions for all these barriers. The following sections provide examples for Structural/Legal, Public Authority-Led and SME-Led solutions.

Under EU procurement law, it is illegal to discriminate in favor of SMEs, for example by preventing larger companies from bidding. Likewise, it is not generally possible to favor domestic companies over those from

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<sup>40</sup> [Current Municipal Procurement Trends Guide for SMEs](#)



other EU countries, or countries which have a legal right of access to the EU public procurement market (Such legal rights of access exist under the WTO Government Procurement Agreement, as well as under bilateral trade agreements signed by the EU and partner countries. Further information is available [here](#)). However various measures which support greater SME participation in tenders have been successfully adopted by local authorities.

### **Division of contracts into lots**

The division of large contracts into smaller lots facilitates SME participation. Article 46 of Directive 2014/24/EU encourages this practice by requiring contracting authorities to explain decisions not to divide a contract into lots, and national legislation can mandate division into lots. For example, Germany's 2016 Procurement Regulation for Public Works (VOB/A) includes a requirement to divide contracts into lots, with exceptions for economic or technical reasons. Lots may be divided according to subject-matter (e.g., separating different activities to be performed in a works contract), geography (e.g., by districts of a city or region), value (different contractors carry out IT services depending on value band) or other criteria. The contracting authority indicates in the notice whether bids can be submitted for one or multiple lots.

As an example, the city of Valladolid, Spain adopted a Municipal Plan to support the participation of SMEs in public procurement. Valladolid has made the division of contracts into small lots a general practice – one €8 million contract was divided into 18 lots. Although this can involve more administrative work, together with other measures it has led to 75% of city contracts being awarded to SMEs, significantly higher than the Spanish and EU averages. A recent large-scale EU study suggests that the division of contracts into 10-19 lots increased SME participation from 62% to 65%.

### **Tender award criteria**

Award criteria which focus on quality, environmental performance, innovation or other non-cost elements support SME success in tenders because larger companies often have a price advantage in terms of economies of scale and may offer large discounts to secure public sector contracts. Qualitative criteria also force contracting authorities to evaluate products or services on their merits, rather than simply relying on a company's reputation, previous experience, resources etc. The 2014 Procurement Directives require all contracts to be awarded on the basis of 'most economically advantageous tender' (MEAT), but it is only where the 'best price-quality ratio' (BPQR) approach is taken that non-cost criteria are included. The use of qualitative criteria varies substantially between countries, regions and individual contracting authorities and is sometimes viewed with suspicion in areas with high levels of corruption or strong constraints on public spending.

Spain: Award criteria are directly related to the purpose of the public contract, and based on quality score, technical value, environmental or social advantages, price and quality-price ratio, costs bound to the use of the goods supplied, term for execution, provision of the service, maintenance, aesthetic and functional characteristics, technical assistance and after-sales or customer services.

The criteria are set out by the contracting authority and expressly indicated in the tender documents. They cannot refer to the bidders' technical ability or financial solvency, which are tender admission criteria, not tender award criteria. In cases where the contracting authority decides to set out only a single criterion for an award, the criterion will be the price offered.

Award criteria can be appraised automatically, by means of formulae, or by a value judgment. In order to ensure impartiality, the appraisal of award criteria based on value judgments is carried out before the appraisal of the award criteria based on formulae.



Generally, award criteria based on formulae count for more than award criteria based on value judgments. When award criteria based on value judgments receive a higher score than those based on formulae, the contracting authority forms an expert committee of at least three members that appraise the award criteria based on value judgements, or commission such an appraisal from a specialized technical body.

### **Limits on eligibility requirements**

Restrictions on eligibility requirements ensure that the criteria used to select bidders are proportionate and do not exclude SMEs unfairly. The 2014 Procurement Directives limit turnover requirements which may be applied to two times the value of the contract, and limit the period over which bidders can be asked to provide details of previous contracts (Articles 58(3) and Annex XII of Directive 2014/24/EU). Bidders may rely on the capacity of other entities to meet eligibility requirements, for example a partner, subcontractor or parent company (Article 63 of Directive 2014/24/EU). Aside from these legal limits, best practice in SME-friendly procurement generally involves streamlining eligibility requirements as much as possible. This means ensuring that any rules regarding human or technical resources, qualifications or certifications and insurances are strictly in line with the needs of the contract.

Example:

The region of Andalucia and the city of Logroñoin, Spain has both implemented measures to reduce economic and financial requirements for bidders. In the United Kingdom, the Public Contracts Regulations 2015 removed the possibility for contracting authorities to apply a pre-qualification stage for below-threshold contracts, one of several measures intended to increase SME tendering. Although it is difficult to confirm a causal relationship, this measure does not seem to have been successful, as the percentage of contracts awarded to SMEs fell during the period following implementation of the 2015 Regulations. This suggests that it is not the presence of eligibility/selection criteria themselves which has a strong effect on SME participation, but the way in which these are set and evaluated.

### **Support programs**

A wide range of support programs are available to SMEs at European, national and local/regional level. Many of these include financial and technical support to help access public procurement markets. In addition to ongoing schemes, SMEs should be aware of the potential for R&D support in specific sectors via pre-commercial procurement (see box on innovation procurement). More limited forms of support such as information or networking sessions targeted specifically at SMEs wishing to access public procurement are also used in many European localities.

Example:

The region of Sardinia in Italy introduced a publicly financed scheme aimed at helping SMEs to acquire a quality certification in line with European standards (Article 29 of Regional law 8/2018). This was combined with the provision of specific information and guidance to SMEs on tendering for public contracts. In Ireland, a series of breakfast briefings targeting SMEs was jointly organized by the Office for Government Procurement and a trade association. At EU level, the European Innovation Council (EIC) Pilot offers coaching and mentoring services to SMEs, as well as funding for innovative business ideas.

## **Piloting and Forward-Commitment Procurement**

Piloting and Forward Commitment Procurement (FCP) encourage innovation and SME participation by de-risking procurement. Piloting involves a small-scale test of a new product, service or work – e.g., developing a



beta version of a public health app or a prototype of a new bus shelter which is tested by users. Pilot projects may be procured on a standalone basis or as a phase within a larger process such as innovation partnership. In Piloting, the contracting authority generally holds a separate competition for procurement on a commercial scale. FCP involves a public authority defining a need for solutions not currently available and defining an allocated budget to purchase a solution - should it match the pre-defined criteria. If a developed product or service meets the required performance and price, the public authority commits to purchase it. FCP encompasses techniques such as the use of market engagement and encouragement of networking/consortium formation by bidders.

#### **Examples:**

Piloting is widely used for new or complex public projects, and their design and implementation varies widely. An example of piloting as part of an innovation partnership to address urban flooding is the town of [Frederiksberg, Denmark](#).

An example of FCP is the development of a sustainable bed-washing solution for the [Erasmus Medical Centre](#) in Rotterdam, the Netherlands.

## Creating and Nurturing Municipal Innovation Zones

### increase SME Tender participation and success: Recommendations for Local Authorities

The following steps should be taken to increase SME participation and success in local authority procurement:

#### **Treat procurement as a strategic activity.**

Local authorities who have achieved success in increasing SME participation generally have policies in place which identify procurement as a strategic, rather than administrative activity. This means that it must contribute to broader organizational goals, such as economic development, innovation, sustainability and social value. When such policies are in place, it is less likely that procurement will be treated as strictly transactional and based on lowest price. Such policies may set explicit targets for the percent of contracts or spend awarded to SMEs.

#### **Engage with the (whole) market at an early stage.**

While the benefit of pre-procurement market engagement is recognized, most local authorities do not carry it out systematically. Compared to the procurement stage, there is much greater freedom to interact with potential bidders during pre-procurement, to truly understand the range of products and services which can meet the authority's needs and to decide on the best procedure and criteria to use. For SMEs, this can be a vital chance to make an impression and plan a tender strategy that reflects the authority's needs. Market engagement can also reduce the risk of procedures going wrong, due to inadequate market response or poorly drafted tender documents.

#### **Allow sufficient time for tenders, and streamline procedures**

Short tender periods tend to discriminate against smaller companies (who are less likely to have large, full-time tender teams in place) and result in poorer quality tenders. As a guideline, at least one week should be



allowed per 10 pages of tender material expected. Ask a neutral third party to check all tender documents and criteria to ensure it is clear and remove any unnecessary requirements or information which distract from the main purpose of the tender. Perform an 'SME sensitivity check' prior to publication.

## increase Procurement Participation and Success: Recommendations for SMEs

The following steps should be taken to increase SME participation and success in local authority procurement:

### **Invest in the entire procurement cycle**

Just as local authorities are encouraged to treat procurement as a strategic function, engagement with local authorities should begin at the earliest stage (even prior to a defined procurement need being identified), and continue through any market engagement exercise, the post-tender period (asking for a debriefing if unsuccessful) and the contract delivery stage (if successful). Decide on the most appropriate tone and technique for each stage, keeping in mind that traditional marketing techniques are often not appreciated by procurement officers.

### **Focus on platforms and procedures which are SME-friendly**

Tendering for public contracts is time and resource-intensive. To focus efforts on contract opportunities for which they have the greatest chance of success, SMEs should identify one or several platforms on which to establish a supplier profile and search for upcoming tenders. Keep an eye out for pre-procurement or market sounding activities and respond quickly and comprehensively to any requests for information. Look for notices which explicitly mention innovation, lots, best price-quality ratio or piloting as these may indicate the buyer will be particularly receptive to SME bids.

### **Specialize and/or partner with others**

Develop a specialization strategy which fits in with the needs of public authorities in the locality or region you wish to target. Rather than trying to establish competence across a broad range of activities, focus on those where your business can stand out from the crowd and offer a service tailored to public sector needs. Keep an open mind regarding subcontracting opportunities or the formation of partnerships, as these can offer an in-road to public contracts which would otherwise be inaccessible.



## 4. Conclusion

Cities face a growing number of challenges. Environmental, economic or social emerging issues call for new, innovative solutions. This increasing need will result in the development of a significant number of smart cities initiatives, creating new business opportunities for Mediterranean SMEs as cities recognize the benefits of diversifying their supply chain with the innovative drive, flexibility and creativity of SMEs.

By better understanding the experience and needs of SMEs, and the required knowledge, skills and processes that support the successful implementation of innovative products and services for the smart city market, it is possible to increase the potential of synergic collaboration.

Cities are already providing many support services for innovative & technological SMEs in the Mediterranean region. Based on the analysis of the cumulative and integrated results of the studies conducted during the SME4SMARTCITIES project, as well as continued engagement with cities, SMEs and analysts, this document identified and described the existing support services. It then explored the need for increased communication and for additional services to support increasing successful collaboration between SMEs and municipalities. Such functionalities & services will be provided by the network that the SME4SMARTCITIES project intends to create to support SMEs that offer sustainable innovative services and products, to engage with Mediterranean cities in order to successfully implement their offerings.

The document concluded with recommendations that both SMEs and Municipalities can directly implement to increase their collaboration and to implement sustainable solutions for the mutual benefit of the cities, the SMEs and of all people living, working, studying or visiting the cities.