European Commission

DIGITAL CITIES CHALLENGE

Assessment report for the city of Granada

Creativity and Wellness, core of the digital transformation in Granada

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Digital Cities Challenge

Assessment report for the city of Granada

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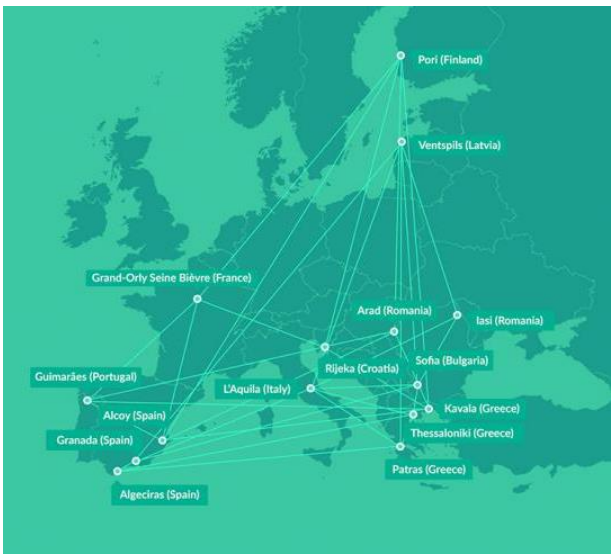
1. Introduction to the Digital Cities Challenge

According to the recent data, 72% of the EU's population lives in cities, towns and suburbs, making them the engines of the continent's economy. Cities generate 85% of Europe's GDP, they also face multiple, interconnected challenges, including energy and climate change, employment, migration, social inequality, and water, air and soil pollution.

However, through advanced digital technologies, Europe has the opportunity to re-invent the way we manage our cities' development and respond to the big societal challenges, such as efficient health management, cleaner environment, green mobility, and offering great-value jobs. Due to their high density, cities are put in a very good position to create innovative ecosystems made up of a wide array of different stakeholders from government, industry, finance, academia, communitarian organisations, social partners, etc. Cities have the capacity to make policies become reality.



In this context arises the **Digital Cities Challenge**, an initiative of the European Commission with the main purpose to support the cities in their path to digital transformation. DCC offers policy advice and support to 15 cities in Europe, namely **Alcoy, Algeciras** and **Granada** in Spain, **Arad** and **Iasi** in Romania, **L'Aquila** in Italy, **Kavala, Patras** and **Thessaloniki** in Greece, **Sofia** in Bulgaria, **Ventspils** in Latvia, **Grand-Orly Seine Bièvre** in France, **Pori** in Finland, **Rijeka** in Croatia, and **Guimarães** in Portugal. The support to be offered will speed up the digital transformation and the industrial modernisation of cities in order for them to take full advantage of the 4th industrial revolution.

This initiative draws inspiration on the recommendations set out in the "Blueprint for cities as launch pads for digital transformation". In addition, it will reinforce the networking among model

cities, facilitate their participation in on-going European initiatives in similar policy fields, strengthen stakeholder collaboration, cross-regional partnerships and stimulate investments.

The selected Digital Cities receive support in the form of field advisory services to be provided by a group of high level experts and peer reviewers, and offer the possibility for city representatives to participate in a series of capacity building and networking seminars. These activities take place in four Academy seminars during which cities share practices, take advantage of peer to peer learning and work together and in thematic groups on the steps of their transformation trajectory.

This document has been developed in the framework of the field advisory services being delivered in the city of Granada. It represents the main output of the first step of the digital transformation strategy: setting the digital vision and ambition for digital transformation. The assessment report has been developed by the Digital City team on the basis of:

- The results of the Self-Assessment Tool and collection of Key Performance Indicators at the city level which took place between March 15th and May 15th 2018. A total of 20 valid replies were collected through the SAT.
- A literature review of key documents provided by the local leadership team, including reports, policy documents and project plans.
- An assessment visit which took place from the 21st and 23rd of March.
- A vision an ambition workshop which took place on the 21st of April.
- Strategy workshops took place on the 3rd and 4th July and 5th of October.

This document represents the key input to the work to be performed during the forthcoming phases of the digital transformation trajectory (i.e. definition of the city strategy and roadmap).

2. Key sectors of the local economy and DCC focus

Currently, the most relevant and ingrained sectors in the city of Granada are both tourism and culture. In this respect, as a contrasted fact, Granada has an extensive artistic-monumental, cultural and ethnological heritage. Actually, the Alhambra and its surroundings which is the key and most valued asset of the city, is the most visited heritage site in Spain and one of the best known sites worldwide. Additionally, Granada has a prominent ski resort and therefore is an attractive and well-known place for sports tourism in Europe. Such strong assets together with a good weather and the necessary business environment make Granada one of the leading cultural and tourist cities in Spain. Therefore, as both are deep-rooted industries in the city, it is clear that tourism and culture are the competitive advantage of Granada today and should be two key elements driving the digital transformation and contributing to the future economic leap forward of the city. In fact, they are two of the main driving forces of the DCC strategy in Granada.

Quite the opposite, the industrial sector in Granada is not very relevant as it represents only 3,6% of the total number of enterprises (in the region it is 7%), and 6% of total employment (11% in the region). Similarly, the construction sector is less significant than in the rest of the region.

On the other side, education and health are two areas where Granada is strong in comparison with the rest of the region (14% and 12% respectively in the city versus 6% and 6% in the region). In fact, both health and life sciences have high impact in the city given that Granada hosts the PTS (Health Technology Park) which is the most important business and science pole in health & life sciences in the whole region. In this respect, while education can strongly contribute to the progress and development of all key sectors in the city, health and life sciences should be main advanced economic sector in Granada. Likewise tourism and culture, both health and life sciences should be powerful forces paving the way to the digital transformation of the city. Actually, they are part of the target industry of Wellness and crucial element of the DCC strategy.

Finally, ICT sector is also a key factor in the city as it represents almost double in the local economy than it represents at regional level. It is a key sector horizontally impacting the whole

economy and crucial in the digital transformation of the city. We can say it is a key enabling technology motivating and supporting the digital change.

Once the local economy has been analysed the conclusion is that the **key sectors in Granada are Creativity (including Tourism, Culture and the Creative Industries), Wellness (consisting of Health and Life Sciences) and ICT as the key driver for digitalisation.**

3. Digital maturity level of the city: outcomes of the Self-Assessment Tool and Key Performance Indicators

3.1. Outcomes of the Self Assessment Tool

The main stakeholders of the city participated in the assessment exercise to determine the digital maturity level of Granada and to identify the starting points for discussion on how to develop a digital transformation strategy. 20 people completed the Self Assessment Tool (SAT) that focuses on the role of cities as enablers of industrial transformation through digital technologies and solutions in the economy.

The key findings drawn from the self-assessment tool can be summarised as follows:

1. In general terms, **Granada is on the right way to digitally transform the city** as most of the sub-dimensions are successfully evolving. This is an appreciation that was also noted during the workshops organised in the city where all stakeholders considered that Granada has the right conditions to achieve an effective digital transformation of the city.
2. Stakeholders highlight in the SAT that there is a **strong need to identify and share a common vision on digital development** as a clear starting point for the city. In this respect, during the assessment meetings and the vision workshop, stakeholders clearly established and shared such common vision. The newly established shared vision developed as part of the DCC process will provide the basis for the digital transformation of Granada.
3. **There is very little open data in the city**. A third finding drawn from the SAT is one related to Open Data, as most stakeholders consider there is little to no open data in the city. This fact was also confirmed during the workshops, and additionally a complementary observation was made that whenever good data is available the real usage from businesses and citizens is very limited.

3.2. Key Performance Indicators

In addition to the SAT, the DCC team analysed a number of key performance indicators in order to complement the assessment of the digital maturity of Granada. One of the main outcomes drawn from the analysis of the key performance indicators was the identification of the main drivers for the digital transformation, which are identified in the city of Granada as: good digital infrastructure, satisfactory level of digital education, in addition to adequate level of digital support.

On the other hand, the main obstacles for the digital transition of the city are: low level of digitisation in some economic sectors and most of SMEs, the ecosystem of digital entrepreneurship is still under development, low level of public and private financing, lack of human capital in the digital domain in traditional sectors and poor level of open data.

Overall, KPIs for which the city appears to be a frontrunner are clearly identified for the majority of the analysed dimensions, namely:

- Digital infrastructure (i.e. % of households with broadband internet at home, % of enterprises with broadband internet at home, % of households with internet at home, Average speed of internet Mbps, % of people using mobile internet to go online, and % of city covered by 4G).
- Digital education (i.e. % of people who bought or ordered goods or services over the internet in past 12 months and % of ICT graduates employed in the city over the last 5 years).
- Attraction of IT talent (i.e. number of employees in digital companies).
- Competencies (i.e. % of companies with internet website).
- Ecosystem collaboration (i.e. number of ICT clusters and number of ICT companies joined as cluster member in any cluster organised/formed in the city).
- Innovation lab & accelerators (i.e. number of innovations labs / accelerators).
- Shared vision (i.e. availability of digital strategy).

On the other side, KPIs for which the city appears to be lagging behind are:

- Open data (i.e. number of cases of digital companies using open data to develop a new service or to support their business operation and number of cases of non-digital companies using open data to develop a new service or to support their business operation).

- Private finance (i.e. number of digital start-ups receiving a loan in last 12 months, number of digital start-ups received venture capital in last 12 months and availability of business angels for digital start-ups).
- Coordination (i.e. availability of clear executive responsible for digital development plan).

4. The local digital ecosystem: leadership and governance

The main outcome of the complete analysis regarding the leadership and governance aspects is that **Granada needs a strong institutional leadership**. In this respect, there are some strong points to be underlined:

- Stakeholders highlighted in the SAT that there was a strong need to identify and share a common vision on digital development. In this respect, during the assessment meetings and the vision workshop, stakeholders clearly established and shared such common vision (see Section 2 Mission and vision statements).
- The engagement of the city leaders with DCC and the digital transformation of Granada is a fact that the technical team has confirmed during the different activities of DCC.
- There is also a strong commitment from the rest of the stakeholders (digital ecosystem) with the DCC project. All participants have expressed their interest and willing to move the city forward in terms of digitisation. The City team can ascertain that the community is fully engaged in the process.
- The City hall has already identified some initial funds to launch some initiatives to be identified in DCC. Such funds come from some digital projects headed by the City hall such as EDUSI (sustainable and integrated urban development strategy).
- There are well skilled people in the City hall to lead the digital transformation of Granada.

On the other side, there are some key weaknesses to be stressed as well:

- There is a lack of collaboration culture in the city that should be solved in the short term.
- It is usual that some initiatives stop at political level, so getting the interest and compromise from the top political layer is a must from the very beginning of the whole process.
- There is a lack of a well-defined governance model to be applied in the city. Such model should take into account all stakeholders as part of the process.

5. The use of digital solutions by local companies

There is unanimity among all stakeholders in pointing out the need for infrastructures and services to support the incubation of digital businesses.

In this respect, the analysis carried out detects that **local businesses in Granada need a digital push.**

The main barriers for the traditional sectors in Granada are those related to cultural aspects. As already elaborated, almost every business in the city but primarily those belonging to the traditional sectors do not support and share neither a collaborative culture nor a digital culture. Consequently, any process aiming at digitally transforming the city should set its sights on inspiring these sectors about the need and advantages of such digital transition. Secondly, specialised support and active accompaniment services will be necessary for the required digital transformation.

So far, they are probably both Health and Biotechnology the two specific sectors that are the most successful ones in facing the digital challenge in Granada. Their main advantages are that they have an active innovation ecosystem supporting them, as well as there is a strong stimulation of the entrepreneurship spirit within the industry.

On the other side, the economic areas with the greatest potential in the city are the cultural sector and creative industries, but they are both still very far behind in the digital challenge.

All participant stakeholders in the DCC process agree on the main strong points in Granada to tackle the digital transformation. In this respect, the three core pillars with which the city of Granada should help the private sector in the digital challenge, are (1) the University of Granada (especially the School of Computer and Telecommunications Engineering), (2) the Health Technology Park of Granada and (3) the cluster OnGranada including the main technology-based companies. The main reason is that such three components are the most successful ones in pushing the digital transition to date.

In order to address the main challenges companies are facing when digitalising, the measures to be established should aim at:

- Promoting, incentivising and giving prestige to digital entrepreneurship as it is one of the weak points in Granada. Digital entrepreneurs can be a great facilitator for a successful digital transformation in the city.
- Investing in infrastructure and digitalisation of internal processes as both are key issues to improve the competitiveness of enterprises. Businesses play a crucial role in the digitisation of Granada.

In summary, some challenges that local companies in Granada are facing are related to:

- The need of improving the digital/technological capacities of companies, mainly small businesses. Access to very specialised personnel is still limited.
- The development of physical space for high-tech companies.
- The lack of digital/general ambition in local businesses.
- The need to create and develop new companies, mainly tech companies to strengthen the local business ecosystem.
- Enhancing the communication networks to leverage the new technologies (IoT, Big data…) for the benefit of businesses/citizens.

In this context, there is a clear opportunity for digital solutions to support local companies in overcoming some of their challenges. Digital solutions can help companies managing talent, developing successful initiatives, improving collaboration, and also benefiting citizens, etc.

6. Community engaged in digital transformation

There is an emerging digital community in Granada that needs to grow and consolidate the digital message and get promising results to reach the whole society. Or in other words, we could say that **Granada has a committed kernel on which to grow the digital community: University, PTS and OnGranada**.

The first pillar of the digital community in the city is OnGranada while the University of Granada is a key stakeholder to facilitate the digitalisation of the city. It is an internationally prestigious centre. They provide critical basic knowledge on which to extend the digital transformation in Granada. But, so far the university is proposing insufficient collaboration with businesses to provide the "specialists" that industry demands.

The third column is PTS or Health Technology Park which is a success story on which the digital transformation should grow.

Nevertheless, there are some other key points to be highlighted:

- Granada should improve the collaboration processes between digital and non-digital companies. This is a key issue as the traditional sectors in Granada still play a very important role. Digital sector should support the digitalisation of non-digital companies.
- There is a lack of dynamism in the business community and the city in general. This weak point is also related to the deficient digital and collaborative culture. The driver role of an active community is therefore crucial.
- The communication of actions/projects should be improved as citizenship in general and the business community in particular do not know or appreciate the main results of existing actions.
- The metropolitan area is a plus (0,5 Million people) and therefore should be part of the digital community and of course also part of the digital transformation of the city.

The Digital community could be organised and grow out of the existing Digital Innovation Hub at the OnGranada cluster. There is a core already, the DIH, so it should be expanded as the best way to reinforce and promote the digital community in Granada.

7. The state of local digital and physical infrastructure

The analysis of the digital maturity of Granada reflects that the city has an initial digital infrastructure favourable to the digital challenge that we can consider the strong points in terms of broadband, 4G coverage, Internet penetration in homes and businesses. But it is not the case with respect to free WiFi access, or the wide spread of sensors that can be considered as the main weak points of the digital infrastructure.

Concerning the points for improvement to the current digital infrastructure, specific infrastructure is necessary to support the creation of new digital companies, as well as support and accompaniment to the digital transformation of traditional sectors.

Granada requires a programme that offers answers to social challenges of considerable scale and relevance. In order to get it, the city could consider “Calls” to find solutions that respond to these challenges, together with the leadership of digital transformation projects through the creation of public-private consortiums.

The enormous amount and quality of cultural and tourist heritage should be the main lever that drives the digitalisation of the city.

Digital Transformation goes far beyond simply incorporating new technologies. To lead it with success it is vital to understand that businesses’ strategy should be the driver of change.

Through innovative and experience-based programmes, the community should help to understand the impact of Digital Transformation in each sector’s value chain, as well as to visualise the potential for each company while providing the right mindset and tools needed to embrace digitalisation.

As a brief summary, digital infrastructure in Granada is good but should continue progressing in the future. Also, initiatives aimed at developing the best access to specialised communication networks should be launched. The development of narrowband and 5G are already planned in the calendar for years 2020-21. Last but not least, there is a need to create a catalogue of available space for high-tech companies.

8. Digital solutions enabling the modernisation of business environment

Granada has an outstanding partnership around the cluster OnGranada.

The private sector in Granada has made determined and decisive progress towards achieving its ambition for digitalisation through the OnGranada Tech City initiative. As already detailed, OnGranada Tech City is the brand that represents the "Associación Cluster Granada Plaza Tecnológica and Biotecnológica". It is an initiative of the CGE - Confederación Granadina de Empresarios aiming at creating and nurturing a local ecosystem based on excellence and innovation.

The digital ecosystem demonstrates the ambition of Granada to become an internationally recognised city in the fields of Health and Biotechnology in particular and ICT in general.

We can conclude that the public administration in Granada should improve both (1) the business support services and (2) the electronic administration services. In this respect, (1) It should propose new and better business support services because local companies need specialised support from experts to digitally transform. And (2) it should improve the electronic administration services as they are still far from taking full advantage from being digital, and additionally because administration really digital services can leverage businesses and citizens transforming to digital.

The Health Technology Park is one of the success stories of the active and fruitful support from the public domain to the private sector as the park is a public-private initiative. The Health Technology Park is one of the main health technology poles in Spain.

The sectors of tourism, culture and creative industries, along with health and biotech, are those that have the greatest potential to find and apply technological solutions that would promote a more favourable environment to create and develop new businesses in the digital economy.

Concerning public measures to further promote the creation of a friendlier business environment, the city should focus on those tackling the next points:

- There is no real electronic administration. Long way for improvement.

- Open data is a critical issue in the city.
- Citizens should have appropriate access to better organised information.
- Some actions/initiatives already developed in other cities could be adapted and implemented.
- The city should work in short term specific projects.
- Granada could benefit from the impulse of Fiware in Andalusia linking the city to the project.

In this context, digital solutions that could be adopted to further promote the creation of a friendlier business environment are related to the areas, including **open data, digitalisation of business processes, cybersecurity, big data, data mining and data analysis, eHealth, and Digital Innovation Hubs.**

9. Data-driven innovation

One of the main digital solutions enabling the digital business environment is Open data. Public data managed by the city of Granada can be a great input for local innovation and business digitisation. In fact, local companies are eager to make use of this open data whenever the city makes it accessible in the right format. So, the city of Granada is in a good position to benefit from this digital framework but is still far from doing it.

Granada can collect and open a lot of data related to **traffic** (one of the main problems of the city today), but there are also high opportunities to use **environmental data** which is being collected in several points across the city. Such traffic data enriched with relevant and useful environmental data could help if properly addressed to boost local ICT-based companies and new innovative solutions. Improving the city itself and bring benefits to the citizens as the main users is most likely to be possible through open data approach.

However, in this respect there is a long way in front of the city as Granada has not developed the right measures yet.

Granada must develop the Open data concept in order to benefit businesses and citizens.

So far, there is insufficient open data both for businesses and citizens. Therefore, Granada should analyse both the potential offer and the existing demand in order to characterise a good program to open the right necessary data. In addition to this, most available information or open data is not provided in a suitable format for a correct and easy exploitation.

The city should improve the openness of the existing data, and then to extend the open data concept to other sources of public and private information. A number of the following concrete measures could be taken, such as analysing both the potential offer and the existing demand, increasing open data sets openly available, collaborating with the university to train specialised professionals, collaborating with the Digital Innovation Hub to increase awareness, promoting the creation of new businesses, and exploiting interoperability and integration.

10. Skills and entrepreneurial culture

Granada has great potential to develop a prosperous digital economy which could equally touch businesses and citizens, and therefore providing wealth to the whole community. In other words, Granada could be a powerful "technology isle" as there are nice roots: prestigious university (powerful in the digital environment), digital (skills, broadband networks…) and non-digital (sea port, airport…) infrastructures, very relevant sectors to tractor the city (tourism, culture, health…).

Having said this, it is important to emphasise that **Granada is not correctly exploiting its real potential in terms of digital competencies and technology-based businesses creation**.

Granada has a high digital skills capital as the University of Granada is an excellent contributor (world class university in digital skills), but there is a lack of highly specialised professionals, and this gap is being covered by the companies themselves.

Additionally, it should be noted that companies belonging to non-ICT sectors are not hiring digital professionals so most of the digital profiles have to leave the city as the demand is still poor.

In particular, concerning the skills and entrepreneurial culture, the city should improve in some specific areas:

- Improving the digital literacy of citizens in general to extend both the digital culture and the supply and demand of digital services and skills.
- Enhancing business-oriented capacities of the workforce (better practical programmes…).
- Promoting a cultural change in terms of collaboration mainly between industry and knowledge, and between large companies and SMEs.
- Facilitating not only the development but also the exploitation of R&D projects.
- Supporting the creation of start-ups to slow down brain drain.
- Collaborating with large tractor companies such as R&D centre of Telefonica and its upcoming Open Future accelerator.

11. Digital transformation SWOT analysis

	Strenghts	Weaknesses
Infrastructure	> Good level in companies both public and private > Biotech, e-health and creative industries	> Training and lack of friendliness and accessibility > Structured and organised space for high-tech companies
Access to data	> Spatial data infrastructure > Willingness to improve > Huge amount of data	> Difficult to use and exploit > Insufficient communication to users > Poor integration and transmission of data
Digital skillset	> The university is well positioned internationally in several digital skills > Sound digital sector demanding digitally skilled professionals	> Awareness and training of citizens > Insufficient really specialised workers able to cover business demand
Companies' digital competencies	> Good average level > There are few top ones to lead the process > Creative industries and Wellness	> Very specific and advanced technologies such as cybersecurity, cloud computing, etc.
Community	> Common strategy and vision but not implemented > Real interest > Excelent kernel: UGR, OnGranada, PTS…	> Lack of clear and measurable action plan > Lack of leadership > Lack of colaboration culture
Finance	> Public mechanisms at regional and national level > Existing projects (edusi…)	> Weak private resources > Unawareness of opportunities
Support services	> Many support services > Complementary resources	> Common vision > Not single entry point > Unawareness of services
Governance & leadership	> Clear compromise at technical level > Engaged community/ecosystem > Funds to launch some initiatives > Skilled people to lead the process	> There is no leadership, dispersed responsibility. Lack of a well-defined governance model > Weak follow-up > Lack of clear vision

	Opportunities	Threats
Infrastructure	> Narrowband and 5G networks > Extending infrastructure for all > Catalogue of available space for high-tech companies	> Hi-tech companies going elsewhere > Decreasing business competitiveness
Access to data	> Increasing open data > Improving the exploitability of data > Increasing awareness > Adapting and implementing success stories	> Data not explotable > Data not exploited > Decreasing competitiveness > Loosing the Fiware opportunity in the city
Digital skillset	> Improving collaboration with market (businesses) > Increasing digital literacy of citizenship	> Lack of coordination knowledge providers with knowledge consumers > Brain drain > Unemployment rate
Companies' digital competencies	> Enhancing business-oriented capacities (better practical programmes…) > Development but also the exploitation of R&D projects > Upgrade local businesses	> Brain drain > Fast decline of local competitiveness > Unbalanced transformation
Community	> Promoting collaboration culture > Increasing knowledge transfer and exploitation of results	> Not all stakeholders in > Slow decision-making process > Disagreement
Finance	> Supporting the creation of start-ups > Facilitating the development but also the exploitation of R&D projects	> Slowing down the transformation > Unbalanced transformation
Support services	> Organisation and efficiency of resources > Synergies with other instruments	> Slow pace in start up creation or business development and grow
Governance & leadership	> Real city digital change > Optimisation of resources > Change for all	> Lack of demonstration effect > Inaction, delay > Lack of coordination

Appendix I: Table of abbreviations and definitions

Digital Cities Challenge (DCC)

The Digital Cities Challenge initiative, was launched by the European Commission in November 2017 and scheduled to run until August 2018. It helps cities (The Digital Cities, referred as DC) develop and implement digital policies that can transform day to day life for residents, businesses, workers, and entrepreneurs.

Digital City Teams (DCT)

Each participating Digital City has a Digital City Team which will be in charge of managing and coordinating the involvement of the city in the Challenge. Digital City teams will include a) the core team which consists of one Lead Expert, one Local Expert, one Support Consultant as well as Thematic Experts; and the b) the Digital City leadership team which is made up of representatives of the city (i.e. local elected officials, local public servants, and the designated project management team).

Digital Transformation Trajectory (DTT)

The Digital Transformation Trajectory refers to the evolutionary path a city follows while taking part in the initiative, from the preliminary assessment of the digital potential of the City, to the definition of the City's digital transformation strategy and roadmap.

Field Advisory Services (FAS)

Field Advisory Services are services provided by the Digital Cities Challenge to Cities throughout the duration of the initiative. The Field Advisory Services include the organisation of one assessment visit and a number of local workshops, which will gather local stakeholders involved in defining the digital transformation strategy of the City.

Key Performance Indicators (KPIs)

The objective of the KPIs is to collect data that can diagnose the current status in terms of digital maturity and measure the progress made by cities during and at the end of the Digital Cities Challenge initiative. The KPIs will facilitate the activities of the policy makers and stakeholders of cities when identifying and addressing the bottlenecks and obstacles of the

processes of digital transformation and industrial modernisation. They will also enable the right identification of the key success factors of the different initiatives and actions undertaken.

Self-Assessment Tool (SAT)

The objective of the SAT is to identify the starting points for discussion on how to (further) develop, reshape and improve the digital transformation strategies of European cities. It is an online-tool developed by the project with a set of questions and corresponding response options to be filled in collectively by a set of stakeholders such as industry representation, utility companies, education and research and financial institutions. The SAT covers eight key dimensions: Infrastructure, Open data, Digital skillset, Digital competencies of companies, Community, Finance, Support services, Governance and leadership.

Appendix II: Bibliography

1. DUSI Granada Strategy.
2. EG2020 Strategy Granada 2020. Haciendo humano lo urbano.
3. Granada Human Smart City (initiative of the Spanish Ministry of Energy, Tourism and Digital Agenda, ERDF).
4. Granada Smart City Strategic Plan 2018-2022.
5. Local Agenda 21.

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