



City Digital Transformation

Leveraging advanced digital technologies for growth and competitiveness at the local level



A step by step handbook for city digital transformation developed in the framework of the European Commission's Digital Cities Challenge

Contents

Foreword	01
Overview of the Digital Cities Challenge	02
Step 0 • Preparation	03
Step 1 • Digital vision & ambition	04
Step 2 • Strategy	05
Step 3 • Roadmap	06
Step 4 • Monitoring & evaluation	07
Conclusion	08

Foreword

According to recent data, 72% of the EU's population lives in cities, towns and suburbs, while generating 85% of its GDP. This makes cities the engines of the continent's economy. However, cities also face multiple, interconnected challenges, including energy and climate change, employment, migration, social inequality, and water, air and soil pollution.

Through advanced digital technologies, Europe has the opportunity to re-invent the way we manage our cities' development and respond to the key societal challenges, such as efficient health management, cleaner environment, green mobility, and offering great-value jobs. Due to their high density, cities are in an ideal 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.

The Digital Cities Challenges has been launched to help cities reap the benefits of advanced digital technologies, and drive growth and competitiveness. The work conducted alongside a selected group of EU cities has already begun yielding very positive results, which we hope to multiply and disseminate through channels such as this handbook.

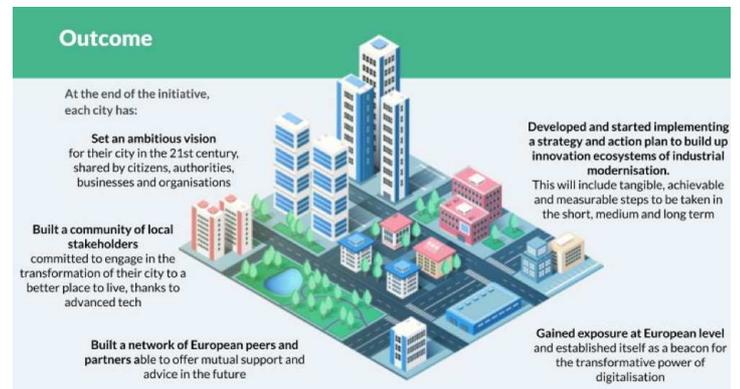
The Digital Cities Challenge is only the beginning of a continued European commitment to continue supporting our cities provide better and more sustainable living conditions for our citizens.

Overview of the Digital Cities Challenge

The Digital Cities Challenge, an initiative of the European Commission, helps to achieve sustainable economic growth in cities through the integration of advanced technologies. The initiative fosters complementarities and synergies between existing policies involving digital priorities (e.g. smart specialisation, digital city, e-government) and the newly planned policy actions supporting digital transformation.

The Digital Cities Challenge was designed as a tailored programme of coaching and facilitation to help European cities develop and implement digital policies that can transform day to day life for residents, businesses, workers, and entrepreneurs. Through hands-on first-class policy advice, coaching, networking and peer support, a group of cities in Europe benefitted from the opportunity to capture the benefits of digital transformation. Specific objectives of the initiative include:

- Helping European cities to improve the quality of life of their citizens
- Putting advanced technologies at the service of the citizens
- Transforming production and services to boost productivity and create growth
- Creating and attract talents and entrepreneurs
- Driving investments in critical infrastructures, technologies, open data.



When joining the project, cities embarked on a 'digital transformation trajectory' with the aim of identifying a clear strategy for digital transformation. This trajectory is broken down into five individual steps, each of which is presented in this handbook. Cities wishing to embark on a similar digital transformation journey can use this handbook as a reference point to organise and implement their digital transformation strategy development process.

The handbook contains useful tips and advice, as well as examples of real-life cases drawn from participating Digital Challenge Cities. The tools and guidelines associated to each step can be found on the project's website at: <https://www.digitallytransformyourregion.eu/>.

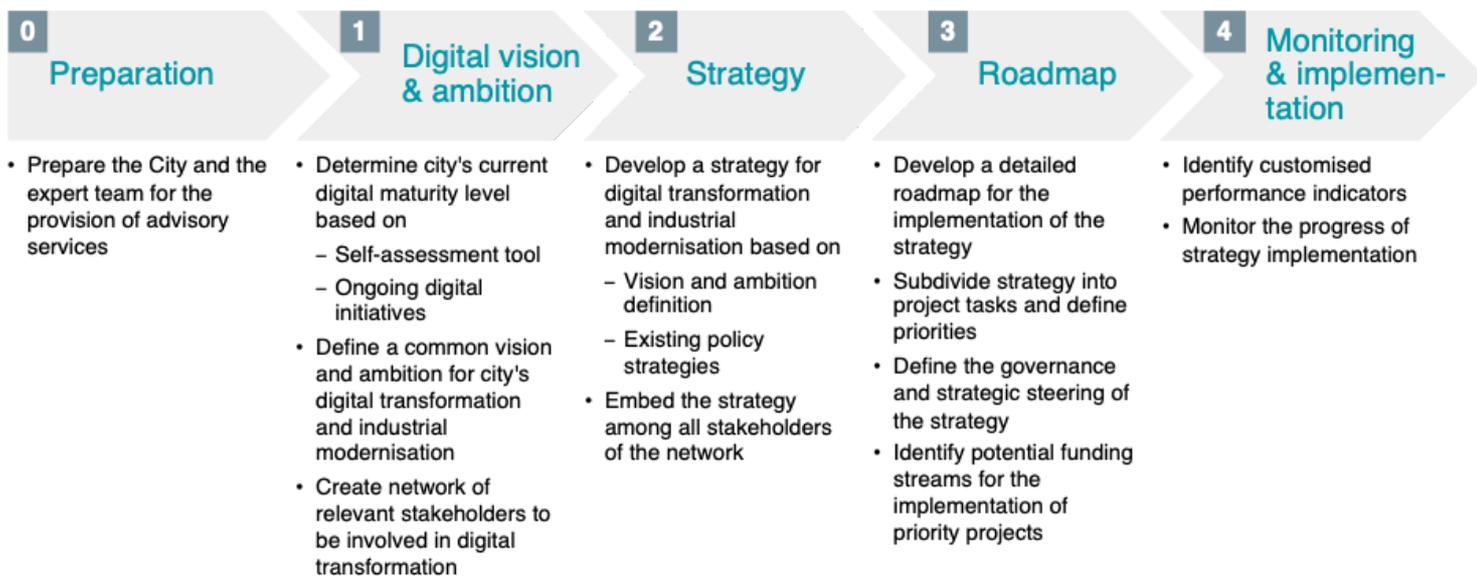


Each participating city appointed an internal Digital Challenge team in charge of overseeing the implementation of the digital transformation trajectory. The team was usually headed by a staff member from the digital or economic development unit, supported by a local elected representative. In many cases, cities also involved a representative from the private sector to join the management of the roll-out of the digital transformation trajectory.

DIGITAL
TRANSFORMATION

5 KEY STEPS

TRAJECTORY





Step 0: Preparation

The preparatory phase aims at setting the basis for the Digital Transformation Trajectory to take place within the city. It's meant to ensure the adequate management structure is in place, as well as to ensure the adequate level of buy-in from key stakeholders. During this stage, the city leadership team should become fully acquainted with the full Digital Transformation Methodology, as well as with the tools linked to it.

A full and detailed methodological handbook has been developed for cities joining the Digital Cities Challenge. It includes a suggested timeline, as well as detailed instructions for each of the steps implemented as part of the trajectory. The handbook is publicly available here: XXXX.

Key activities

- Setting up the Digital City leadership team responsible for overseeing the delivery of the entire Digital Transformation Process. This team should be relatively small, but representative of the main actors and units which will be eventually responsible for overseeing the development and implementation of the Strategy.
- Map key digital stakeholders in the city and begin engaging with them on the basis of the Digital Transformation Strategy Development Plan.
- Begin collection of background data and reports on the state of digital maturity in the city.

All systems go!



Your city will be ready to embark on the Digital Transformation Trajectory when:

- Clear political support has been identified and articulated for the city to go down the path of Digital Transformation
- A team has been appointed internally to oversee the design and implementation of the Digital Transformation Strategy
- You have become acquainted with the methodology and tools of the Digital Cities Challenge
- You have mapped key stakeholders in the eco-system and begun tailoring a pitch to bring them on board
- You have collected and identified sources of information and data on the state of the city's digital maturity



Ensuring early buy in for the digital transformation process from key stakeholder groups in your city is a key determinant for success. Ensure your digital leadership team takes the time to reach out to these stakeholders and clearly explain the purpose of the exercise. A clear pitch should be developed as well as a value proposition for each stakeholder group.

Our cities said

" The added value of the DCC for cities is the methodology, the network and of course the fact that they are able to formulate a strategy which previously had gone unformulated"

Step 1: Digital vision & ambition

During the first step you should diagnose the level of digital maturity of your city, allowing you to identify the starting points for discussion for the strategy development. This should lead you to collectively define a long-term digital transformation vision for your city, acting as your 'point on the horizon' as you embark on the digital transformation journey.

Key activities

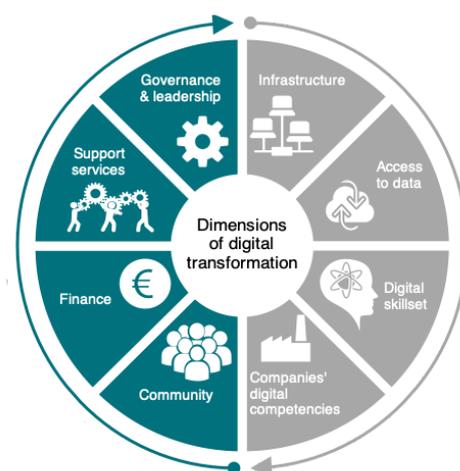
- Implement the Digital City Self Assessment Tool & collect information on Digital Key Performance Indicators
- Interact with key digital community stakeholders to collect their perceptions on existing bottlenecks and what direction the city should move in.
- Raise awareness on the Digital Transformation Strategy at the local level
- Develop a full assessment report presenting the insights gathered through the SAT and your interactions with the local stakeholder community.
- Collectively define a common vision and ambition statement for digital transformation i.e. the long term change you wish to achieve.

Using the Self Assessment Tool & Key Performance Indicators

The SAT is an online tool that will help you determine the digital maturity of your city and identify issues and points to address in your digital transformation strategy. The tool takes 20 minutes to complete.

The respondent group can include all stakeholders playing an important role in the digital ecosystem of the city e.g. utility companies, industry representation, education and research and the financial sector. Once the SAT implementation is complete, a self-generated report can be downloaded from the system which will include information on the level of digital maturity for 8 different dimensions. It also allows for cross-city comparison.

8 dimensions of the Self Assessment Tool



Examples of Digital Vision and Ambition statements (AS) from the Digital Cities Challenge

Sofia, AS1: "To enable most companies in the ICT business ecosystem of Sofia to engage in the digital transformation of the city by developing and offering innovative products and e-services"

Aquila, AS1: "Attracting external companies to design and develop products and services using existing digital infrastructures"

Thessaloniki, AS1: "Thessaloniki to support the digitalisation of companies focusing on activities that are critical to the local economy (e.g. tourism, ICT, wholesale and retail, transport and logistics)"



Step 2: Strategy

As part of step 2, you shall transform your digital transformation vision into a practical strategy ready for implementation. As part of this process, you will define operational objectives geared at reaching your high-level ambitions. This shall factor in existing policy strategies, leading you to develop a clear value proposition for your digital transformation strategy as compared to existing strategies in related fields (e.g. smart specialisation or economic development). The idea is to identify the 'niche' your digital transformation strategy is going to fill given its focus and objectives. The strategy shall be developed collectively, with the support of stakeholders who will be responsible for implementation.

Key activities

- Develop of two or three strategy scenarios (i.e. different alternatives) to be discussed and explored with local stakeholders. Each scenario is built on a different assumption or priority. For instance, in one scenario you may decide to focus primarily on building skills, while in an other, you may want to focus primarily on infrastructure. Priority sectors (e.g. ICT, transport, retail) may also be used to define different scenarios.
- Organise local workshops to present the different strategy scenarios and select one scenario to develop your strategy upon.
- Identify the operational objectives to support the implementation of your strategy (a maximum of 6). Operational objectives reflect the means to achieve ambition statements. They are called operational because they are of an actionable nature.
- Operational objectives should be selected on the basis of their potential for impact and their feasibility.

Should your strategy be linked to other existing local strategies?

Your digital transformation strategy should be explicitly linked to existing policy strategies of your city or region. For this reason, it is very important for you to clearly articulate how your digital transformation strategy differs from existing strategies, and what additional value it provides. You may want to explicitly link the digital transformation strategy to other strategies, by including activities foreseen elsewhere, into the digital transformation strategy. Overlapping is not necessarily a bad thing, as long as there this generates a leverage effect on both sides. For instance, if your region's Smart Specialisation Strategy includes a digital component, make sure you include it in your digital transformation strategy.

The newly developed DCC strategies are linked to other existing strategies but propose a different angle to digitalisation with a focus on the economic development and the cities' competitiveness.



Strategies should identify potential sources of funding for the different activities they plan to implement. As part of the DCC, a range of potential external funding sources have been identified which include: INTERREG programmes, the Smart Specialisation Platform, Urban Investment Advisory Support (URBIS), ERASMUS+, Horizon 2020, Marie Curie actions, Wifi4EU, European Investment Fund, European Fund for Strategic Investment, European Structural and Investment Funds, and Public-Private Partnerships.

Step 3: Roadmap

The Roadmap is the component of the digital transformation strategy that describes the practical implementation of the strategy, including priority activities and governance. One of the key elements in the process of defining the roadmap is the identification of priority activities to be implemented in order to fulfil strategic objectives. Priority activities represent the specific actions through which the strategy will be implemented. An activity can be described as a tangible and concrete action, which has a beginning and an end, accompanied by a specific objective and resources for its implementation. During this step, you are also encouraged to define the governance framework for the implementation of your strategy, as well as identify potential funding streams for your strategy.

Key tasks

- Develop a long-list of potential activities to be implemented as part of your strategy, in accordance with your operational objectives. This may include on-going activities, as well as new initiatives which are yet to be implemented. An activity can be described as a tangible and concrete action, which has a beginning and an end, accompanied by a specific objective and resources for its implementation
- Organise a workshop with your local stakeholder community in order to identify your action plan and investment priorities. Selection of activities can be done on the basis of: cost, potential for immediate implementation, feasibility, and relevance.
- Organise a workshop with your local stakeholder community in order to define the governance and steering scheme for your strategy.
- Define a pilot activity.

The Alcoi DCC city team during the Roadmap seminar



What should the strategy governance look like?

Your city is free to decide how the digital transformation is to be governed. We recommend the governance scheme include a definition of:

- The organization or body responsible for the general oversight of the strategy (i.e. who owns the strategy?)
- The composition of the strategy steering committee (e.g. representatives of the local digital community), role of the steering committee, frequency of meetings, and chairpersonship (i.e. who oversees the delivery of the strategy?)
- The existence of thematic working groups, and for what intent / purpose (i.e. who contributes to enriching the strategy on a rolling basis?)
- The operational team in charge of delivering activities or projects, monitoring results, reporting to the Steering Committee (i.e. who is responsible for the day to day implementation of the strategy and specific activities?)

DIGITAL STRATEGY GOVERNANCE



- Single institution, ad-hoc institution, ad-hoc body
- Identify resources for strategy management
- Composition of steering committee, role, rules and frequency of meetings
- Define decision making procedures
- Day to day management of implementation
- Reporting & monitoring
- Management of financial resources



Step 4: Monitoring & evaluation

The last and final step of the digital transformation trajectory is aimed at developing a monitoring and evaluation framework for your digital transformation strategy. This will allow you to measure the progress against targets linked to the implementation of your strategy. While you can establish the monitoring indicators at the end of your strategy development, it is recommended that you do so in parallel to the definition of the strategy itself. This will allow to ensure a higher degree of relevance of selected indicators and targets. It is recommended that you establish three levels of indicators:

- First level indicators are linked to your ambition statements, and should measure strategy outcomes (5 to 10 years)
- Second level indicators are linked to your operational objectives, and should measure intermediate outcomes (3-5 years)
- Third level indicators are linked to the activities, and should measure outputs (1- 3 years)

Key tasks

- Identify one or two monitoring indicators for each of the following elements of your strategy: ambition statements, operational objectives, and priority activities
- Define the monitoring and evaluation procedures and key responsibilities within the governance scheme
- Organise a first meeting of your governance and steering bodies
- Launch your pilot activity

What type of information is required to establish a robust monitoring framework?

Setting a target for Monitoring Indicators requires:

- Establishing a robust baseline reflecting the current situation
- Defining the breath of your ambitions e.g. do you want to double growth rates or simply increase them by 5%
- If data is not available to define the baseline at this stage, then you should identify the means through which you could develop the baseline at a later stage e.g.: collect data, conduct a study, conduct a survey, etc
- Establish a target which seems reasonable at this point in time. Targets can always be adjusted later.
- Targets should always be accompanied by a timeframe, e.g. supporting the creation of 200 innovative companies over the next 4 years.
- The timeframe for output related indicators should be shorter than for outcomes
- Outcomes should not be set to appear before 5-10 years.



For more information and access to DCC resources, visit the **DCC Digital Library**: <https://www.digitallytransformyourregion.eu/digital-library>

Conclusion

The DCC initiative included cities representing diverse ecosystems, with differing levels of digital maturity. This said, a number of cross-cutting lessons have emerged from the implementation of the Digital Cities Challenge, which may be of use to other cities wishing to embark on a similar journey. Through the DCC we have learned that:

- **There is a need to define correctly the role the local government will play in the city's digital transformation.** Cities should act as enablers of the digital transformation journey, making sure they leverage their available capacities and resources to ensure a collective mobilisation of the local digital ecosystem. Success factors for cities to act as enablers include an increased level of awareness of citizen and business needs and interests, and access to contacts with contacts and organisations who are committed to the digital transformation cause.
- **Correctly identify the potential synergies between your digital transformation strategy and other existing strategies.** This may be driven by the breaking down of silos across government departments, but also by including mutual activities supporting cross-fertilisation.
- **Design a strategy with short term implementation potential, but which remains relevant for longer-term ambitions.** This can be supported by appointing a coordinator with sufficient capacity during the process of strategy design, starting the design process with a digital maturity assessment, and treating the strategy as a living document. Long-term sustainability will also be undoubtedly supported by the use of a robust monitoring and evaluation framework, and the short term implementation of pilot actions or 'quick wins'.



The Digital Cities team and wave 2 cities at the final Academy Seminar