

The European Commission's
**INTELLIGENT CITIES
CHALLENGE**

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Thessaloniki: Intelligent City Transformation Overview

ICC Final Deliverable



Executive summary

Thessaloniki is Greece's second-largest city, home to the country's second-largest export and transit port, and the nearest European Union port to the Balkans and the Black Sea zone. Thessaloniki has the largest youth population of any city in Greece, thanks to its wealth of learning and academic institutions and vibrant nightlife. The city hosts approximately 150,000 students annually through four public academic institutions, several private colleges, and numerous vocational training colleges. Municipality of Thessaloniki (MoT) acknowledges the global challenges and the role of the cities to act proactively to mitigate the effects of climate crisis and implement robust approaches to address current and future challenges. The city has a strong commitment to become a resilient, climate-neutral city contributing thus to the achievement of the Agenda 2030 and the respective SDGs.

The participation in the ICC initiative contributes to city's vision to be a resilient city that relies on digital transformation, its human capital and institutions to boost economic growth and improve quality of life. To achieve the vision, the city designed and started the implementation of projects aiming to: 1) Boost eGovernment and digitisation of public services, 2) Support climate resilience and disaster management, 3) Enhance citizen participation, connectivity and community and 4) Provide innovative education and training for upskilling and reskilling. As the key priority of the ICC city team was the digitisation of Municipality's internal and external service delivery, two main projects have been completed during September 2022, resulting the acceleration of internal communication and citizens' and businesses' service provisioning. Moreover, they will reduce the need for citizens' movement into the Municipality's premises, which directly affects GHG emissions.

The city has also indirect benefits as ICC's knowledge transfer and capacity building mechanisms empower the city to financing, open data, innovation, sustainability and climate neutrality topics. As a result, the city was selected to participate in 100 Climate-Neutral and Smart Cities Mission.

For the next 3 years, through data-driven management, MoT will establish more responsible ways of facilitating, managing, and monitoring city services and providing innovative education and training for upskilling and reskilling. Becoming a truly climate-neutral city by 2030 requires significant investment in time and resources. It requires hard work from everyone who lives and works in the city. This vision reflects the values of the city and provides a roadmap to further guide the evolution of activities to address climate neutrality.

Mayor Foreword

The concept of Smart City is something more than the use of emerging technologies in urban environment: it is the city developing today to be able to serve the needs of tomorrow, the city that can offer quality of life and equal opportunities for citizens, the city that collaborates with stakeholders and generates knowledge and inspiration through interaction with other cities, either domestic or foreign. Smart City has an impact on every aspect of life for people acting in the modern urban center. We realise Smart City as a key pillar to achieve fundamental goals at a social, developmental and environmental level.

Thessaloniki's participation in ICC initiative is significant to support and implement city's strategy. We interact with other cities exchanging our knowledge and view about relating issues, while also receiving support as regards specific project implementation. During the period of Thessaloniki's involvement in ICC, we developed important tools and solutions about digitalisation of processes and services. Importantly, we contributed our expertise and ideas to help other cities to improve in this field.

My vision for Thessaloniki is to emerge as a "Smart City Paradigm" adopting solutions and expertise developed in our region. We start from local to reach global.

Konstantinos Zervas
Mayor of Thessaloniki Municipality

The city of Thessaloniki pursued an EU-supported transformation over four main stages, and this document details that journey by these sections

Overview to the city's journey and structure of this document



1 Preparation & assessment

5 months:
September 2020 – January 2021



2 Ambition & roadmap

3 months:
February 2021 – April 2021



3 Implementation

15 months
May 2021 – July 2022



4 Review & way forward

2 months
August 2022 – September 2022

*Reported as
one section*

Summary

A city overview was performed, and city's stronger and weaker points were identified. The overarching ICC city vision was defined along with the main ambitions. Thessaloniki's vision is to be a resilient city that relies on digital transformation, human capital, and institutions to boost economic growth and improve quality of life.

Thessaloniki's roadmap consists of 3 solutions and 8 initiatives, through which the city will achieve its ambitions to boost eGovernment and digitization of public services, support climate resilience and disaster management, enhance citizen participation, and provide innovative education and training for upskilling and reskilling.

The Municipality of Thessaloniki secured the funding for the implementation of five initiatives. Three of them (i.e. New ERP system Citizen information and service provision system and Improve my city project) have been implemented during the ICC implementation phase. The other two initiatives (i.e. Digital promotion and utilization of cultural heritage and Training to use the Municipality's Digital Services) will be implemented from October 2022 onwards.

The Municipality will evaluate the result of the completed projects and their contribution to the Digital Transformation of internal operations and service delivery.

Section

1

Thessaloniki: Preparation and assessment

ICC transformation

September 2020 to January
2021

Introduction


Thessaloniki is a midsize city situated in northern Greece, on Thermaikos Bay, part of the Aegean Sea. It is Greece's second-largest city, home to the country's second-largest export and transit port, and the nearest European Union port to the Balkans and the Black Sea zone. Thessaloniki has the largest youth population of any city in Greece, thanks to its wealth of learning and academic institutions and vibrant nightlife. The city hosts approximately 150,000 students annually through four public academic institutions, several private colleges, and numerous vocational training colleges.


The city of Thessaloniki is on the path of transformation into a smart and resilient city. Taking advantage of opportunities offered by the IBM Smarter Cities Challenge, the Rockefeller 100 Resilient Cities, the World Bank, the EU Horizon 2020 Program, and ICC's ancestor Digital Cities Challenge Thessaloniki shaped a strategy for an inclusive economy, resilient infrastructure, participatory governance, and open data.


Prior to ICC participation, the Municipality offered many digital services to citizens and businesses. However, the supply of the services was fragmented, as they have been developed sporadically and without the necessary interoperable features. Through the participation in ICC, the city aims to receive support to progress further in two main thematic areas; (1) citizen participation and digitisation of public administration, and (2) upskilling and reskilling. With the ICC's support, the city aims to design and implement pilot projects in these two areas following an inclusive and user-centric approach and to assess and evaluate the outcomes. The experience gained through this process and through the knowledge exchange with the other ICC core and mentor cities will accelerate the digital transformation and the transition to a smart and resilient city.

City needs: State of the city overview

Significance of insight to what we want to do on the ICC

 Of critical importance to ICC journey and we should be working to change

 Of importance to ICC journey, and we should act to change this along the journey as opportunity presents

 Contextually relevant, but not major point of attention in ICC and unlikely to be impacted on the journey

The state the City of Thessaloniki today

The Municipality already offers many digital services to citizens and businesses. As digital transformation is one of the main city's goals, the Municipality is preparing many proposals that will be submitted in currently open funding programs. In case of funding, these projects will develop a wide range of innovative smart city solutions to support the digitalisation of public services, circular economy, promotion of cultural heritage and sustainable urban mobility.

Thessaloniki's Open Mall is a flagship initiative aiming to create a city-wide public WiFi and IoT network that will support the provision of smart city services such as waste management, smart parking, smart benches, info kiosks, civil protection, earthquake forecast, etc. The Municipality promotes the city's cultural heritage by digitising cultural assets, creating a virtual museum and virtual tours at Municipal Art Gallery, establishing an educational platform, etc.

As the city hosts many universities, research centres, business associations, etc., it benefits from many projects that have been implemented or are in progress by the city's stakeholders. New initiatives from multinational companies accelerate digital transformation. CISCO and Pfizer have established the Digital Transformation & Digital Skills Center and Digital innovation Center, respectively.

Key insights from city performance analysis

Higher performance observed

- 1 Existence of a vibrant digital community
- 2 Skilled workforce and the digital competences of the local ICT companies.
- 3 The city has been selected by big international companies -> Digital Innovation Hub
- 4 The Municipality has a strong commitment in supporting digital transformation

Lower performance observed

- 1 Citizen participation
- 2 Lack of digital skills in the non-digital sector.
- 3 Lack of self funding and opportunities to upscale pilot projects

City Ecosystem

City ecosystem consists of:

- Governmental / Public Authorities: Municipality of Thessaloniki departments and directorates, the Region of Central Macedonia.
- Local Business Community / SMEs: Professionals and businesses active in the ICT sector.
- Academia / Research Institutions: Aristotle University of Thessaloniki, University of Macedonia, International Hellenic University, Center of Research and Technology Hellas (CERTH).
- Digital Accelerators: OK!Thess, CISCO Digital Transformation Acceleration Center
- Business associations: Association of Information Technology Companies of Northern Greece (SEPVE), Greek Exporters Association (SEVE,) etc.
- Citizen organisations: Municipal Volunteer groups (social policy, education, tourism, culture, environment)

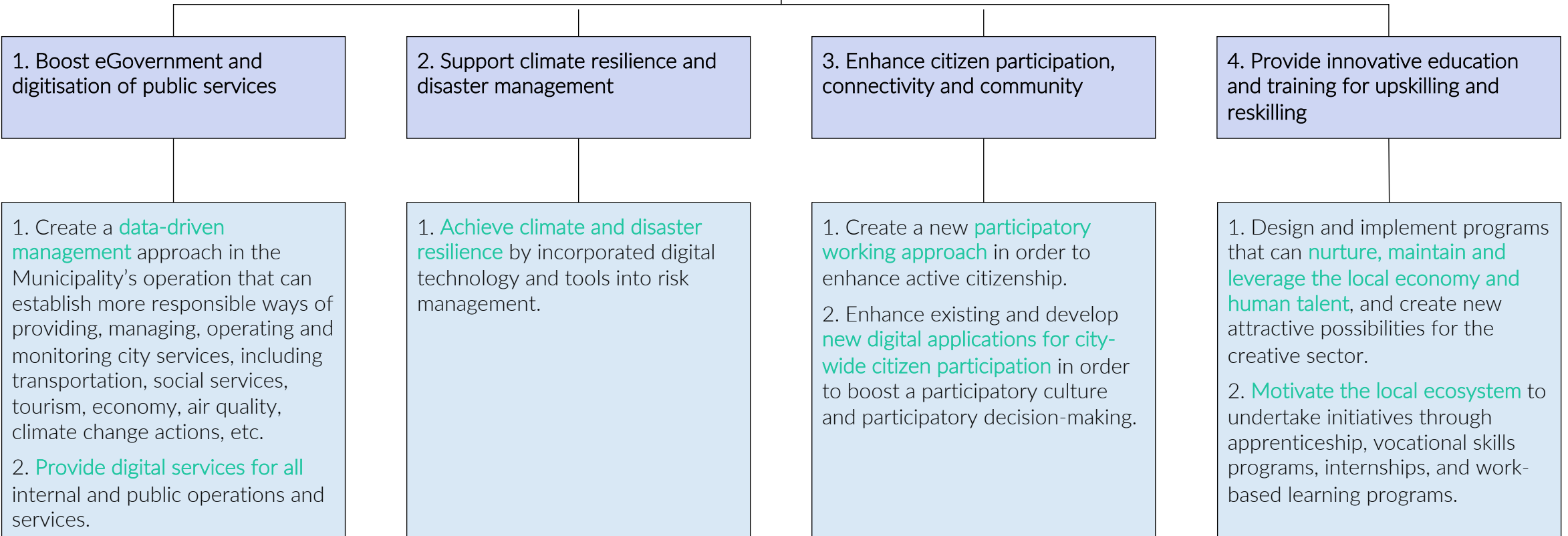
Each stakeholder group has a significant role in the city. The collaboration between the different parties exists in a non-formal way. The establishment of the collaboration process is on progress.

All the stakeholders agreed on the city vision that was resulted from the DCC initiative. The evaluation of their commitment to the ICC initiative is in progress.

The broader socioeconomic, business and technological environment of the city of Thessaloniki can act as the critical enabler for digital transformation. The city has most of the typical assets required for a major transformation, such as a skilled labour force, research and higher education institutions, a mature business environment as well as the necessary technical infrastructures. However, access to finance is not guaranteed.

ICC strategy: Vision and ambition statements

Thessaloniki turns into a resilient city which relies on digital transformation, its human capital and institutions to boost economic growth and improve quality of life.



City strategy: justification

The overarching vision of Thessaloniki is to be a resilient city that relies on digital transformation, its human capital and institutions to boost economic growth and improve quality of life. To achieve the vision, the city designed and started the implementation of projects aiming to:

- **Boost eGovernment and digitisation of public services.** Through data-driven management, Municipality will establish more responsible ways of providing, managing, operating and monitoring city services, including transportation, social services, tourism, economy, air quality, climate change actions, etc.
- **Support climate resilience and disaster management.** The main focus is on being well prepared and incorporating climate and disaster resilience using digital technology and tools into risk management.
- **Enhance citizen participation, connectivity and community.** The Municipality works to create a new participatory working approach in order to enhance active citizenship. The development of digital applications and the creation of a participatory culture will ensure participatory decision-making.
- **Provide innovative education and training for upskilling and reskilling.** The Municipality, in collaboration with local universities and innovation centers, will design and implement programs to nurture, maintain and leverage the local economy and human talent, and to create new attractive possibilities for the creative sector. Moreover, the Municipality will motivate local companies, academic institutions and social organisations to undertake similar initiatives through apprenticeship, vocational skills programs, internships, and work-based learning programs.

The key priority of the city's authorities and consequently of the ICC city team is the digitisation of Municipality's internal processes and public service delivery.

Section

2

Thessaloniki: Ambition and roadmap

ICC Transformation

February 2021 to May 2021












Rationale to road map

Thessaloniki's roadmap consists of 3 solutions and 8 initiatives, through which the city aims to achieve its ambitions to boost eGovernment and digitization of public services, support climate resilience and disaster management, enhance citizen participation, and provide innovative education and training for upskilling and reskilling.

The key factors that influenced the Roadmap were the following:













- The digitisation of Municipality's internal processes and public service delivery was the first priority of the city's authorities and consequently of the ICC city team.
- Priority was given to projects that could be immediately financed either by Municipality's budget or external (National or European) funds.
- The COVID-19 pandemic affected the project as the e-Gov department, which was responsible for running the ICC project, could not devote the required effort, as its personnel had to support all the departments in the remote working process. Therefore, it was challenging to engage the Municipality to plan the activities required from the ICC. Moreover, it was very difficult to motivate the city's ecosystem, as in Thessaloniki most organisations and companies were deeply affected by the pandemic.

Initiative charter – S1: Digital transformation of Municipality

Strategy	Stakeholders involved	Inputs, outputs, outcomes and impacts
<p>Description</p>  <p>The solution includes 3 initiatives:</p> <ol style="list-style-type: none"> 1. New ERP system: Complete digitalization of the Municipality's internal business processes. 2. Citizen information and service provision system: One-stop shop for the provision of municipal services digitally to citizens and businesses. 3. Digital promotion and utilization of cultural heritage: Digitalisation of the city's cultural assets using conventional, VR & AR technologies. 	<p>Solution lead: Municipality of Thessaloniki</p>  <hr/> <p>Solution working team: ICT Department and external contractor</p> 	<p>Source of funding & estimated cost</p>  <p>Initiative 1: 1.000.000 € / National funding through ESPA Initiative 2: 300.000 € / National funding through ESPA Initiative 4: 400.000 € / National funding through program "Antonis Tritsis"</p>
<p>Link to vision</p>  <p>Thessaloniki turns into a resilient city which relies on digital transformation, its human capital and institutions to boost economic growth and improve quality of life.</p>	<p>Contributors: Most of the Municipality's Departments. For initiative 3 departments related to culture.</p> 	<p>Solution maturity outputs</p>  <p>No of exchanged electronic documents. No of interconnected internal services. No of municipal employees with digital signature. No of datasets available on open data portal. No of municipal public services available online. No of registered users. No of citizens' and businesses' procedures completed online. No of municipal public services interoperable with the national government portal (gov.gr). No of digitised cultural assets. No of visitors in the cultural heritage portal.</p>
<p>Link to ambition statement</p>  <p>Boost eGovernment and digitisation of public services</p>	<p>Risks and mitigation</p>  <p>Initiative 1. Key risks: Resistance from the employees to change the way of working. Challenges: Delays in implementation, Failure to integrate existing data. Mitigating measures: Regular meetings with the employees, detailed technical specification and workplan. Initiative 2. Key risks: Not a user-friendly system, low public acceptance. Challenges: How to create a user-friendly system. Mitigating measures: Follow a user centric-platform design process Initiative 3. Key risks: Low public acceptance. Mitigating measures: Dissemination actions.</p>	<p>City performance outcomes and impacts</p>  <p>Increased availability and security of the online systems. Increase of Municipality's performance. Citizens Satisfaction from Municipality's Services. Business Satisfaction from Municipality's Services. GHG emissions reduction due to online service delivery for citizens and businesses. Economic benefit for businesses by saving time in issuing permits and transactions with the Municipality. Increase in citizens' and businesses' trust in the Municipality. New visitors in the city that are attracted by the cultural heritage portal.</p>
<p>Expected impact and timing</p>  <p>Speed internal communication, as well as citizens' and businesses' service, increase the visibility of cultural assets and reduce costs.</p> <p>Initiatives 1 and 2 will be available in October 2022. Initiative 3 in the end of 2023 or beginning 2024. All will start delivering impact a few months later.</p>		

Solution 1. Digital transformation of Municipality

Activity  Milestone 

	2021										2022									
	M3	M4	M5	M6	M7	M8	M9	M10	M11	M12	M1	M2	M3	M4	M5	M6	M7	M8	M9	M10
Initiative 1: New ERP system	Requirements Analysis and System Design 				Development - Parameterization - Installation 										Testing & Evaluation 		System Update 			
Initiative 2: Citizen information and service provision system	Requirements Analysis and System Design 				Development - Parameterization - Installation 										Testing & Evaluation 		System Update 			
	2023																			
	M1	M2	M3	M4	M5	M6	M7	M8	M9	M10	M11	M12								
Initiative 3: Digital promotion and utilization of cultural heritage	Requirements Analysis and System Design 			Development - Parameterization - Installation 						Testing & Evaluation 		System Update 								
	Digitalization of cultural assets						Upload of cultural assets to the platform													

Milestone 1: System requirements

Milestone 2: 1st version of the platform

Milestone 3: Set of actions to optimize the system and improve its performance.

Milestone 4: A fully functional platform

Initiative charter – S2: Citizen engagement and participation

Strategy

Description



The solution includes 2 initiatives:

1. Improve my city project (IMC): Improvement of the Municipality's platform for managing local issues, from reporting, to administration and analysis.
2. Citizen Participation Platform: Development of a digital infrastructure for the citizen participation that will support the creation of any kind of participatory process as strategic planning, urban planning, collaborative legislation, etc.

Link to vision



Thessaloniki turns into a resilient city which relies on digital transformation, its human capital and institutions to boost economic growth and improve quality of life.

Link to ambition statement



Enhance citizen participation, connectivity and community

Expected impact and timing



Boost citizen participation by encouraging citizens to participate in improving the city. Support city's administration data-driven decision making. Establish participatory processes for strategic planning and co-creation of urban interventions.

Initiatives 1 will be available in October 2022. Initiative 2 will be implemented in the future.

Stakeholders involved

Solution lead:

Municipality of Thessaloniki



Solution working team:

ICT Department and external contractor (Infalia S.A.)



Contributors:

All the Municipality's departments that deal with citizens' requests on local issues



Risks and mitigation



Initiative 1. The IMC platform is already used, so no risks are expected.
Main challenge: Selection of the proper data analytics methods and techniques.

Initiative 2. Key risks: Due to heavy workload, the ICT department will not finish the design of the required platform. Other risks are the lack of interest from citizens to participate and the lack of commitment from the Municipality Authorities.

Inputs, outputs, outcomes and impacts

Source of funding and estimated cost



Initiative 1: 10.000 € / Municipality own budget.
Initiative 2: 20.000 € / No funding yet.

Solution maturity outputs



No of registered users.
No of issues posted per month.
Percentage of solved issues.
No of participatory initiatives.
No of users participating in the participatory processes.
No of user comments.
No of user votes.
No of users participating in the co-creation projects.

City performance outcomes and impacts



Citizens Satisfaction from Municipality's Services.
Business Satisfaction from Municipality's Services.
Average time for municipal services to resolve an issue.
Percentage of the projects implemented using a participatory approach compared to the total number of municipal projects.
Increase of Municipality's performance.
Increase in citizens' and businesses' trust in the Municipality.

Solution 2. Citizen engagement and participation

Activity

★ Milestone

	2022												
	M1	M2	M3	M4	M5	M6	M7	M8	M9	M10	M11	M12	
Improve my city project			Improvements' Definition		★	Development of new features		★	Testing & Evaluation	★	System Update	★	
Initiative 2: Citizen Participation Platform	Municipality's ICT department hasn't finished yet the design of the required platform.												








Milestone 1: System requirements

Milestone 2: 1st version of the platform

Milestone 3: Set of actions to optimize the system and improve its performance.

Milestone 4: A fully functional Improve My City Platform

Initiative charter – S3: Upskilling and Reskilling Hub for a Digital World

Strategy	Stakeholders involved	Inputs, outputs, outcomes and impacts
<p>Description</p>  <p>The solution includes 3 initiatives:</p> <ol style="list-style-type: none"> 1. Training to use the Municipality's Digital Services: Training for older citizens on how to use the municipal digital services 2. Digital skills for Humanitarian Studies graduates 3. Upskilling for Digital Transformation: Help STEM graduates to acquire advanced digital skills in data-intensive technologies, such as artificial intelligence (AI), big data analytics, machine learning, etc. 	<p>Solution lead: Municipality of Thessaloniki</p>  <hr/> <p>Solution working team: Digital Transformation and Digital Skills Center</p> 	<p>Source of funding and estimated cost</p>  <p>Initiative 1: No estimated cost yet / Municipality own budget Initiative 2 and 3: No estimated cost yet</p>
<p>Link to vision</p>  <p>Thessaloniki turns into a resilient city which relies on digital transformation, its human capital and institutions to boost economic growth and improve quality of life.</p>	<p>Contributors: Career Services Offices of the city's universities, Open Technologies Organisation Greece, Digital Transformation and Digital Skills Center (DT&S), Greek Exporters Association</p> 	<p>Solution maturity outputs</p>  <p>The planning of these initiatives has not progressed, and thus, the relevant indicators have not been defined.</p>
<p>Link to ambition statement</p>  <p>Provide innovative education and training for upskilling and reskilling.</p>	<p>Risks and mitigation</p>  <p>Initiative 1. Key risks: Lack of interest from older citizens to participate, Mitigating measure: Dissemination activities. Initiative 2 and 3 risks: Lack of interest from university graduates to participate. Lack of commitment of the contributors in the design and implementation of the training programs.</p>	<p>City performance outcomes and impacts</p>  <p>The planning of these initiatives has not progressed, and thus, the relevant indicators have not been defined.</p>
<p>Expected impact and timing</p>  <p>1: Increase the use of city's digital services. The acquired digital skills will be used in everyday life. 2+3: Supporting people in their employability and allowing city's businesses to gain skilled workers, so that both can take advantage of the opportunities afforded by digitalization Initiatives 1 will be implemented in Q4 2022 after the completion of Citizen information and service provision system (S1). Initiatives 2 and 3 are pending.</p>		

Key Performance indicators - overview

Solution	Activities – Inputs and actions	Solution Maturity - outputs	City performance – outcomes and impacts
Digital transformation of Municipality	New ERP system	No of exchanged electronic documents. No of interconnected internal services. No of municipal employees with digital signature. No of datasets available on open data portal. No of municipal public services that are interoperable with the national government portal (gov.gr).	Increased availability and security of the online systems. Increase in citizens' and businesses' trust in the Municipality. Increase of Municipality's performance. New solutions based on open datasets.
	Citizen information and service provision system	No of municipal public services available online. No of registered users. No of citizens' and businesses' procedures completed online.	Citizens Satisfaction from Municipality Services. Business Satisfaction from Municipality Services. GHG emissions reduction due to online service delivery for citizens and businesses. Economic benefit for businesses by saving time in issuing permits and transactions with the Municipality. Increase in citizens' and businesses' trust in the Municipality. Increase of Municipality's performance.
	Digital promotion and utilization of cultural heritage	No of cultural organisations and sites available in the platform. No of digitised cultural assets. No of visitors in the cultural heritage portal.	New visitors in the cultural venues and sites that are attracted by the cultural heritage portal. New visitors in the city that are attracted by the cultural heritage portal.

Key Performance indicators - overview

Solution	Activities – Inputs and actions	Solution Maturity - outputs	City performance – outcomes and impacts
Citizen engagement and participation	Improve my city project (IMC)	No of registered users. No of issues posted per month. Percentage of solved issues.	Citizens Satisfaction from Municipality's Services. Business Satisfaction from Municipality's Services. Average time for municipal services to resolve an issue. Increase of Municipality's performance. Increase in citizens' and businesses' trust in the Municipality.
	Citizen Participation Platform	No of participatory initiatives. No of users participating in the participatory processes. No of user comments. No of user votes. No of users participating in the co-creation projects.	Percentage of the projects implemented using a participatory approach compared to the total number of municipal projects. Increase in citizens' and businesses' trust in the Municipality.

Key Performance indicators - Cross cutting indicators

Cross cutting indicators

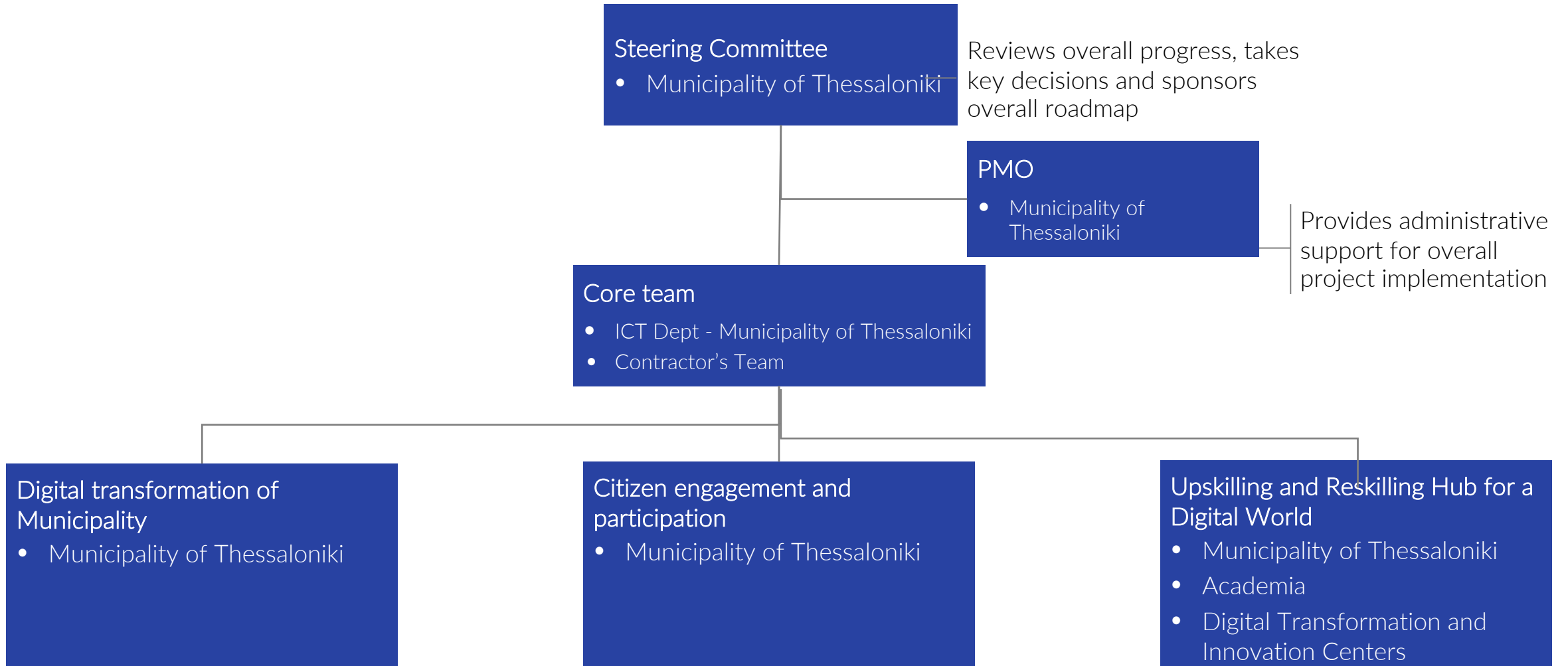
Increase in citizens' and businesses' trust in the Municipality.

Increase of Municipality's performance.

Citizens Satisfaction from Municipality's Services.

Business Satisfaction from Municipality Services.

Governance structure for roadmap implementation



The European Commission's
**INTELLIGENT CITIES
CHALLENGE**

Section

3+4

Thessaloniki: Impact

ICC Transformation

February 2021 to May 2021

Impact executive summary

The City Roadmap was implemented partially. This was due to the following reasons:

- The Municipality managed to secure funding for the implementation of five initiatives.
- The Greek national administration's bureaucratic and complicated processes delayed the implementation of one initiative (Digital promotion and utilization of cultural heritage), which will start in the Q4 of 2022.
- The COVID-19 pandemic overloaded the workload of the Municipality's e-Gov department, which was responsible for running the ICC project. For this reason, the City ICC team could devote the required effort to plan some of the initiatives, especially those related to upskilling and reskilling.

The following initiatives will be finished during the duration of the ICC project:

- New ERP system
- Citizen information and service provision system
- Improve my city project (IMC)

For the next 3 years, the Municipality of Thessaloniki will establish more responsible ways of facilitating, managing and monitoring the city services through data-driven management. Moreover, it will also intensify its efforts to provide innovative education and training for upskilling and reskilling in collaboration with the local ecosystem (academia, research centres, innovation centres, etc.). Finally, the Municipality will continue its efforts to become a truly climate-neutral city by 2030.

Assessment of solution maturity - discussion

The following initiative will be finished during the duration of the ICC project:

- New ERP system
- Citizen information and service provision system
- Improve my city project (IMC)

These initiatives will start delivering impact a few months later.

Assessment of city ecosystem and activities - discussion

As it is already mentioned, the COVID-19 pandemic affected the mobilisation of the local ecosystem. The City ICC team did not manage to devote time to this process. Moreover, motivating the city's ecosystem was challenging, as in Thessaloniki most organisations and companies were deeply affected by the pandemic. However, there are ongoing collaborations with successful results:

- The International Center for Digital Transformation and Digital Skills (established in Thessaloniki by Cisco in partnership with the Municipality of Thessaloniki, the Ministry of Digital Governance and the Ministry of Development and Investments) has a training department - Cisco Networking Academy- as well as STEM and Robotics departments, which aim to enhance the digital skills of pupils, students and professionals.
- The Municipality of Thessaloniki, in collaboration with the Center of Research and Technology Hellas (CERTH), successfully applied to the EU Mission for 100 climate-neutral and smart cities by 2030. As a result, Thessaloniki was selected to be part of the 100 cities. The collaboration is ongoing for creating the Climate City Contract and for the preparation of a proposal for the Pilot Cities Programme that will help cities test out locally tailored actions towards a climate transition.
- The Municipality of Thessaloniki, along with the other municipalities of Thessaloniki agglomeration, CERTH and NOESIS (Thessaloniki Science Park & Technology Museum), have created the Major Development Agency Thessaloniki. The company implements sustainable development projects and social resilience and inclusion projects.

5 key lessons

Lesson	Reflections
1	The municipal elected authorities' political commitment is essential for the digital transformation, as cultural, organizational and operational change is required apart from the development of technical solutions.
2	Active participation of the stakeholders is essential to planning and implementing city-wide solutions. However, leveraging the local ecosystem required a lot of effort.
3	The assessment of the contribution of the solutions to the city's performance is tough to do, as there is a lack of baseline data. Moreover, only large-scale implementations can create measurable results at the city level.
4	Participation in ICC exposes the City Team to many best practices worldwide. However, the lack of physical events made knowledge exchange less effective.
5	Although participation in the ICC did not provide financial support, it was advantageous when the city applied for financial aid in EU calls.

Reflections on city collaborations

Municipality of Thessaloniki collaborated with the other Greek cities in exchanging experiences towards the implementation of the ICC solutions. In two events the Greek ICC cities presented in detail their roadmaps, offering inspiration to other cities. Moreover, the Municipality of Thessaloniki presented the city's open data portal and the GIS to the Municipality of Patras in a knowledge exchange event.

The Greek cities faced the same problems from the national administration's bureaucratic and complicated processes. The lack of physical events made knowledge exchange between cities less effective.

Commitments

Commitments to on-going resources

The city will implement the projects already in the pipeline. It will also intensify its efforts to provide innovative education and training for upskilling and reskilling in collaboration with the local ecosystem.

Commitments to on-going collaboration

The city will continue the collaboration with the other Greek ICC cities.

Commitments to on-going KPIs

The city hasn't yet created a city-wide assessment and evaluation framework. Efforts will be made to establish the KPIs framework in the coming period.

3 Year plan - ambitions

Building on the ICC, what would will the city aim to achieve in 3 years time?

The city's main challenge is to rapidly adapt sustainable systemic changes, including redesigning and delivering urban infrastructures and services that enhance citizens' participation, connectivity and community, shape a thriving and sustainable city, build a dynamic urban economy, become responsive and support climate resilience and disaster management.

What steps will you take over the next 3 years to achieve these goals?

- Follow the quadruple helix model by including academia and research, the public and private sector and civil society organisations in planning and working together towards the city's transition to climate neutrality.
- Use data-driven management to establish more responsible ways of facilitating, managing and monitoring the city services.
- Work with the local ecosystem (academia, research centres, innovation centres, etc.) to provide innovative education and training for upskilling and reskilling.