

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

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The Intelligent Cities Challenge is funded by COSME,
the EU programme for Competitiveness of Enterprises and SMEs

Kavala: Intelligent City Transformation Overview

ICC Final Deliverable



Kavala ICC Project Team



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Thematic Expert

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EU tourism consultant
Former Deputy-Mayor for Tourism,
City of Heraklion

Key facts about Kavala



- Coastal City in the North Aegean
- City Population: 70,501
- Prefecture Population: 124,917
- Airport and ports
- Rich in history, since antiquity
- Main sectors: tourism, agrofood, oil & chemical industry, other industry and services
- Kavala was a **DCC City**, too
- Kavala's ICC **thematic track** is:
Green and digital transition in tourism

Executive summary

Kavala is a Coastal City in the North Aegean in Greece. With a population of around 70 thousand citizens the city is the capital of the prefecture with a total population of 125 thousand inhabitants. The city infrastructure includes an airport and two ports offering significant transportation capabilities in an area whose main economy sectors are tourism, agrofood, oil & chemical industry and service provision.

The Vision of Kavala within the Intelligent Cities Challenge programme is “To become an intelligent, entrepreneurial and blue City”, giving the core priorities in pursuing sustainable development in tourism, creative industries and agrofood, enhancing citizens’ and SME’s digital skills, offering ICT technologies as a platform. Kavala’s ICC thematic track is “Green and digital transition in tourism”.

The city ICC implementation programme consists of 3 Ambitions (Digital Tourism, Digital Infrastructures, Collaboration and Skills) which are further analyzed into 7 Solutions: Digital Tourism Management, Digital Tourism Experience, Digital City, e-Collaboration, e-Skills, Green/Blue City and Entrepreneurship Acceleration.

All the above ambitions and solutions have been designed and deliberated during interactive sessions with more than 70 representatives of the local community, the local businesses, the academic and research sector as well as the public sector organizations in the region.

After the ICC implementation phase and battling a quite lengthy procurement cycle in Greece during this period, the Kavala Entrepreneurship and Innovation Centre in the sector of Tourism and Culture is now under operation (<https://kavala-kickit.gr/>), when nine more actions are in various levels of completion, namely: 2 actions are in search for funding, 5 actions are under procurement and 2 more actions are under implementation.

The Kavala ICC team and project management structure, as well as the numerous connected entities and organizations continue to strive for the implementation of the targeted ICC activities as well as the enhancement of the city strategy with more relevant solutions in order to achieve the overall vision “to transform the city into an entrepreneurial and vivid blue and green ecosystem, towards providing a higher quality of life to its citizens and visitors”.

Mayor Foreword

Building on the success of Digital Cities Challenge (DCC) project of the EC, where the Digital Transformation Strategy for Kavala and the Action Plan for its implementation was developed, we have been looking forward to in line our long-term commitment to the digital transformation and sustainability of our city with the key principles forming the pillar of ICC.

We have been delighted to be a part of the EU network of ICC and to unite our forces and efforts with like-minded cities and partners across EU to transform and adopt new human-centered digital services and smart solutions. The networking opportunities of the program have indeed been outstanding, providing an opportunity to explore other EU cities' vision for 2030, the challenges and experiences in implementing local green deals, as well as sustainable, competitive circular local value chains.

The dialogue, co-creation and collaboration with diverse both public and private stakeholder groups, representing the triple helix, supported our ICC team focus on need-based rather than simply technology-based solutions, adopting a holistic, people-centric approach. We opted for solutions, notably in infrastructure and soft skills, that would enable our city to reap the benefits of digital means for improving mobility, energy efficiency, air pollution monitoring, etc.

As we continue on our march to deliver on our ICC commitments, we pledge ourselves to continue to work with our ecosystem in fulfilling our objectives, by accelerating and doubling our efforts to bring about higher standards and quality of life for all citizens.

While approaching the final phase of ICC, we look back with pride our path to transformation.

The Kavala ICC Journey

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



1 Preparation & assessment

5 months:
September 2020 – January 2021



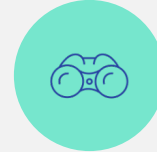
2 Ambition & roadmap

3 months:
February 2021 – April 2021



3 Implementation

15 months
May 2021 – July 2022



4 Review & way forward

2 months
August 2022 – September 2022

Summary

- Local Needs Assessment & Strategy **Workshop** with Stakeholders representing the quadruple helix was held on 7/12/2020
- The **needs** of the city were assessed, and solutions were proposed and evaluated
- Thematic track selected was the **Green and Digital Transition in Tourism**
- The City of Kavala mobilized an ecosystem of more than **70 representatives** of the quadruple helix.

The Vision of Kavala within the Intelligent Cities Challenge programme is “**To become an intelligent, entrepreneurial and blue City**”, giving the core priorities in pursuing sustainable development in tourism, creative industries and agrofood, enhancing citizens’ and SME’s digital skills, offering ICT technologies as a platform.

The Vision and Roadmap was presented and discussed during **online workshops** between February and April 2021.

The city ICC implementation programme consists of **3 Ambitions** (Digital Tourism, Digital Infrastructures, Collaboration and Skills) which are further analyzed into **7 Solutions**: Digital Tourism Management, Digital Tourism Experience, Digital City, e-Collaboration, e-Skills, Green/Blue City and Entrepreneurship Acceleration.

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Section

1

September 2020 to January 2021



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Kavala: Preparation and assessment

ICC transformation



Introduction

Kavala has presented its strong will and commitment, being one of cities of the Digital Cities Challenge initiative.

The city team, following upon the existing strategy, started the collaborative construction of the ICC vision, strategy and roadmap utilizing a network of more than 70 representatives of the local community, the local businesses, the academic and research sector as well as the public sector organizations in the region.

Other relevant city activities that influenced the ICC strategy include:

- the Operational Plan of Kavala
- the Sustainable Urban Development Plan
- the Sustainable Urban Mobility Plan
- the Sustainable Energy Action Plan
- the Smart Cities funding program

With the above starting points, a series of interactive workshops with the several groups of involved stakeholders led to a more precise definition of the city needs as well as the development of the core city vision and strategy.

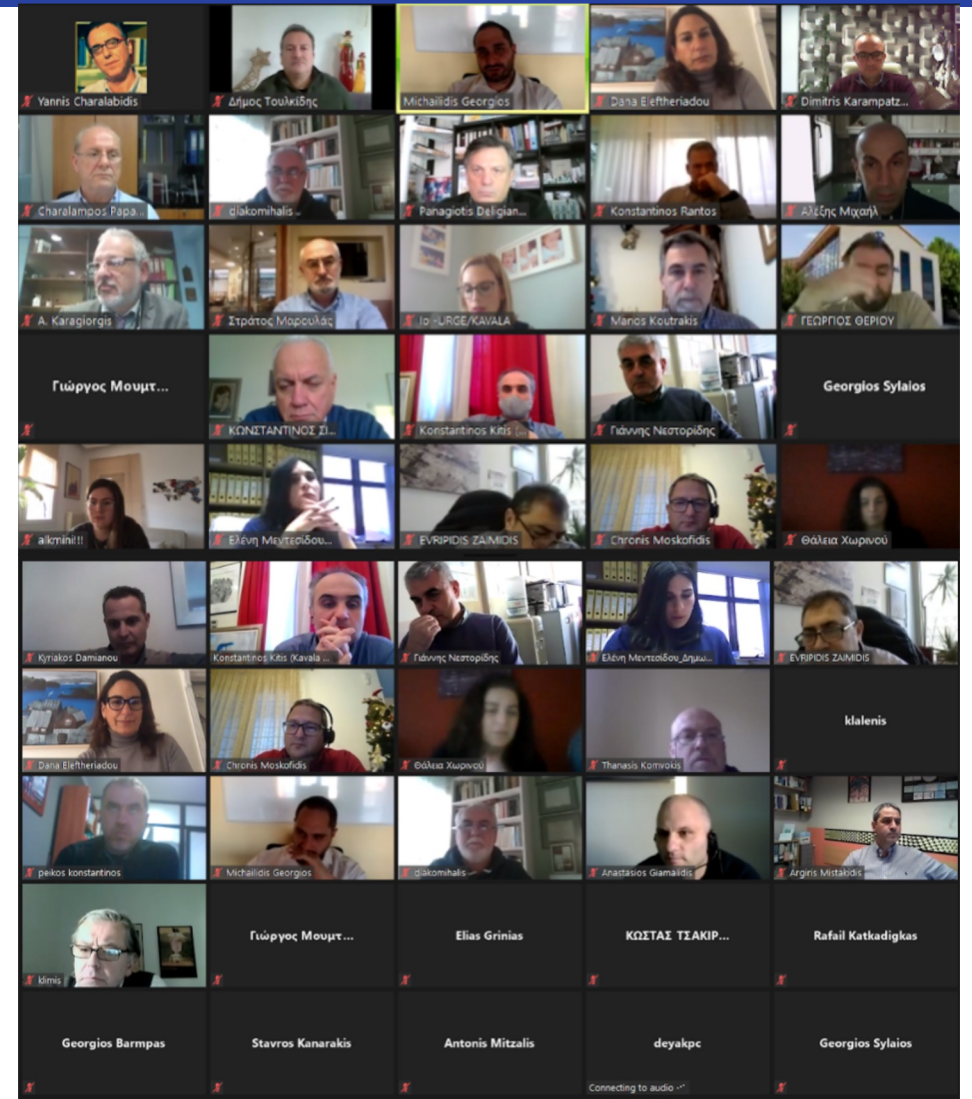
The Kavala City Scan : The Process

1. Evaluation of each sector individually by members of the core team. (Triple helix represented in the core team)
2. Questionnaire was transformed into a Google Questionnaire and sent to the local ecosystem members.
3. Questionnaire was sent openly to the public in native language.
4. Results were evaluated and commented by all members of the Needs workshop in separate groups, one per area.
5. City Scan was finalized and the City Radar was created.

The final evaluations are the average of 57 final contributors / opinions.

The Needs Workshop

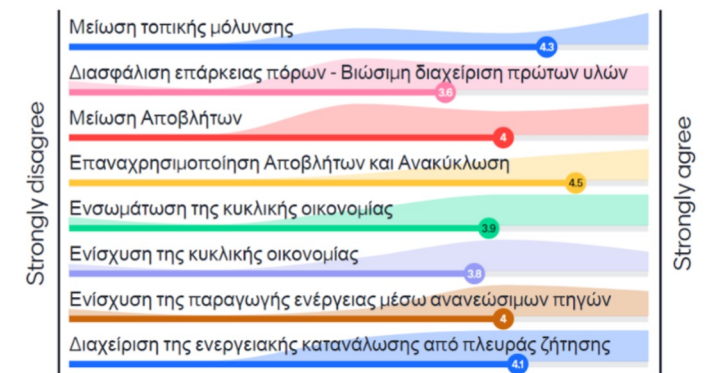
- The workshop took place in December 2020, in digital form.
- Attended by more than 40 participants from all relevant sectors (Quadruple Helix Represented).
- Opened by Mrs. Dana Eleftheriadou, on behalf of the European Commission, and Dr. George Michailidis, Kavala Vice Mayor for Planning, Development and Digital Services.
- The Thematic Expert - Prof. Michalis Diakomichalis was present (just been integrated in the team).



The KAVALA Needs Workshop - Part 1 : City Needs Evaluation

- Presentation of the City Needs Questionnaire without the rating of sectors.
- Break out in 3 groups - 2 sectors per room.
 - City Needs sectors evaluation by each participant ('menti.com' questionnaires),
 - Prioritization of city needs per sector based on evaluation results,
 - Round Table discussion,
 - Recommendations of other city needs by workshop members.
- Collection of all opinions by the moderators
- Presentation of each Room's Results in the plenary session.

Πράσινη Οικονομία: Πόσο σημαντική θεωρείται την κάθε μία από τις παρακάτω προτεραιότητες;



- Rating Green Economy Priorities for Kavala (in Greek)

The KAVALA Needs Workshop - Part 2 : Towards the new City Vision

- Presentation of the DCC Project, and Kavala's DCC Vision
- Evaluation of DCC's Vision and Ambition Statements
- Evaluation of DCC's eight Key Operational Objectives
- Recommendations of new strategic city goals by the Workshop's participants

Πείτε μας 2-3 στρατηγικούς στόχους ή σχετικές δράσεις για την πόλη μας στα επόμενα 3-5 χρόνια

Αναβάθμιση περιοχής Περιγιάλιου

Βιώσιμη πόλη προσβάσιμη σε όλους τους πολίτες συνδυάζοντας και τις απαιτήσεις που προκύπτουν από τον Τουρισμό.

Καταγραφή κατά το δυνατόν περισσότερων αριθμών κινητών τηλεφώνων των δημοτών και συχνή ενημέρωσή τους από πλευράς του Δήμου Καβάλας, για θέματα που αφορούν στις αρμοδιότητες των υπηρεσιών του, όπως διαχείριση στερεών αποβλήτων, πολιτική προστασία κ.ά

Επενδύσεις σε σύγχρονες υποδομές, καινοτόμες υπηρεσίες και νέες τεχνολογίες.

Περαιτέρω ανάδειξη του θρησκευτικού, αρχαιολογικού, φυσιολατρικού τουρισμού. Μοιάζει να είναι μονόδρομος για τον Δήμο Καβάλας η ανάδειξη του τουριστικού προϊόντος.

Βιώσιμος Τουρισμός - Πολιτισμός. Η Καβάλα πρέπει να επενδύσει σε προσέλκυση τουριστών υψηλού επιπέδου, στην αύξηση των κλινών αλλά και στην διαχείριση του τουριστικού φόρτου.

1. βελτίωση αστικής κινητικότητας, 2. ψηφιακές υπηρεσίες αγροτικής διαχείρισης, 3. γαλάζια ανάπτυξη, 4. αναβάθμιση περιβαλλοντικά υποβαθμισμένων περιοχών.

Δημιουργία εκπαιδευτικών προγραμμάτων στον 1) επιστημονικό εγγραμματισμό 2) στον ψηφιακό εγγραμματισμό 3) στον σχεδιασμό και επανασχεδιασμό καριέρας 4) στην καλλιέργεια ήπιων δεξιοτήτων (soft skills)

Βελτίωση της ποιότητας ζωής των κατοίκων Κεφαλαιοποίηση των κύριων ανταγωνιστικών πλεονεκτημάτων της πόλης (UNESCO, Ακτές, Παλιά Πόλη) Προσέλκυση νέων Εμπλουτισμός του πολιτιστικού προϊόντος Αναβάθμιση των παρεχόμενων τουριστικών υπηρεσιών.

- Gathering Priorities for Kavala Vision (in Greek)

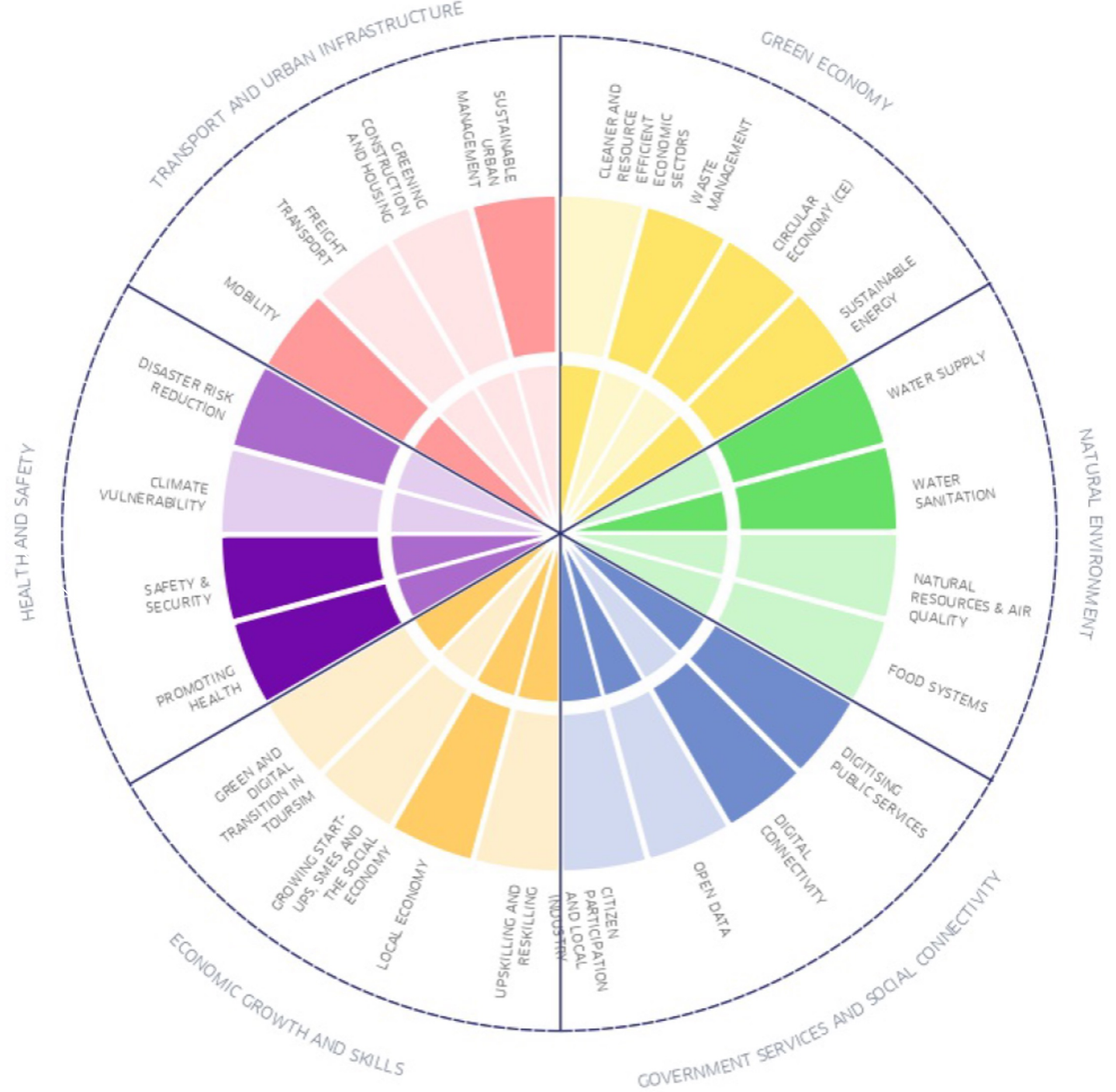
City needs: State of the city overview

Higher performance observed

- Safety, Security, Health
- Urban management, Mobility
- Water supply and Sanitation

Lower performance observed

- Green and Digital Tourism
- Green construction, Transportation
- Air Quality, Food systems

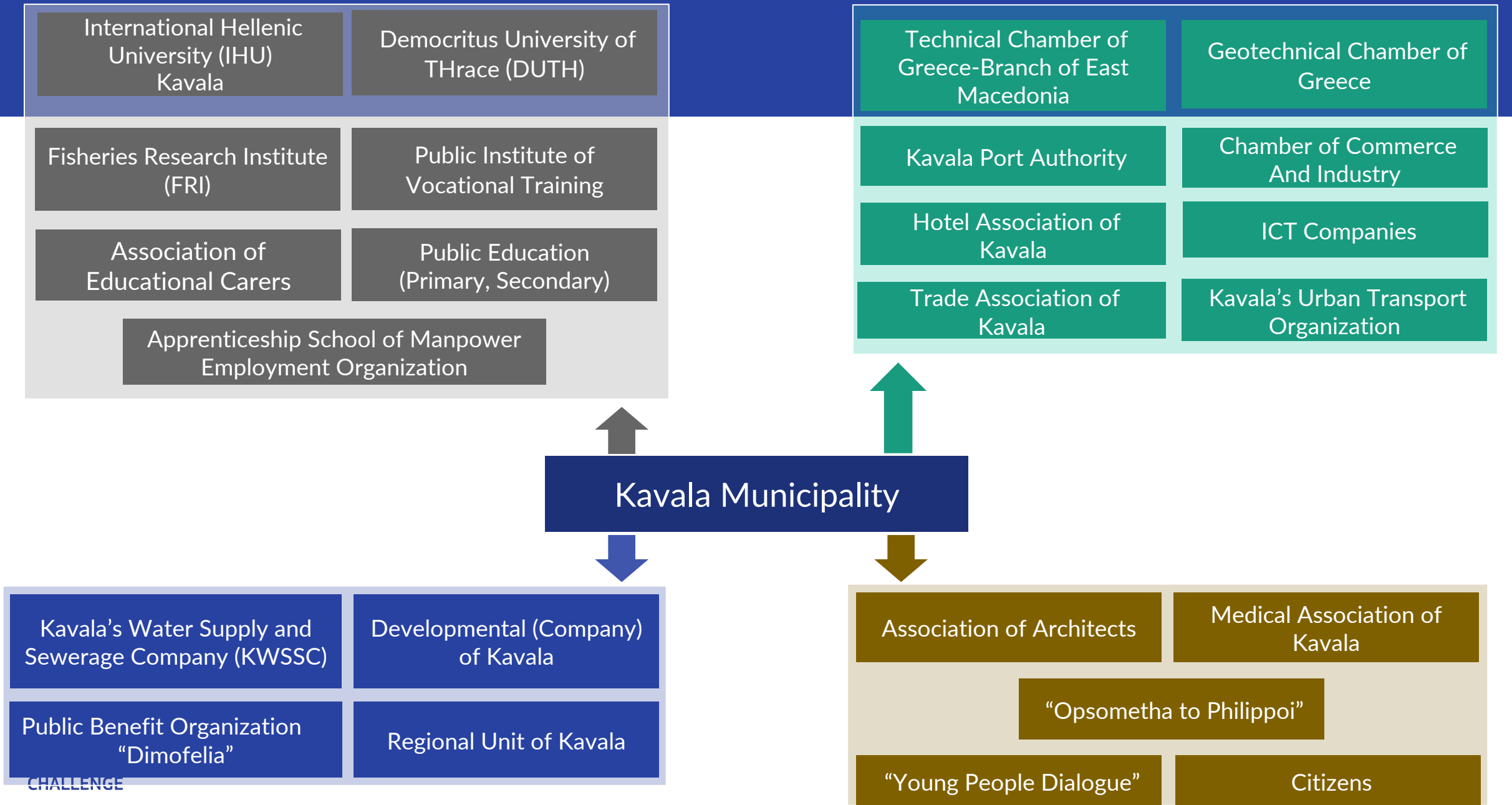


The City Needs

- 21 needs recognized as the most important for the city's development
- 16 city scan needs relevant to tourism
- 10 areas relevant to tourism that are also considered important by the **city**

Tourism services	Sustainable tourism
Waste reuse and recycling	Local pollution
Demand-side management of energy consumption	Preparedness
Air quality	Accessibility
Wireless internet access	Sustainable urban planning

The City Ecosystem



The Vision for Kavala for 2030

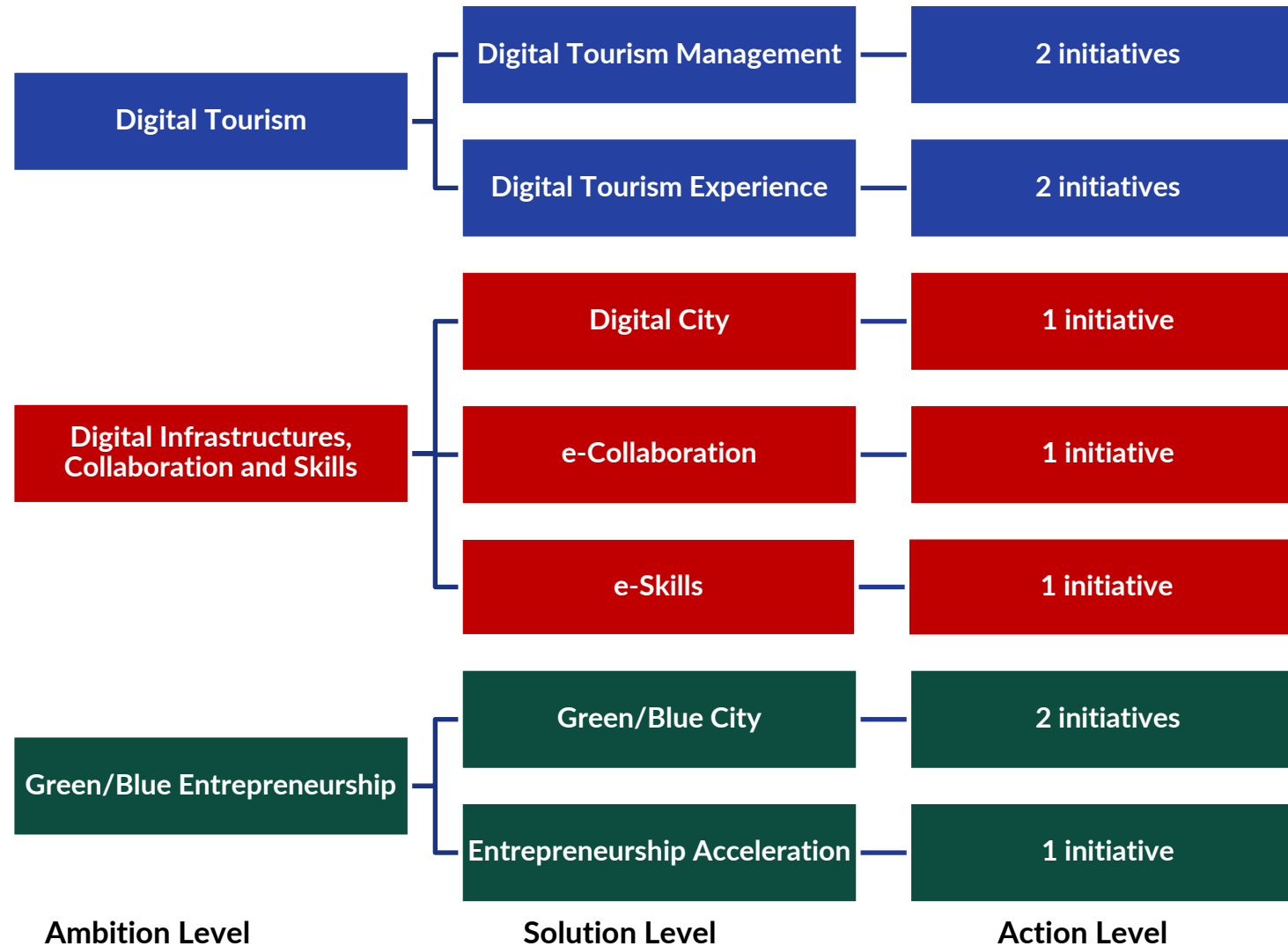
Kavala - The Intelligent, Entrepreneurial, Blue City

Kavala wants by 2030 to become a resilient blue city, acting as a regional hub for new ideas, creativity, and industrial collaboration, exploiting its unique history, culture and landscape.

Kavala will pursue **sustainable development in tourism**, creative industries and agrofood, **enhancing citizens' and SME's digital skills**, offering ICT technologies as a platform.

This vision aims to transform the city into an entrepreneurial and **vivid blue and green ecosystem**, towards providing a higher quality of life to its citizens and visitors.

Kavala Roadmap summary



Stakeholder Workshop Results - Insights

Upskilling - Reskilling

- Redirect vocational education to priority economic sectors (tourism, agrofood and their logistics) of Kavala
- Setting tangible goals, constantly enhance digital literacy of citizens of all ages as well as “scientific” culture of children and young people

Promote entrepreneurship

- Create open spaces and accelerators (including digital ones) for establishing and growing local start-ups in tourism sector
- Promote digital marketing & entrepreneurship putting emphasis on extroversion (tradable sectors) with the coordinated effort (synergy) of
 - universities (academic knowledge / best practices),
 - municipal authorities (facilities & resources) and
 - market players (market knowledge)

Stakeholder Workshop Results - Insights

Environment & Mobility

- Measure and reduce local (air, in particular) pollution
- Include green, blue and digital infrastructure principles in urban development (i.e. housing / rooms, green public spaces, cultural sites / areas, redevelopment of coastal front and port area)
- Improve urban mobility by green and digital means

Digital Infrastructures & Services

- Improve and spatially expand communication infrastructures for public use and IoT
- Create new and extend existing digital platforms and services / apps for improving and enriching the tourism product of Kavala
- Improve (by heavily employing digital means) cultural heritage management and offering

Promote participation & participatory planning

- Promote engagement and participation of citizens in municipal planning and budgeting by digital means and / or targeted consultations and specialized coordinators.

Stakeholder Workshop Results - Reflections

- Kavala ICC Ecosystem is:
 - willing to, and actively participate - Kavala ICC core team receives feedback
 - partly accustomed / “trained” to participate in discussion / consultation by digital means (but relevant skills are constantly improved due to pandemic)
- Existing Communication Silos result in repeating (similar) ideas and project planning, on the same economic / thematic sectors
- Key role of Local and Regional Government public sector & SMEs Associations, in:
 - Planning on the local and regional level
 - Management of EU funds for Infrastructure regional and urban development and Social and Cohesion projects
 - Support of sustainable, economic development of local priority sectors, in collaboration with the relevant Chambers and Associations
- Very interesting ideas coming from Municipality’s Public Benefit Organizations, Civil Society Associations & Individuals and Tourism Offer Holders & Intermediaries

Section 2

February 2021 to May 2021



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Kavala: Ambition and roadmap

ICC Transformation



Rationale to road map

The key drivers that influenced the City Roadmap were the following:

- A tendency by the stakeholders to include many activities, so that the plan would be as complete as possible, resulting to 7 solutions and 10 different activities.
- A need for actions that can be implemented in a rather short term, in an attempt to battle the very bureaucratic, relevant processes of the Greek administration.
- A need for digital transformation in all domains and sectors but also some very important “bricks and mortar” infrastructures.

The Kavala Roadmap: 7 Solutions - 10 Initiatives

Solution 1: Digital Tourism Management

Initiative 1.1: Data Collection from Tourist

Initiative 1.2: Promotion of Kavala Tourism Product

Solution 2: Digital Tourism Experience

Initiative 2.1: Exhibition of the Tobacco Museum

Initiative 2.2: Digitally enabled guided tours

Solution 3: Digital City

Initiative 3.1: Online information platform

Solution 4: e-Collaboration

Initiative 4.1: Collaborative Municipal Budget

Solution 5: e-Skills

Initiative 5.1: Open Labs

Solution 6: Green/Blue City












Initiative 6.1: Monitoring of Energy Consumption

Initiative 6.2: Climate change monitoring system












Solution 7: Entrepreneurship Acceleration

Initiative 7.1: Entrepreneurship, and Innovation Centre in the sector of Tourism and Culture












1 Initiatives Charter <Digital Tourism Management>

Strategy	Stakeholders involved	Inputs, outputs, outcomes and impacts
Description  <p>Solution: Digital Tourism Management Initiatives: 1. Data Collection from Tourist. 2. Promotion of Kavala Tourism Product. 2.1. Visit Kavala, 2.2. Marketing and branding, 2.3 InfoPoint Problems the solution addresses: seasonality ,the effects of pandemic. Main activity foreseen: procurement phase</p>	<p>Solution lead: City of Kavala / Chamber of Commerce/ Dimofeleia* </p> <p>Solution working team: Department of Digital Services of Kavala Municipality / Chamber of Commerce </p> <p>Contributors: Citizens and Visitors </p>	<p>Source of funding and estimated cost  200.000 € EU & National Funds 500.000 € EU & National Funds</p> <p>Solution maturity outputs  # of open datasets Quality of datasets Percentage of data that uses standards Platform downtime #of People reached #of stakeholders participating in the workshops #of users/ visitors of the information point</p>
Link to vision  <p>Sustainable development in tourism</p>		
Link to ambition statement  <p>Digital Tourism</p>	<p>Risks and mitigation </p> <p>Risks: Reluctance amongst consumers to release information over the Internet in case it is misused; concerns around security, risk of data breaches. Delays in the procurement phase due to bureaucratic processes</p> <p>Measures: Application of the General Data Protection Regulation, Detailed planning of the procurements involved</p>	<p>City performance outcomes and impacts  # of visitors (+ % increase/decrease) #of tourism related jobs % of visitors arriving by means of airplane, car, bus and cruise ships #arrivals at the border #overnight stays of tourists at hotels or similar accommodations</p>
Expected impact and timing  <p>Gathering and manipulation of tourist data, will contribute to effective decision making, as well as benefit local shops and companies on attracting customers. The implementation of modern marketing and branding, the promotion of tourist and cultural product of the region, through innovative interactive systems, In the long term is expected to help extend the touristic period by reducing tourism seasonality and leverage the effects of the pandemic.</p>		












2 Initiatives charter<Digital Tourism Experience>

Strategy	Stakeholders involved	Inputs, outputs, outcomes and impacts
Description  <p>Solution: Digital Tourism Experience - The solution consists of products and services that aim to boost the tourist experience.</p> <p>Initiatives: 1. Contemporary presentation / exhibition of Tobacco Museum 2. Digitally enabled guided tours</p> <p>Problem: seasonality ,the effects of pandemic.</p> <p>Main activity finding funding, Sustainable development in tourism</p>	<p>Solution lead: City of Kavala / Institute of Social Movements and Tobacco History/ Dimofeleia</p>  <p>Solution working team: City of Kavala / Institute of Social Movements and Tobacco History/ Dimofeleia</p>  <p>Contributors: City of Kavala / Institute of Social Movements and Tobacco History/Dimofeleia</p>  <p>Risks and mitigation</p>  <p>Risks: Funding opportunities, delays due to bureaucratic processes (permits by other public authorities, procurement processes etc.)</p> <p>Measures: Long planning, Informed partners, Early consultation of the solution (public. Other authorities)</p>	<p>Source of funding and estimated cost</p>  <p>1. 2.000.000 €, EU or National Funds 2.. 530.000 € EU, National Funds, Regional Funds</p> <p>Solution maturity outputs</p>  <p>#of end users Ease of use for end users of the applications created Service availability levels #of apps downloads apps rating #of museum visitors</p> <p>City performance outcomes and impacts</p>  <p>of visitors (+ % increase/decrease) #of tourism related jobs % of visitors arriving by means of airplane, car or bus #arrivals at the border #overnight stays of tourists at hotels or similar accommodations</p>
Link to vision 		
Link to ambition statement  <p>Digital Tourism</p>		
Expected impact and timing  <p>Diversification and enrichment of the tourism offering. Cultural products will add value to the core touristic product of Kavala, sun and beach , enhancing its competitiveness. Extend the touristic period.</p>		












3 Initiative Charter <Digital City>

Strategy		Stakeholders involved		Inputs, outputs, outcomes and impacts	
Description 	Solution: Digital City Initiative: A common online information platform for easy access to information for citizens and businesses Problems: The city will stop managing segregated (silo) sectors such as street lighting, wireless network (WiFi), parking, safety and public protection, applications for monitoring air pollution Main actions: Procurement, Implementation phase	Solution lead:  City of Kavala / Chamber of Commerce / Professional Associations / Academic and Research Institutions		Source of funding and estimated cost  40.000 euros-EU and National Funds	
	Link to vision  Offering ICT technologies as a platform	Solution working team:  Department of Digital Services/ IHU* / Kavala Municipality/ Chamber of Commerce		Solution maturity outputs  # of open datasets #of final users # of services offered Ease of use for end users Service availability levels %Percentage of out-dated datasets on the city platform per time frame Quality of datasets Percentage of data that uses standards Platform downtime	
	Link to ambition statement  Digital Infrastructures, Collaboration and Skills	Contributors:  City of Kavala / Chamber of Commerce / Professional Associations / Academic and Research Institutions		City performance outcomes and impacts  citizens and businesses satisfaction level on digital services provided. % reduction of carbon dioxide and other pollutant emissions produced by drivers looking for a parking space. Lighting maintenance cost savings % reduction in lighting energy consumption # of apps/ services created based on the data	
Expected impact and timing 	Reduce the operational complexity between the services of the municipality and facilitate decision-making using "live" data. application development, develop new services for the city, the citizen and the local economy. In the medium term reduce the maintenance costs of energy consumption and contribute to the reduction of the energy footprint.	Risks and mitigation  Risks: cybersecurity, citizen and tourists engagement, Internet accessibility, digital illiteracy and the digital divide, institutional framework, completeness and accuracy of data and information (objectivity of data, quality, integrity and openness (e.g. accessible formats, complete, reliable and updated data), availability of expertise and trained personnel who are able to use the platform Measures: user-friendly solution, training of the personnel of the Municipality to operate the Platform			












4 Initiative charter <e-Collaboration>

Strategy	Stakeholders involved	Inputs, outputs, outcomes and impacts
Description  <p>Solution: Collaborative decision making exploiting digital tools</p> <p>Initiative: Collaborative Municipal Budget</p> <p>Problems: low participation of the citizens in the decision making process</p> <p>Main activities : requirements development, the provision of software, the implementation and publicity phase</p>	<p>Solution lead: Kavala Municipality</p>  <p>Solution working team: Kavala Municipality</p>  <p>Contributors: Local Stakeholders, Citizens, local businesses</p> 	<p>Source of funding and estimated cost</p>  <p>open source software tool, costs of maintenance and press campaigns will be covered in-house</p>
Link to vision  <p>Higher citizen involvement</p>		<p>Solution maturity outputs</p>  <p>#of final users involved Ease of use for end users of the software Service availability levels</p>
Link to ambition statement  <p>Digital Infrastructures, Collaboration and Skills</p>	<p>Risks and mitigation</p>  <p>Risks: Digital divide, local government commitment, rival community groups thwarting the process, budgets allocated too small to produce meaningful change</p> <p>Measures: using different avenues for engagement, including web-based forums, social media, television and face-to-face community sessions. Using of compelling visuals such as pictures, infographics, and interactive charts that help convey complex information.</p>	<p>City performance outcomes and impacts</p>  <p>% of the city's budget citizens decided its investment</p>
Expected impact and timing  <p>The solution will begin to create impact after its implementation and its effective promotion, offering effective initiative and decision-making power to the citizens, encouraging greater local authority transparency. On the other hand, disclosing the impact that implementing the budget as a whole would have on the environment, will create environmental benefits.</p>		











5 Initiative charter <e-Skills>

Strategy		Stakeholders involved		Inputs, outputs, outcomes and impacts	
Description 	Solution: E-skills Initiative: Open Labs Problems addressed: Ecosystem need for upskilling in ICT Main actions: Funding/procurement/implementation/promotion	Solution lead: City of Kavala 	City of Kavala	Source of funding and estimated cost 	50.000 €, Expected inclusion in the Development and Solidarity Program for the Local Government "Antonis Tritsis"
		Solution working team: 	City of Kavala	Solution maturity outputs 	Number of trainers available Number of available infrastructures Number of labs completed Number of participants
	Link to vision 	Contributors: 	IHU / Academia / Public and Private Education	City performance outcomes and impacts 	Improved digital literacy Increased participation of vulnerable groups enhancing social cohesion and diversity #of trained graduates who were employed #of trained graduates who choose other career paths
Link to ambition statement 	Digital Infrastructures, Collaboration and Skills	Risks and mitigation 	Risks: Failing to engage training providers, low participation, low awareness of the availability of the programs Measures: Involve employers and academic community in the training process. Better publicity and promotion of the program		
Expected impact and timing 	Enhancing youth skills and promote entrepreneurship initiatives for students in primary and secondary school, by supporting public schools in their participation in local, national and international competitions and science projects, new technologies, engineering and mathematics (STEM & Sustainable Development Goals Hubs).				

6 Initiative charter <Green/Blue City>

Strategy		Stakeholders involved		Inputs, outputs, outcomes and impacts	
Description 	Solution: Green/Blue City Initiatives: 1. Monitoring of energy Consumption on Municipal Buildings/lighting in public areas. Pilot Project - Open Mall. 2. Standard system for timely information for fishermen and for monitoring the effects of climate change in the coastal zone of Kavala Municipality Problems: Public building/lighting energy consumption affects cost and emission of CO2.Coastal protection projects have been designed and dimensioned on the basis of low-precision theoretical approaches. Main activities foreseen: procurement phase	Solution lead:  City of Kavala Sustainable Energy and Climate Action Plan	Solution working team:  Department of Digital Services and Technical Services of the Municipality	Source of funding and estimated cost 	1. 80.000 € (pilot project) , EU or National Funds 2. 250.000 €, EU or National Funds
	Link to vision  vivid blue and green ecosystem	Contributors:  Academic Community	Risks and mitigation 	Solution maturity outputs 	# of monitored buildings Consumption per day type # of open datasets #of final users Ease of use for end users Service availability levels %Percentage of out-dated datasets on the city Quality of datasets Percentage of data that uses standards Platform downtime
	Link to ambition statement  Green/ Blue Entrepreneurship	Risks: Organizational difficulties limited resources (financial, human, and technical) and bureaucratic procedures, delays in the procurement phase, licensing for the installations, quality and acceptance of the system. Measures: Build and maintain strong relationships with project stakeholders. Incorporation of European and international standards in the design and development of the system, promotional activities / presentations to fishermen and other stakeholders, long planning		City performance outcomes and impacts 	% estimation of CO2 emissions reduction Costs savings %Change in energy consumption utilizing renewable energy source
Expected impact and timing 	Improving decision making on reducing energy consumption / effective interventions. Open environmental and meteorological data, documented and thorough knowledge of the effects of climate change in the coastal zone of Kavala				

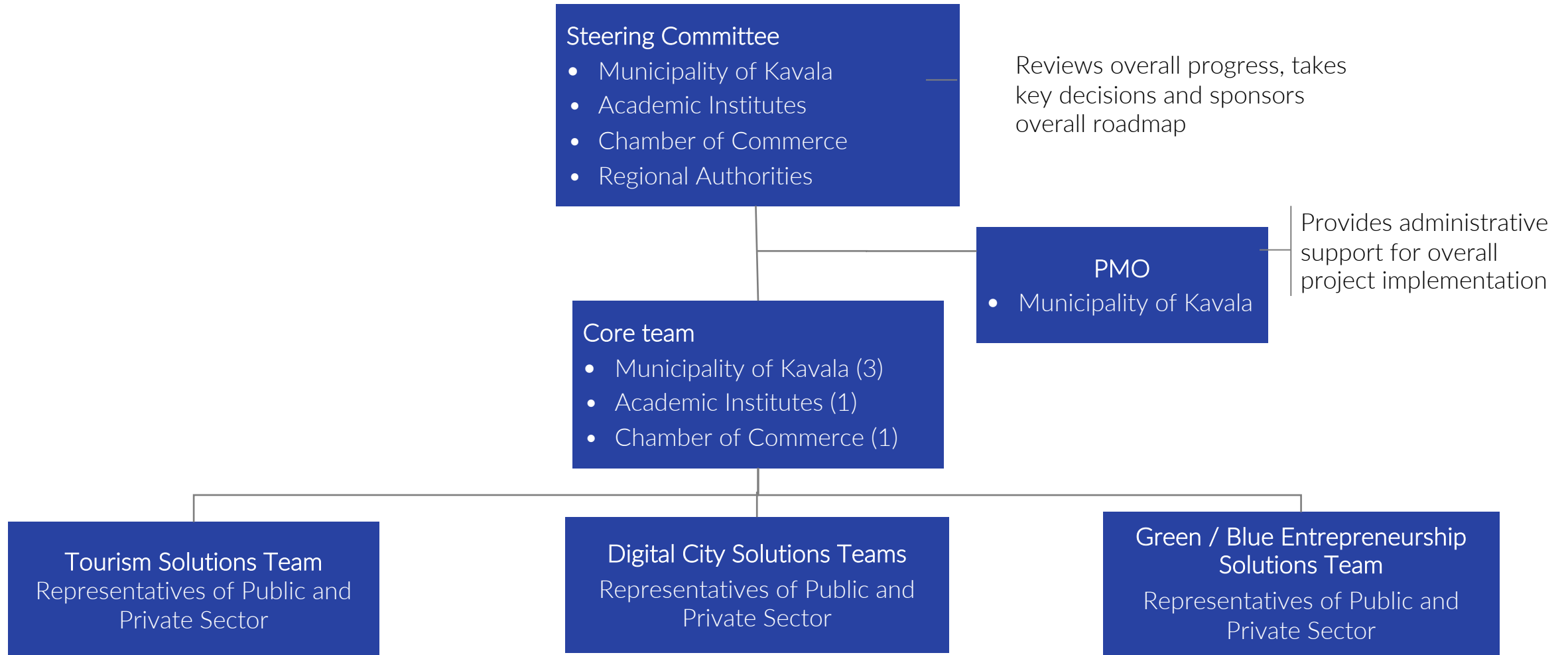
7 Initiative charter <Entrepreneurship acceleration>

Strategy		Stakeholders involved		Inputs, outputs, outcomes and impacts	
Description  <p>Solution: Entrepreneurship Acceleration System, heavily utilizing Digital Means, Initiative: Kick-iT Structure, An Entrepreneurship, and Innovation Centre in the sector of Tourism and Culture (Pilot). Problem: Start-ups need specific knowledge and practices in order to accelerate to their next level of development. Main actions: Selection of participants initiation of the program</p>	Link to vision  <p>Transform the city into an entrepreneurial ecosystem</p>	Solution lead:  <p>City of Kavala/ Chamber of Commerce & Industry / Academic Community</p>	Solution working team:  <p>City of Kavala/ Chamber of Commerce & Industry / Academic Community</p>	Source of funding and estimated cost  <p>The project is funded by the European Social Fund through the regional program of Sustainable Urban Plan of Kavala of "Eastern Macedonia Thrace 2014-2020", 310.375,00 €.</p>	Solution maturity outputs  <p># of makers participation in Lab activities # of inclusive people participation # of offered courses</p>
		Contributors:  <p>City of Kavala/ Chamber of Commerce & Industry / Academic Community</p>	Risks and mitigation  <p>Risks: Failing to engage training providers, low participation, low awareness of the availability of the programs Measures: communicate the benefits of the initiative through targeted publicity, cooperation with the local industry and academia in order to engage mentors/ trainers</p>	City performance outcomes and impacts  <p># of start-ups # of local jobs created</p>	
		Expected impact and timing  <p>Cultivate a modern business culture and specialized knowledge, encourage cooperation between all those involved in the triple helix, introduce in the toolbox of companies new ways and processes of innovative entrepreneurship so that they gain and maintain a competitive advantage in existing and new markets, thus increasing their profits and creating new jobs in the local economy.</p>			

High level implementation roadmap

No	Solution	2021 Q3	2021 Q4	2022 Q1	2022 Q2	2022 Q3	2022 Q4+
1	Digital Tourism	Feasibility Study	Planning	Procurement	Delivery	Delivery	Operation
2	Tourism Offering	Planning	Procurement	Procurement	Procurement	Delivery	Operation
3	Digital City	Planning	Procurement	Procurement	Procurement	Delivery	Operation
4	e-Collaboration	Planning	Procurement	Procurement	Procurement	Delivery	Operation
5	e-Skills	Planning	Planning	Procurement	Delivery	Delivery	Operation
6	Entrepreneurship Acceleration	Procurement	Delivery	Operation	Operation	Operation	Operation
7	Green / Blue City	Planning	Procurement	Delivery	Delivery	Operation	Operation

Governance structure for roadmap implementation



Key Performance indicators

1/2

Solution	Activities – Inputs and actions	Solution Maturity - outputs	City performance – outcomes and impacts
Digital Tourism Management	<p>funding per initiative :</p> <ol style="list-style-type: none"> 1. Funding committed by city authority 2. Funding committed by other city ecosystem players 3. Funding committed on initiative in partnership with other ICC city <p>Roadmap progression</p> <ol style="list-style-type: none"> 1. % of activities completed 2. % of activities delayed 3. % of activities not started 4. % of activities cancelled from various causes (budget, people constraints etc.) 5. Number of months ahead or behind specific deadlines per initiative 	<ul style="list-style-type: none"> • # of open datasets • Quality of datasets • Percentage of data that uses standards • Platform downtime • #of People reached • #of stakeholders participating in the workshops • #of users/ visitors of the information point 	<ul style="list-style-type: none"> • % of stakeholders who consider the general promotion of the destination to be good • % of stakeholders who consider the tourist information service to be good or excellent • % of users who consider the destination website overall to be good or excellent • Number of day visitors [or trips] (+ % increase/decrease) • Number of overnight visitors [or trips] (+ % increase/decrease) • Value of staying visitor spend (+ % increase/decrease) • Value of day visitor spend (+ % increase/decrease) • Staying visitor spend per head (+ % increase/decrease) • Day visitor spend per head (+ % increase/decrease) • Number of unique weekly visitors to the main destination website • Number of bookings generated • % bookings made online • Return on investment for marketing campaigns (as a ratio) • Annual average % bed space and bedroom occupancy of accommodation • No of tourism related jobs • Existence of an agreed and monitored sustainable tourism and action plan • % of residents indicating that they are satisfied with the local impact of tourism • Number of bed spaces per 1000 population • Ratio of number of visitors in one year to local population • % of visitors arriving by means of airplane, car or bus #arrivals at the border #overnight stays of non-resident tourists at hotels or similar accommodations

Key Performance indicators

2/2

Solution	Activities – Inputs and actions	Solution Maturity - outputs	City performance – outcomes and impacts
Tourism Digital Experience	<p>funding per initiative :</p> <ol style="list-style-type: none"> 1. Funding committed by city authority 2. Funding committed by other city ecosystem players 3. Funding committed on initiative in partnership with other ICC city <p>Roadmap progression</p> <ol style="list-style-type: none"> 1. % of activities completed 2. % of activities delayed 3. % of activities not started 4. % of activities cancelled from various causes (budget, people constraints etc.) 5. Number of months ahead or behind specific deadlines per initiative 	<ul style="list-style-type: none"> • #of end users • Ease of use for end users of the applications created • Service availability levels • #of apps downloads • apps rating 	<ul style="list-style-type: none"> • % of visitors who rate the overall visitor experience as good or excellent • # of day visitors [or trips] (+ % increase/decrease) • # of overnight visitors [or trips] (+ % increase/decrease) • Value of staying visitor spend (+ % increase/decrease) • Value of day visitor spend (+ % increase/decrease) • Annual average % bed space and bedroom occupancy of accommodation • # of tourism related jobs • # of bed spaces per 1000 population • Ratio of number of visitors in one year to local population • % of visitors arriving by means of airplane, car or bus <p>#arrivals at the border</p> <p>#overnight stays of non-resident tourists at hotels or similar accommodations</p>

Key Performance indicators

Solution	Activities – Inputs and actions	Solution Maturity - outputs	City performance – outcomes and impacts
Digital City	funding per initiative : <ol style="list-style-type: none"> 1. Funding committed by city authority 2. Funding committed by other city ecosystem players 3. Funding committed on initiative in partnership with other ICC city Roadmap progression <ol style="list-style-type: none"> 1. % of activities completed 2. % of activities delayed 3. % of activities not started 4. % of activities cancelled from various causes (budget, people constraints etc.) 5. Number of months ahead or behind specific deadlines per initiative 	# of open datasets #of final users # of services offered Ease of use for end users Service availability levels %Percentage of out-dated datasets on the city platform per timeframe Quality of datasets Percentage of data that uses standards Platform downtime	citizens and businesses satisfaction level on digital services provided. % reduction of carbon dioxide and other pollutant emissions produced by drivers looking for a parking space. Lighting maintenance cost savings % reduction in lighting energy consumption
E-Collaboration		#of final users involved <ul style="list-style-type: none"> •Ease of use for end users of the software •Service availability levels 	% of the city's budget citizens decided its investment
e-Skills		Number of trainers available Number of available infrastructures Number of labs completed Number of participators	Improved digital literacy Increased participation of vulnerable groups enhancing social cohesion and diversity #of trained graduates who were employed #of trained graduates who choose other career paths

Key Performance indicators

Solution	Activities – Inputs and actions	KPIs on solution's maturity	City performance – Key Performance Indicators
Entrepreneurship Acceleration	<ul style="list-style-type: none"> - Lifelong courses - Makers projects - Promote specific thematic sector in the acceptance criteria of accelerators. - Collaborate with Port Authorities to provide support. - Attract investors in Blue Economy. - Mini-websites platform - Marketplace - App for "local LinkedIn" 	<ul style="list-style-type: none"> - # of makers participation in Lab activities - # of inclusive people participation - # of offered courses 	<ul style="list-style-type: none"> - # of start-ups - # of local jobs created
Green / Blue City	<ul style="list-style-type: none"> - SUMP finalization - Stakeholders' investments - A feasibility study for CE deployment - Extension of the existing procedures and infrastructure - A study for buildings under monitoring - Deploy of the IoT system 	<ul style="list-style-type: none"> - # of monitored buildings - Appliances time of use - Consumption per hour type - Consumption per day type - Internal temperature variability - Internal humidity variability - Costs per kWh consumed - # of open datasets - # of final users - # of services offered - Ease of use for end users - Service availability levels - %Percentage of out-dated datasets on the city platform per timeframe - Quality of datasets - Percentage of data that uses standards - Platform downtime 	<ul style="list-style-type: none"> - % estimation of CO2 emissions reduction - Costs savings - Change in energy consumption

Key Performance indicators - Cross cutting indicators

Satisfaction level of Citizens, Visitors and Businesses

		Citizens	Visitors	Businesses
1	Satisfaction level from General and Tourism Infrastructure	x	x	x
2	Satisfaction level from Tourism Accommodation		x	
3	Satisfaction level from Public Services (Transportation, Municipal Cleaning Service, Parking, Noise Pollution, Cultural Events)	x	x	x
4	Satisfaction level from Digital Services for Visitors (Accommodation reservation, Service, Goods purchase, etc)		x	
5	Satisfaction level from Digital Services from Public Authorities	x	x	x
6	Satisfaction level from Local Products	x	x	x

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

Section

3+4

February 2021 to May 2021



European
Commission

The Intelligent Cities Challenge is funded by COSME,
the EU programme for Competitiveness of Enterprises and SMEs

Kavala: Impact

ICC Transformation



Impact executive summary

The City roadmap implementation has been negatively affected by a number of factors.

Adding to the Greek administration bureaucratic and complex processes that delay the implementation, one has to add the COVID-19 pandemic and the recent war in Ukraine.

As a result, the overall progress of the Kavala ICC set of solutions and initiatives still remains to prove satisfactory.

Although all activities are in various levels of fulfilment, out of 10 agreed and planned initiatives, only a couple have reached operational levels.

In the coming years, we expect to:

- Continue on the implementation of the planned initiatives
- Secure more financing for ICC-related projects and actions
- Continue the deliberation with the formed network of stakeholders, prescribing more needs, solutions and possible projects for Kavala's Vision

Solution maturity - Progress Against KPIs

Ambition 1 : Digital Tourism

Solution #1 : Digital Tourism Management

Action 1. Data Collection from Tourists

Progress: After 18 months of initiative deliberation and design, the digital data collection system is in the phase of Procurement. Estimated time to implementation: 12-18 months.

Action 2. Promotion of Kavala Tourism Products (Infopoint)

Progress: The initiative has passed through the open deliberation, the procurement phase and now is in the final contract signing with the contractor. Estimated time to implementation: 6-12 months.

Solution #2 : Digital Tourism Experience

Action 1. Contemporary presentation / exhibition of Tobacco Museum

Progress: The initiative is still in search for funding. Estimated time to implementation: Unknown.

Action 2. Digitally enabled guided tours

Progress: The initiative is in the final contract signing with the contractor. Estimated time to implementation: 6-12 months.

Solution maturity - Progress Against KPIs

Ambition 2 : Digital Infrastructures, Collaboration and Skills

Solution #1 : Digital City

Action 1. Smart City Platform

Progress: After 24 months of initiative deliberation and design, the Smart City Platform is in the phase of Procurement. Estimated time to implementation: 12-18 months.

Solution #2 : e-Collaboration

Action 1. Collaborative Municipal Budget

Progress: The initiative is still in the phase of implementation. Estimated time to implementation: 12 - 16 months.

Solution #3 : e-Skills

Action 1. Open Labs

Progress: The initiative is still in search for funding. Estimated time to implementation: Unknown.

Solution maturity - Progress Against KPIs

Ambition 3 : Green / Blue Entrepreneurship (1/2)

Solution #1 : Green / Blue City

Action 1. Monitoring of energy Consumption on Municipal Buildings/lighting in public areas

Progress: After 24 months of initiative deliberation and design, the monitor system is in the phase of Procurement. Estimated time to implementation: 12-18 months.

Action 2. Standard system for timely information for fishermen and for monitoring the effects of climate change in the coastal zone

Progress: After 18 months of initiative deliberation and design, the system is in the phase of Procurement. Estimated time to implementation: 12-18 months.

Solution maturity - Progress Against KPIs

Ambition: Green / Blue Entrepreneurship (2/2)

Solution #2 : Entrepreneurship Acceleration

Action 1. Entrepreneurship, and Innovation Centre in the sector of Tourism and Culture, heavily utilizing Digital Means (Kick-It)

Progress: The action is up and running since 4/2021 (duration 24 months)

KPI #1 : Number of New Entrepreneurs Trained : 35

KPI #2 : Number of Training Modules

KPI #3 : Number of Mentors Participating



Assessment of city performance - discussion

Current status of initiatives

- Search for Funding: 2
- Procurement: 5
- Implementation: 2
- Operational: 1

Factors that have influenced that we did not see before implementing our projects include:

- Pandemic crisis
- Energy Crisis
- Ukraine Crisis

5 Key Lessons

Lesson	Reflections
1	Consultation and participation of stakeholders early in planning phase, secure the longevity and effectiveness of the projects designed and implemented. Scheduling regular meetings is crucial.
2	Political leadership is essential. The best results can be achieved when grassroots movements from the society, business interests and political leadership are combined to overcome problems and lead to the implementation of more sustainable solutions.
3	Although many positive steps have been taken recently in terms of Digital Governance in Greece, bureaucracy, inefficient and complex procedures as well as a complex legislative framework , are delaying the procurement and implementation of city projects
4	Participation in ICC is a powerful asset in claiming financial or other kind of support at EU level, opening the way to joining relevant EU or global initiatives
5	Setting actions or activities is of less or no value unless they respond to actual business and citizen needs which, in turn, serve higher strategic goals, ensuring the successful implementation and adoption of the developed solutions and services..