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Cartagena : Intelligent City Transformation Overview

ICC Final Deliverable

EXECUTIVE SUMMARY

1. Cartagena has made a significant effort to adapt the way of designing, planning, and executing Smart City projects thanks to its participation in the ICC. Some results to highlight are the process of identifying stakeholders for the ICC and how collaboration links have been created and strengthened in this journey of two years of work. The great beneficiaries of our involvement in the ICC have been the areas of **smart tourism, sustainable mobility and the digitization of municipal services** aimed at making Cartagena more livable for our citizens and more appealing for tourists.

2. The **Next Generation funds** are providing Cartagena with the possibility of continuing or **expanding the scope of the measures implemented in the ICC**, especially those that have to do with promoting sustainable mobility, through the construction of more bike lanes, more recharging points and the implementation of low emission zones and digital solutions to attract tourists and improve their tourist experience.

3. **Cartagena has achieved all its objectives in the ICC.** The city has gained visibility, exposure and valuable connections within the most advanced European cities in tourism, smart mobility or sustainability. Besides, the city has gained experience of how to properly design and implement impactful smart city projects in collaboration with the local ecosystem of companies, academia, civil society and other key actors.

4. On the downside it must be said that **the impossibility of traveling has reduced the effectiveness of the program** to create links with other European cities and has therefore reduced its positive impact, however, Cartagena has been able to take advantage of the communication channels opened during this time with other European cities to mutually enrich our growth strategies as smart and sustainable cities (Rome, Budapest, Palaio and Faliro…).

5. The feeling that remains after the project is that **Cartagena can aspire to more ambitious projects** and take advantage of the favorable situation promoted by the Next Generation funds and the **public-private collaboration ecosystem that the ICC has helped to build**.

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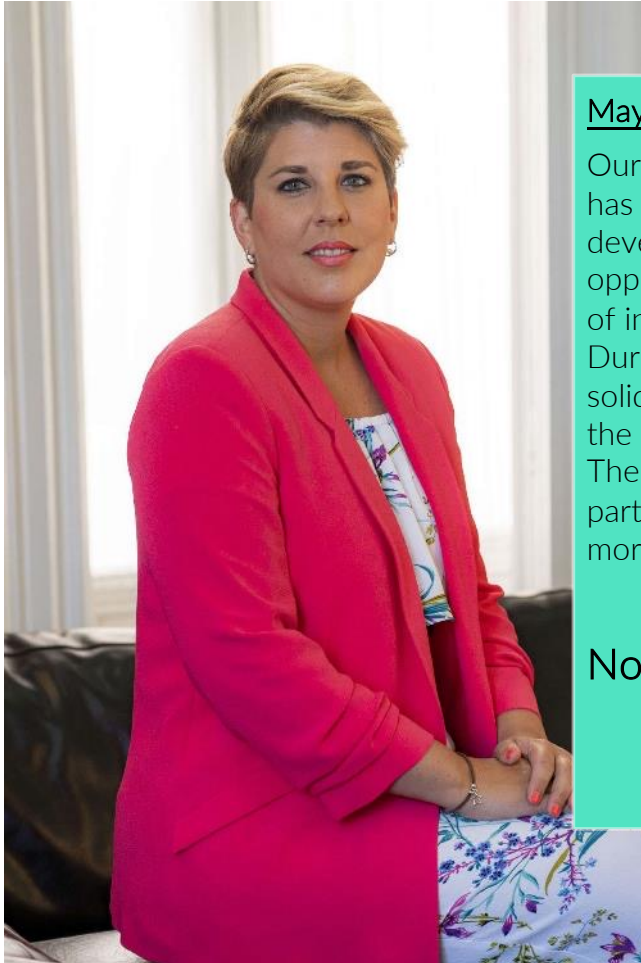
Mayor Foreword

Mayor foreword

Our city has going through a vibrant and a transformative experience that has taken us to a higher stage of maturity with regards smart city developments and progress. We are thankful for having had the opportunity to learn from other European cities and enjoyed the guidance of international experts in smart tourism and green economy challenges. During this journey we have learnt to value our stakeholders and create a solid ecosystem of collaboration where to leverage the inner capacities of the private sector, the academia, the local associations and the civil society. The synergies we have identified and the long term public-private partnerships we are exploring will serve as a catalyst to continue bringing a more digital, sustainable and prosperous future to our city.

Noelia Arroyo- Mayor of Cartagena

The city of Cartagena 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

Summary Find out where a city is, where it should go and who in the ecosystem is going to mobilise make things happen

We gathered all the relevant stakeholders and celebrated specific meetings with them. We had to highlight why the project was going to be beneficial for them and why we needed them.

2 Ambition & roadmap

3 months:
February 2021 – April 2021

Develop a concrete plan to achieve measured improvements, collaborating with the community; push action with immediate benefits

Our work in this phase was focused on discuss and agree with our stakeholders the best way to plan the implementation of the proposed measures and jointly think about the positive impact of them and how they could contribute to execute them.

3 Implementation

15 months
May 2021 – July 2022

Get "big moves" done and see results; take action in partnership with others

In this phase we found several barriers and drawbacks related to administrative procedures and delays linked to legal aspects. The foreseen plan to implement the measures had to be modified and be updated according to some unexpected issues.

4 Review & way forward

2 months
August 2022 – September 2022

Measure success, and commit to keep connections and improvements going

In this phase we have been busy with monitoring and assessing the effeteness of the measures implemented. Besides we have planned a round of meetings with all the stakeholders involved in the ICC to get their feedback and hear from them about how to boost collaboration for 2023.

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Section

1

Cartagena: Preparation and assessment

ICC transformation

September 2020 to January 2021

Introduction

❏ Cartagena presented the main results achieved from the Sustainable Energy and Climate Action Plan (SECAP) on the 16th July 2021. A key strategic commitment with sustainability that is aligned with the goals of the ICC initiative. https://www.cartagena.es/detalle_noticias.asp?id=64445

❏ Cartagena has received a significant funding from the NEXT GENERATION funds to develop strategic projects in the field of sustainable urban mobility infrastructures. One of those projects will deploy 10km of cycle lanes what will be very convenient to support the growth of the electric and shared mobility initiative included in the ICC. https://www.cartagena.es/detalle_noticias.asp?id=69000#:~:text=El%20Ayuntamiento%20ha%20iniciado%20el,Algameca%2C%20con%20actuaciones%20en%20la

❏ Cartagena received 250.000 € funding to develop its Urban Agenda in November 2021. The ICC initiatives are included in the action plan of the Urban Agenda therefore this funding has directly or indirectly contributed to implement them and will help to scale them up.

❏ Cartagena hosted the 1st European AI festival of Google (AIFEST) during on the 23th July 2021. Some of the ICC stakeholders of the city took part in this festival what helped to strengthen the collaboration links between them. https://www.cartagena.es/detalle_noticias.asp?id=64542

❏ A 13 people delegation from the European Committee of the Regions visited Cartagena during the 21th of June in order to check on the progress the city has made in digitsation and green growth, Matias Yepes, the ICC manager had the opportunity to briefly present some of the outcomes of the Cartagena's involvement in the ICC. The delegation also visited the factory of REPSOL.https://www.laverdad.es/murcia/cartagena/miembros-comite-regiones-20220621001139-ntvo.html

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The state of Cartagena today

Smart and sustainable Tourism
The city needs to adapt the existing touristic offer as a result of the new trends and habits arose after the COVID 19 crisis. A new tourist approach must be sought in order to make it more sustainable, smart and safe, working at the same time on de-seasonalising it. ●

Foster green local economy
The employment rate has grown during 2020 as a result of the COVID impact and because of the city also depends significantly on the touristic sector. An effort to foster the local trade must be done with the aim of fighting against large e-commerce platform that are suffocating the small retail. ●

Digitalisation needs
The city needs to accelerate the pace towards digitalization in different fields in order to increase its competitiveness and also to provide better municipal services. ◐

Key insights from city performance analysis

Higher performance observed	Lower performance observed
1 Strong political commitment to implement ambitious and bold actions and projects resulting from the roadmap to be developed within the ICC.	**1** The city finds difficulties to retain talent even though there is a significant community of students of technical degrees. Entrepreneurship ecosystem is still under development.
2 Cartagena has a cultural, historical heritage and landmarks in excellent conditions of conservation. The municipality has valuable natural asset such us the "Mar Menor" and a richful and protected seabed.	**2** The tourism sector on Cartagena depends quite a lot on cruise tourists and the main appealing is still being sun and beaches. The city must expand and reinvent its touristic offer.
3 The existence of the technical university of Cartagena (UPCT) creates strong synergies with the city council. This collaboration relationship strengthens the capacity and outreach of the city projects.	**3** The city still needs to get the involvement of large technological companies as stakeholders in the ICC.
4 The municipality has a strong chemical and naval industry, as well as an agricultural sector.	**4** ...
5 The stakeholders for the ICC already have connections and links between, what enable the city to make progress in the ICC in a more efficient way.	**...** ...

City Ecosystem

Insights from the 1:1 interviews

- Some stakeholders underline the need to keep up with the intensity of the collaboration born during the ICC. They are afraid of loosen the relationship once the ICC is finished.

- Others think that this kind of collaborative approach should be extended to other fields of interest where they also are very active like waste management or circular economy among others.

Reflections from the stakeholders in the workshop

- The definition of the initiatives might be open to a wider participatory process in which the general public and other minor actors could have had the opportunity to suggest, contribute and to some extent, to shape the final composition and outreach of the initiatives.

- The profile of the initiatives to develop is enabing the City to scale them up in the medium term in case their effectiveness and benefits are proven. This is great news because these extensions would be easy to achieved.

- The group is concern about how the next municipal elections in Cartagena could affect the roadmap for extending the ongoing initiatives or replicating the same working scheme for delivering deploying new impactful projects.

  ⭐ **Shared aspirations and vision** – In a way, some of the stakeholders are polarized by their specific profiles and goals, that is not a constraint at all, instead it has helped to keep a balance when it comes to agree on the vision and ambitions for the ICC.

  ⭐ **What we bring and how we work together** – The stakeholder's group is a balanced and complementary one. There are representatives from academia, private companies, research centers, entrepreneurship related entities, business associations, young entrepreneur's association, regional touristic public institutions among others. That way we enjoy a 360° view of the city needs and potential. The workflow is smooth and there is a high level of engagement within the local ecosystem.

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City Ecosystem

Autoridad portuaria de Cartagena: They conveyed to the city their willingness to join forces in ICC. They have the responsibilities over the port of Cartagena and can help to undertake initiatives related, for example, to cruise tourism in the city.

COEC: They are the business association of Cartagena and represent and defend the interests of the business community. In the introductory meeting they conveyed to the city the urgency of launching projects that generate economic growth and employment.

Byectiva: It is a company specialized in AI that will provide an innovative and technological approach to the work carried out in Cartagena within the ICC. The City Council is already a client of Biyectiva so collaborative relationships are already taking place.

CEEIM: (Murcia European Business and Innovation Center) They are looking forward to its participation as a stakeholder because, even though they have not had much relationship with Cartagena, its experience as coordinator of the European funded project "SME4smartcities" could contribute a lot to the ICC initiative.

Universidad Politécnica de Cartagena: The politechnical university of Cartagena is one of the stakeholders who have collaborated most with the city. They have agreements with the city to research and collaborate on various fields within the Smart City ecosystem. They can contribute to the ICC thanks to their multidisciplary profile and their experience in EU funded projects.

HOPU: HOPU brings urban innovation through key techs as AI, IoT and Data-Quality. They already has a close collaboration relationship with Cartagena, even they participate in joint EU funded projects. HOPU deployed a network of sensors to monitor the air quality in Cartagena.

City Ecosystem

ITREM: It is a public business entity that deals with the organization, planning, programming, direction and coordination of the competences in tourism in the Region of Murcia. They are going to play an intuitional role in the ICC and will provide guidance and support making use of their profound experience in tourism.

CEEIC: The European Center for Business and Innovation of Cartagena will enrich the project because they can act as a catalyst when it comes to mobilize start ups and comes up with innovative ideas and perspectives around the challenges that the city of Cartagena has ahead in the ICC.

Cámara de comercio Cartagena: Cartagena's Chamber of Commerce aims to promote and defend the general interests of local commerce in Cartagena. They will be very useful to reach to the right target audience and amplify some of the measures and project that could arise from the ICC.

CETENMA: It is the technological center for the energy and the environment of the Murcia region. They collaborate in several projects and initiatives with the city of Cartagena. During the interview they felt excited to have the opportunity to build new links with the city this time with the Green economy field.

ADLE Cartagena: Local Development and Employment Agency of Cartagena. This stakeholder could be considered as dependent of the City Council of Cartagena, therefore the communication channels are already built and also a full alignment towards the ICC goals.

AJE: It is the association of young entrepreneurs of Cartagena. It could be considered as a branch of COEC. They Will provide fresh ideas to the ICC and a valuable perspective because start ups and Young entrepeneurs are suffering the most the economic crisis the City is going through.

CITIES FORUM: The CEO of CITIES FORUM is one of the advisors in Cartagena in the ICC, besides they are in Charge of updating the Smart City master Plan of Cartagena. They are fully comitted with this initiative and are helping the City with the international connections of Cartagena.

Describe the ICC strategy: Vision and ambition statements

Overarching ICC city vision:

Three-thousand-year-old city that continues to create history.
Leading the green, digital and sustainable revolution.

Ambition statement 1

Digitization of municipal public services to enhance data-based decision making

Ambition statement 2

Attract sustainable tourism and project the image of Cartagena as a smart, sustainable and safe destination.

Ambition statement 3

Promote the growth of the green economy as an engine for job creation and economic wealth (local trade, circular economy ...)

Ambition statement 4

Make Cartagena a friendly, accessible, and environmentally friendly destination. A city for everyone.

Ambition statement 5

Pole of knowledge, a city that promotes technological and social innovation as the basis for economic growth.

City vision

Our vision is aligned with the tourist brand of the city **"Cartagena Port of cultures".** What we do now is complete that vision that we already had to try to go further, also including the 5 ambitions defined previously.

Objectives

- Prioritize investments that result in the improvement of the urban environment.
- Promote the enhancement of heritage resources.
- Position the image of Cartagena in the cultural tourism market.
- Develop a business network linked to the provision of tourist and cultural services.
- Establish a sustainable environment for the management of valued tourist and cultural resources

City strategy: justification

How do the solutions interact? Do some have positive synergies that reinforce the success of one another? Or are there conflicting interactions that need to be managed carefully?

- Even though the Solutions coexist in the same urban ecosystem there are only some clear sinergies that can boost their perfomernce once deployed. The most relevant one is that the APP for tourism is going to show the locations of the shared bike and scooters stations in the navigation screen. This Will be specially helpful for visitors in order to have Access to these services.

If you could boil down your strategy to three thoughts that have best guided you on your way, what would they be? These ways of thinking will be helpful when things get tough in implementation

- The Solutions were designed bearing in mind that their implementation should not have depended on external circumstances (the need to get funding) or be subject to the accomplishment of other previous projects. This was key, and it's enabled the initiatives to be deployed with little or no delay.
- The Solutions must be the answer to key needs the City has. Otherwise, we would have taken the risk of reorienting our efforts to other new urgencies and priorities.
- Announce the launching of the solutions once they have been drafted so that policy makers commit with the population in implementing them.

What are the key factors that define success across all of your solutions? These could not be solution related, e.g., managing political cycles

- All the solutions have been widely demanded by the residents; therefore, they have had a favorable acceptance.
- They tend to have low or limited maintenance; therefore, they are not a financial burden for the city council.
- They make an intensive use of technology.

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Section

2

Cartagena: Ambition and roadmap

ICC Transformation

February 2021 to May 2021

European Commission | The Intelligent Cities Challenge is funded by COSME, the EU programme for Competitiveness of Enterprises and SMEs
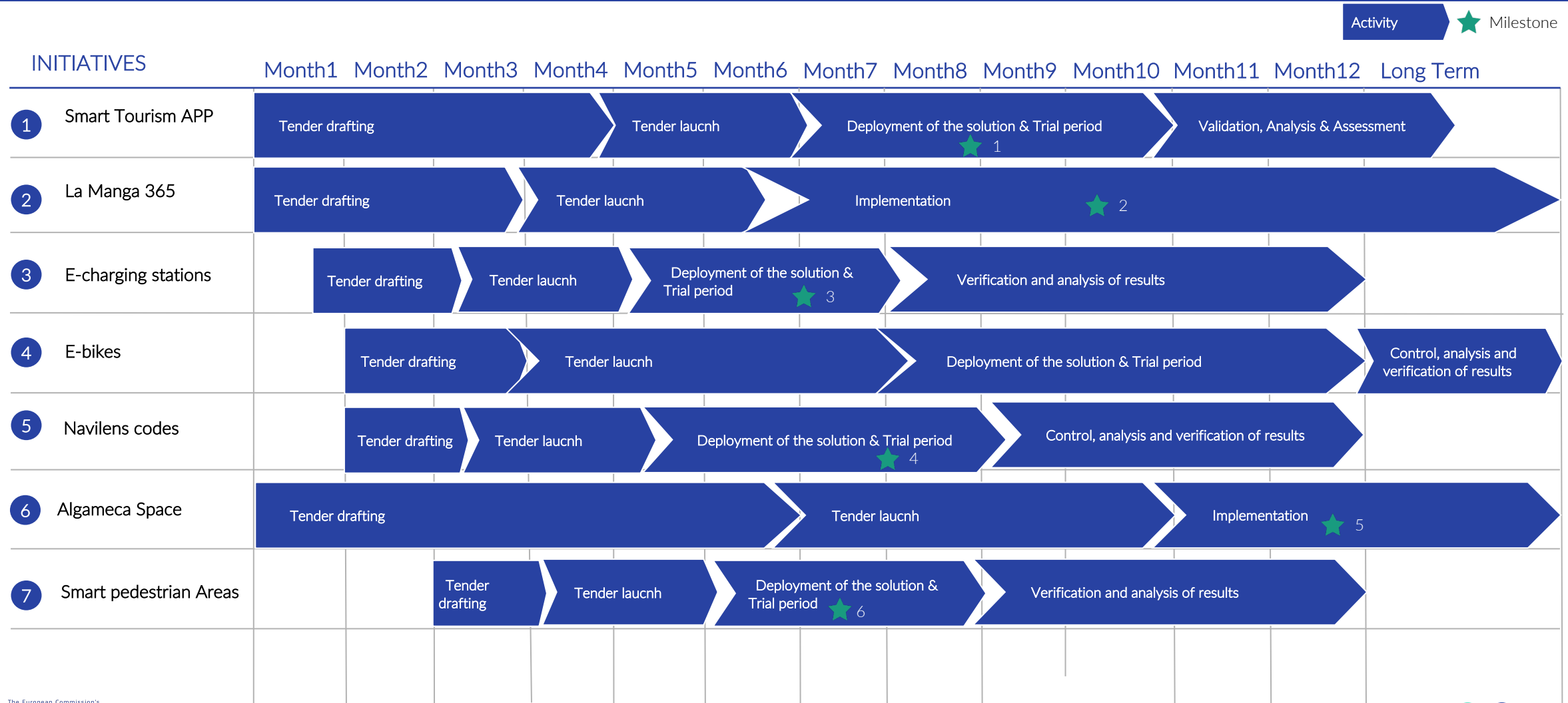
High level implementation roadmap for solution ("10000m plan")

Activity ⭐ Milestone

INITIATIVES		Month1	Month2	Month3	Month4	Month5	Month6	Month7	Month8	Month9	Month10	Month11	Month12	Long Term
1	Smart Tourism APP	Tender drafting				Tender laucnh			Deployment of the solution & Trial period ⭐ 1			Validation, Analysis & Assessment			
2	La Manga 365	Tender drafting			Tender laucnh			Implementation ⭐ 2							
3	E-charging stations		Tender drafting		Tender laucnh		Deployment of the solution & Trial period ⭐ 3		Verification and analysis of results						
4	E-bikes		Tender drafting			Tender laucnh			Deployment of the solution & Trial period					Control, analysis and verification of results	
5	Navilens codes		Tender drafting		Tender laucnh		Deployment of the solution & Trial period ⭐ 4			Control, analysis and verification of results					
6	Algameca Space	Tender drafting						Tender laucnh					Implementation ⭐ 5		
7	Smart pedestrian Areas		Tender drafting		Tender laucnh		Deployment of the solution & Trial period ⭐ 6		Verification and analysis of results						

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High level implementation roadmap for solution ("10000m plan")

★ Milestone

★ 1 Milestone — The App has been tested by 25 volunteers from the University (UPCT) with satisfactory results.

★ 2 Milestone — The new traffic management system has been successfully commissioned.

★ 3 Milestone — The 1st charging operation has been made successfully

★ 4 Milestone — A citizen has scanned one of the navilens codes deployed in the bus stations for the 1st time.

★ 5 Milestone — The 1st section of the planned cycle paths network has been finished.

★ 6 Milestone — The 1st smart pedestrian area is inaugurated.

Rationale to road map

- We were aware how difficult reaching to the implementation phase was going to be for some measures, so gave them priority in the roadmap and we decided to start working in those from the early stage. That way we started with **Smart Tourism APP, La Manga 365 and Algameca Space.** Besides, we tried to get the involvement of our human resources in a balanced way, that is to say, trying to not to overload some colleagues with having to manage several projects at the same time, what would have caused a bottle neck in the pipelined flow of work.

- At the beginning of the roadmap we placed an intense "Solutions design" period which drove us to the task of tender drafting. The tender drafting tasks took us from nearly 2 months to 4 months depending on the complexity of the Project. The large number of Solutions forced us to work in up to 7 different tenders during month n°3 and n°4

- *We set key milestones in months n°7 to 10 in order to cause the greatest impact on media and catch the attention of the target audience.*

- Are there critical paths involved? If not do early tasks help enable the latter?

- Not in principle. There are not visible dependencies between the solutions, and they could be treated independently when it comes to be ready to use or in service.

- Are there resource limitations that mean certain tasks have to be prioritised first?

- Some of the Solutions were developed at no cost, a good example are the Solutions "E-charing stations" and "E-Bikes", both of them were rolled out under an authorisation agreement / permit to occupy the public space and the payment of an annual cannon.

- The 2nd phase of the Project "Algameca Space" was developed after the rest because the city was waiting to secure the funding for that phase (225.000 EUROS). The project has generated 2.5 kilometres of bicycle and pedestrian paths and recovered more than 20,000 square meters of spaces for the city.
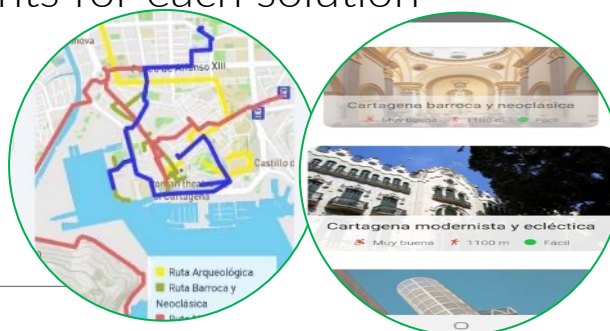
City solutions and delivery strategy

Briefly describe the key elements for each solution

Solution #1 SMART TOURISM

Initiative # 1

Smart tourism APP

Description

What are the main features of the solution?

It serves as an interactive touristic pocket guide. It provides cultural routes for tourists and includes gamification and special features for cruise tourism. It is also Covid-adapted.

Relevant to which city ambition statement

What does the solution set out to solve?

Attract sustainable tourism and project the image of Cartagena as a smart, sustainable and safe destination.

Benefit to city

The APP will make visible most of the touristic, cultural asset and appealing of the city. The APP will make visible most of the tourism and cultural asset of the city. It will enhance the visiting experience by providing interaction with the tourist and by creating bespoke suggestions.

Business model

What is the business model?

It will connect tourists with the touristic industry of Cartagena. Making them more visible and accessible (museums, restaurants, leisure activities etc...)

Parties interacting

Who is making it happen?

Autoridad portuaria de Cartagena, Biyectiva, COEC (confederación comarcal de organizaciones empresariales de Cartagena) ,UPCT (Universidad Politécnica de Cartagena)

Blockers and risks

What are the main blockers and risk and how will the be overcome?

The APP must be presented and launched with a strong communication campaign in order to the reach to the target audience.

Pending uncertainties

Before launching it, there will be a test period during the all the features will be tested, the city will have to make sure the APP is relevant, appealing and useful at that moment.

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City solutions and delivery strategy

Briefly describe the key elements for each solution

Solution #1 SMART TOURISM

Initiative # 2

Smart beach services- LA MANGA365

Description

What are the main features of the solution?

Sensors and a Wi-Fi network will be installed for at least 16 beaches, bus stops and other points of tourist interest, a traffic light priority system to optimize traffic. 36 smart canopies will also be built with information of public and tourist interest and 10 information screens. A smart parking system will also be deployed.

Relevant to which city ambition statement

What does the solution set out to solve?

In this case, the project is covering to some extent the ambitions 1, 2, 3 and 4.

Benefit to city

The project is aiming at improving the services and public infrastructure in different beaches of the municipality (specially in La Manga). On one hand, the activities will make them more appealing for locals and tourists, that will generate economic growth and welfare and on the other will make municipal services smarter (traffic management, IOT etc…)

Business model

By creating the collection of smart services and new infrastructure the beaches of Cartagena will attract more visitors and will bring revenue to local businesses.

Parties interacting

COEC (confederación comarcal de organizaciones empresariales de Cartagena) , ITREM (Instituto de Turismo de la Región de Murcia) , UPCT (Universidad Politécnica de Cartagena), AJE (Asociacion de jóvenes empresarios)

Blockers and risks

What are the main blockers and risk and how will the be overcome?

The services would be deployed and ready for the summer season in order to maximize the positive impact of the project. Potential delays could jeopardize that.

? Pending uncertainties

We haven't identified major uncertainties

City solutions and delivery strategy

Briefly describe the key elements for each solution

Solution #2 Smart Mobility –CartaGo

Initiative # 3

E-charging stations

Description
What are the main features of the solution?

The solution consists of deploying a fast-charging stations network across strategic points in the municipality. The city of Cartagena granted a permit to occupy the public space and exploit the charging service during a period of 2 years to a private company.

Relevant to which city ambition statement
What does the solution set out to solve?

In this case, the project is covering to some extent the ambitions 2, 3 and 4.

Benefit to city
The charging stations network will allow EV users to recharge their vehicles in very limited time allowing visitors from other cities to have access to this infrastructure during their staying in Cartagena. The infrastructure is also encouraging potential EV owners to buy an electric car.

Business model

A private operator (Iberdrola) has made the investment and is exploiting the service under a specific access rates (0,40-0.55 c€/Kwh). The operator also maintain the infrastructure.

Parties interacting

Iberdrola https://www.iberdrola.es/, AUVE (asociación de usuarios del vehículo eléctrico)

Blockers and risks

The service might result expensive for some EV users and this could led to a underutilized infrastructure.

? Pending uncertainties

We haven't identified major uncertainties

City solutions and delivery strategy

Briefly describe the key elements for each solution

💡 *Solution #2 Smart Mobility–CartaGo*

Initiative # 4

E-bikes

Description

What are the main features of the solution?

Electric and shared mobility services in Cartagena (150 e-scooters and 150 e-Bikes). The Project will be focused specially on touristic spots so that tourist have access to this smart, sustainable and convenient means of transport.

Relevant to which city ambition statement

What does the solution set out to solve?

Make Cartagena a friendly, accessible, and environmentally friendly destination. A city for everyone.

Benefit to city

- A wider offer of sustainable mobility alternatives to move in the city. Improved air quality, less noise and traffic congestion.

Business model

What is the business model?

Both locals and visitors will make use of this service by registering the APP that manages the access to the vehicles and will pay a fee per minute.

Parties interacting

Who is making it happen?

A municipal permit will be granted to a shared mobility operator so that it can deploy this project and exploit it. There will be a public tender process to award that contract.

Blockers and risks

What are the main blockers and risk and how will the be overcome?

The city must issue specific regulation for e-kick scooters and define how these vehicles must be parked and be operated. The obligation to use a helmet to ride them could weaken the attractive of the project.

? Pending uncertainties

The city has not assessed the demand of this services yet. It might not be profitable for the operator.
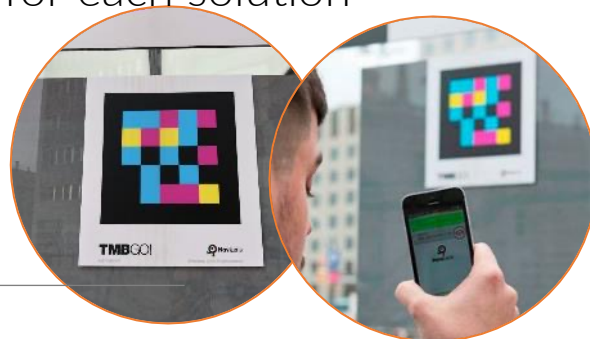
City solutions and delivery strategy

Briefly describe the key elements for each solution

💡 *Solution #2 Smart Mobility–CartaGo*

Initiative # 5

Navilens codes

Description

What are the main features of the solution?

The Navilens codes have been deployed on 100 bus stops in the city so that impaired people can identify where the bus stops are and receive audible information of the bus schedule and other useful information from their smartphones using the APP Navilens.

Relevant to which city ambition statement

What does the solution set out to solve?

Make Cartagena a friendly, accessible, inclusive and friendly destination. A city for everyone.

Benefit to city

The Solution enable impaired people to have a seamless access to the public transport and promotes inclusivity.

Business model

What is the business model?

The private company has an annual contract with the city depending of the number of NaviLens code deployed and maintained. .

Parties interacting

Who is making it happen?

The Municipal transport entity, the bus transport operator, NAVILENS.

Blockers and risks

What are the main blockers and risk and how will the be overcome?

It would be necessary to guarantee that the measure is properly disseminated among the main beneficiaries (impaired people). The City of Cartagena has contacted with the key associations in order to inform about it.

? Pending uncertainties

None.

City solutions and delivery strategy

Briefly describe the key elements for each solution

Solution #3 Sustainable solutions

Initiative # 6

Algameca space

Description
What are the main features of the solution?

It is a project for the regeneration and enhancement of an area of clear natural value where to stimulate active mobility, increase the habitability of the area and improve road safety in the vicinity.

Relevant to which city ambition statement
What does the solution set out to solve?

The solution improves a large green area that has been neglected over the years and at the same time improve road safety in the area.

Benefit to city

Increase high quality green areas in the city and foster active mobility by improving mobility infrastructure and natural asset.

Business model
What is the business model?

As a result of the project, the attractive of the area will be increased, contributing also to a social, economic and environmental growth.

Parties interacting
Who is making it happen?

NAVANTIA, Autoridad portuaria de Cartagena, UPCT (Universidad Politécnica de Cartagena

Blockers and risks
What are the main blockers and risk and how will the be overcome?

The project is challenging with respect to the civil works that will have to be done and its scale (4 phases). Overspending might be a thread.

Pending uncertainties
None.

City solutions and delivery strategy

Briefly describe the key elements for each solution

Solution #3 Sustainable solutions

Initiative # 7

Smart Pedestrian areas

Description
What are the main features of the solution?

The solution includes smart pedestrian crossings and the improvement of public space to improve accessibility in order to foster walking. It also includes vertical and horizontal signage with sensors and better lighting equipment.

Relevant to which city ambition statement
What does the solution set out to solve?

On one hand improve road safety and on the other foster active mobility.

Benefit to city

On one hand improve road safety and on the other foster active mobility.

Business model
What is the business model?

There is no business model linked to the measure.

Parties interacting
Who is making it happen?

City of Cartagena

Blockers and risks
What are the main blockers and risk and how will the be overcome?

The solution has been developed without any remarkable problem of issue.

Pending uncertainties

None.

② Initiative charter: SMART TOURISM

	Smart Tourism App	Smart Beaches services: La Manga 365
Link to vision	Three-thousand-year-old city that continues to create history. Leading the green, digital and sustainable revolution	
Link to ambition statement	Ambition statement 1: Digitization of municipal public services to enhance data-based decision making Ambition statement 2: Attract sustainable tourism and project the image of Cartagena as a smart, sustainable and safe destination.	Ambition statement 1: Digitization of municipal public services to enhance data-based decision making Ambition statement 2: Attract sustainable tourism and project the image of Cartagena as a smart, sustainable and safe destination. Ambition statement 5: Pole of knowledge, a city that promotes technological and social innovation as the basis for economic growth.
Description	It serves as an interactive touristic pocket guide. It provides cultural routes for tourists and includes gamification and special features for cruise tourism. It is also Covid-adapted.	Sensors and a Wi-Fi network will be installed for at least 16 beaches, bus stops and other points of tourist interest, a traffic light priority system to optimize traffic. 36 smart canopies will also be built with information of public and tourist interest and 10 information screens
Estimated cost and source of funding	110,000 € - own sources	800.000 € - EDUSI (Estrategia de Desarrollo Urbano Sostenible Integrado)
Initiative lead	City of Cartagena	City of Cartagena
Initiative working team (core team)	City of Cartagena (departments of Tourism, NT, Sustainable City) Biyectiva	City of Cartagena (departments of Tourism, Sustainable City) Telefonica
Contributors (stakeholders contributing)	Chamber of Commerce, Cartagena Port of Culture, COEC	Consorcio del Litoral Tourist associations
Ultimate goal and scope of this initiative	Promotion a sustainable, Smart and quality tourism all year round	Modernise the existing infrastructures to attract new tourists and offer new services to residents and tourists. Offer new added values to the beaches
Major milestones	Development of the first version of the App	Deployment of sensors

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2 Initiative charter SMART TOURISM

	Smart Tourism App	Smart Beaches services: La Manga 365
Dependencies	None	None
Key stakeholders	Chamber of Commerce, Cartagena Port of Culture, COEC (confederación comarcal de organizaciones empresariales de Cartagena)	Consorcio del Litoral Tourist associations
Impact and timing	Improve the tourism experience 1Q 2022 up and running, final version December 2022	New Smart services in La Manga Final versión December 2022
Risks	Lack of connectivity Interoperability with other solutions	Integration with different solutions Data analysis
Support needed	The needed stakeholders are involved and funding is available	The needed stakeholders are involved and funding is available

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	Echarging stations	Ebikes	Navilens code
Link to vision	Three-thousand-year-old city that continues to create history. Leading the green, digital and sustainable revolution		
Link to ambition statement	Ambition statement 3: Promote the growth of the green economy as an engine for job creation and economic wealth (local trade, circular economy …) Ambition statement 4: Make Cartagena a friendly, accessible, and environmentally friendly destination. A city for everyone.	Ambition statement 4 Make Cartagena a friendly, accessible, and environmentally friendly destination. A city for everyone.	Ambition statement 1: Digitization of municipal public services to enhance data-based decision making Ambition statement 4: Make Cartagena a friendly, accessible, and environmentally friendly destination. A city for everyone.
Description	Installation of Echarging station in the different neighbourhoods of the city to promote green and sustainable mobility	Offer ebikes to resident and tourists to improve the Smart and sustainable mobility in the city	Ensure the accessibiliy of the city
Estimated cost and source of funding	Public license	Public license	25,000 € - own funding and NextGen
Initiative lead	City of Cartagena	City of Cartagena	City of Cartagena
Initiative working team (core team)	City of Cartagena (different departments)	City of Cartagena (different departments)	City of Cartagena (different departments)
Contributors (stakeholders contributing)	All districts of the city AUEV (association of EV user). IBERDROLA	Members of the Mobility Table (AMPER, Movilizate por tu ciudad, Bique (assoc. Bikes…)	ONCE
Ultimate goal and scope of this initiative	Improvement of Smart and sustainable mobility	Improvement of Smart and sustainable mobility	Ensure the accessibility and the development of new services

② Initiative charter: SMART MOBILITY: CartaGO

	Echarging stations	Ebikes	Navilens code
Major milestones	Installation of 15 echarging points	100 ebikes, 200 scooters and 75 bikes	100 to be installed in the most important attractions
Dependencies	None	None	None
Key stakeholders	All districts of the city AV (association of EV user)	Members of the Mobility Table (AMPER, Movilizate por tu ciudad, Bique (assoc. Bikes...)	ONCE
Impact and timing	1Q 2022 installed	Tender to be launched 2Q 2022	1Q 2022 installed
Risks	Delay in launching the tender No tenderers interested in the tender	Delay in launching the tender No tenderers interested in the tender	None
Support needed	None	None	None

	Algameca space	Smart Pedestrian areas
Link to vision	Three-thousand-year-old city that continues to create history. Leading the green, digital and sustainable revolution	
Link to ambition statement	Ambition statement 3: Promote the growth of the green economy as an engine for job creation and economic wealth (local trade, circular economy …) Ambition statement 4: Make Cartagena a friendly, accessible, and environmentally friendly destination. A city for everyone.	Ambition statement 1: Digitization of municipal public services to enhance data-based decision making Ambition statement 4: Make Cartagena a friendly, accessible, and environmentally friendly destination. A city for everyone.
Description	Transform a space without services into a leisure area, recovering it as natural área. A existing barrier between a neighbouthood and athe city center wll disappear	Improve the safety, security and smartness of the pedestrian áreas, offering all kind of information
Estimated cost and source of funding	1.869.000 €, own sources and EU funds	326.000 € own sources and EU funds
Initiative lead	City of Cartagena	City of Cartagena
Initiative working team (core team)	City of Cartagena	City of Cartagena
Contributors (stakeholders contributing)	Ministry Ecological Transition, Ministry Defense, Ministry mobility and Urban agenda, NAVANTIA, UPCT, Port Authority Cartagena	None
Ultimate goal and scope of this initiative	Transform a part of the city and improve the mobility of the city	Avoid accidents, develop new services for citizens and tourists
Major milestones	Negotiation with stakeholders. Start of each subphase	Definition of the pedestrian áreas (15)

② Initiative charter SUSTAINABLE solutions

	Algameca space	Smart Pedestrian areas
Dependencies	None	None
Key stakeholders	Ministry Ecological Transition, Ministry Defense, Ministry mobility and Urban agenda, NAVANTIA, UPCT, Port Authority Cartagena	None
Impact and timing	Finalisation end 2023	December 2022
Risks	Delay in tenders Social movement against the works	Delay in tenders Lack of use
Support needed	None	None

③ Key Performance indicators

Solution	Activities – Inputs and actions	Solution Maturity - outputs	City performance – outcomes and impacts
Smart Tourism Solution	**1. Smart Tourism App** • Number of tourism attractions included in the App • Number of tourists using the App • Number of citizens using the App	• % of public data available • TB open data offered • Number of services of the App	• Satisfaction of the tourists visiting Cartagena • Improvement of the imagen of the city • Increase in digital jobs
	2. Smart beaches services: LaManga365 • Number of beaches using the App • M2 of beaches covered • % of beaches with digital services • Number of services offered by the app	• % satisfaction of the beaches' users • Number of services offered within the App	• Improvement of the perception of the beaches • Flows control in the beaches • Optimisation of the municipal resources
Smart Mobility Solution-CARTAGO	**3. Echarging** • Number of echarging points installed • Number of vehicles using the echarging points	• % of travels of personal cars saved • Number of hours searching for parking saved • % use from Cartagena citizens	• Improvement of the mobility in Cartagena • Reduction of traffic jams • Reduction of the CO_2 emissions • Improvement of the city image • Citizens awareness on sustainable mobility

③ Key Performance indicators

Solution	Activities – Inputs and actions	Solution Maturity - outputs	City performance – outcomes and impacts
Smart Mobility Solution- CartaGO	**4. E-bikes** • Number of trips requested • Number of ebikes available • Number of bikes available	• Increase of the sustainable mobility • Improvement of the traffic flow • Reduction of the air pollution	• Sustainable, smooth and without noise mobility • Increase of the satisfacction of citizens and tourists
	5. Navilens • Number of points installed • Number of users	• Increase of digital services	• Improvement of the city accessibility • Development of new services for citizens and tourists
Sustainable Solutions	**6. Algameca space** • Number of users • Number of sport people using the space	• Kms of natural space recovered • Satisfaction of citizens • Mobility improvement	• City transformation with a new natural urban development open to citizens
	7. Smart Pedestrian areas • Number of pedestrian areas improved • Sensors installed	• Number of services developed • Number of cars identified • Flows control	• Reduction of fatalities (base line 2019) • Mobility improvement • Increase in the amount of mobility data gathered

Key Performance indicators – solution maturity (outputs)

Solution	Initiative	Solution Maturity - outputs	Targets
Smart Tourism Solution	1. Smart Tourism App	• % of public data available • TB open data offered • Number of services of the App	✓ > 1 million users
	2. Smart Beaches Services – La Manga 365	• % satisfaction of the beaches' users • Number of services offered within the App	✓ 5000 users of the App the first year ✓ 5 different services offered
Smart Mobility Solution - CartaGO	3.Echarging points	• % of travels of personal cars saved • Number of hours searching for parking saved • % use from Cartagena citizens	✓ 15 charging points installed
	4. E-bikes	• Increase of the sustainable mobility • Improvement of the traffic flow • Reduction of the air pollution	✓ 100 ebikes, 200 scooters and 75 bikes in place ✓ > 500 users
	5. Navilens points	• Increase of digital services (focused on impaired people)	✓ 100 points installed ✓ 2 new services developed

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Key Performance indicators – solution maturity (outputs)

Solution	Initiative	Solution Maturity - outputs	Targets
Sustainable Solutions LGDs	6. Algameca space	• Kms of natural space recovered • Satisfaction of citizens • Mobility improvement	✓ 20.000 m2 of space recovered ✓ >50.000 people using the space a year
	7. Smart Pedestrian areas	• Number of services developed • Number of cars identified • Flows control	✓ < 15% accidents produced

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Rationale to KPI approach

Document the decision-making process for which KPIs are covered in each of the three KPI types, capturing discussions the city has had on, e.g., availability, actionability, validity, etc.

- We designed the KPIs bearing in mind that the information to be gathered had to be easy to find and get access to, besides, we made an effort to avoid having to request that information to third parties (external operators, suppliers....) and force by contract that these KPI's should be calculated by the contractor under the supervision of the contract.

- The KPIs related to activities were the easiest to design because they came directly from the profile of the activity, physical equipment or services put in place. Therefore, there was no discussion in setting KPIs such us "**Number of echarging points installed**". On the other hand, there was heavy discussion in establishing some solution maturity KPIs like "Satisfaction of citizens" in the solution "Algameca space"; the issue is that there is not a clear and effective way to measure the satisfaction of citizens with respect to this type of projects, and the results will be affected significantly by the means and resources used to collect or measure that satisfaction of citizens.

- Regarding the City performance KPIs, we can say that this was the most interesting part of the KPI definition tasks because there is where we can link the Solution with the purpose and the vision of Cartagena generally speaking. We set a KPI called "Optimisation of the municipal resources" for the activity "**Smart beaches services: LaManga365**" where we aim at assessing how much money the city is going to save annually in managing city infrastructure in La Manga thanks to this deployment of technology and smart city services. Obviously, we will have to collect different information and sources of information to calculate that KPI, nevertheless its worth doing the effort because of the clear capacity it has to demonstrate the benefit of the activity /project.

- Contrary to what happened with the last mentioned KPI, there are some KPI very easy to calculate and equally relevant, a good example would be the KPI " Reduction of fatalities (base line 2019)" that corresponds to the activity "**Smart pedestrian Areas**".

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Governance structure for roadmap implementation

Steering Committee
- City of Cartagena Cristina Mora

Reviews overall progress, takes key decisions and sponsors overall roadmap

PMO
- CitiesForum

Provides administrative support for overall project implementation

Core team
- Team Sustainable City and EU projects

Smart Tourism

Smart Mobility

LGDs

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Section

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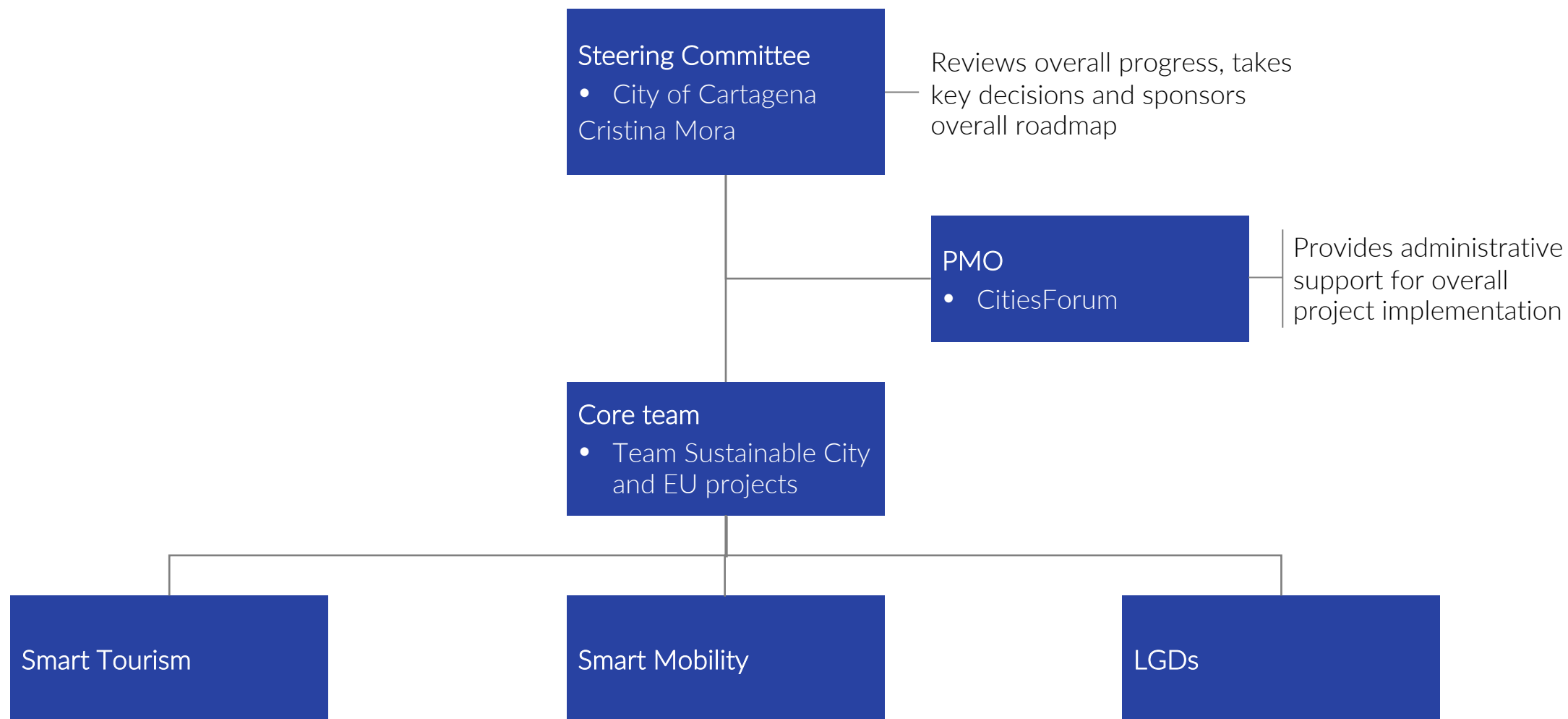
Cartagena: Impact

ICC Transformation

February 2021 to May 2021

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

Impact executive summary

- What were the major successes during the ICC? What were the major obstacles?

  - The major successes of the ICC were the qualitative leap the City has taken towards building an ecosystem of collaboration, urban innovation and public-private partnerships.
  - We can also highlight the fact that having the opportunity to learn from other European cities has been an outstanding Benefit because so far Cartagena has not had involved in major cross City learning opportunities.
  - Now Cartagena has gained experience in managing co-creation actions and in handling multistakeholder initiatives and projects. That is key when it comes to assess our involvement in the ICC initiative.

- How was your progress against the KPIs you initially set?

  - At the beginning it took us a while to creating the procedures to collect the required data to calculate the KPIs and define who does what. Besides the evolution achieved was uneven in many of them. For instance, the KPI "Number of points installed" under the activity Navilens initiated slowly (10 installed in 2 weeks), after that the second month the installation went faster and at present, we have 150 QR codes in most of Bus stop stations.

- What will you commit to over the next 3 years? How will you achieve these goals?

  - We want to extend the influence of the ICC methodology to other areas and City departments . Our goal is to work as a well-oiled machine and be capable to replicate the success we achieved in areas like social care, cultural management or entrepreneurship development.
  - Besides, Cartagena's strategy is aiming at renewing its ICC goals according to the mid-term results and establishing new collaborations with more European cities.

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There are four types of measurable concepts that come together to drive success in the ICC

...makes it easier to undertake certain...

...which work to drive up...

...leading to improved...

☐ Change measured over time during ICC

	Local enablers –city characteristics	Activities – actions and inputs	Technology maturity – outputs	City performance – outcomes and impacts
Idea	Local enablers –city characteristics	Activities – actions and inputs	Technology maturity – outputs	City performance – outcomes and impacts
Description	Each city has unique strengths and weaknesses that help action happen. These can be stakeholder networks, local capabilities, cultural factors or many more that drive success in ICC projects.	A cities main intervention on the ICC is to take actions. These can be direct (e.g., procuring technology), or indirect, (e.g., forming a working group on a topic). The right actions can lead to the right inputs going in to the ICC (e.g., funding, time)	Cities can drive technological solutions to try and improve city performance. How well these solutions are currently used can be described as their 'maturity', - considering whether they are available for stakeholder use, what stakeholders think of them, and so on	Success of an intelligent city is ultimately measured by its ability to address city needs. These can be considered an improved quality of citizen life and a better environment for stakeholders
Example	A history of strong collaboration between city and a local university...	...allows the creation of a new e-health pilot project using social housing in the city...	...leads to the launch a new tele-health solution utilising 4G data connections...	...resulting in pre-emptive diagnosis and lower wait times at medical facilities

Assessment of city performance - progress against KPIs

City performance		Where we started		Midway through the challenge	Final results
1	KPI 1: Satisfaction of the tourists visiting Cartagena (score from 0 to 10)	Base line	7,2 out of 10	8,2 out of 10	8,4 out of 10
2	KPI 2 Improvement of the image of the city (score from 0 to 10)	Base line	6,9 out of 10	7,5 out of 10	8,1 out of 10
3	KPI 3 Improvement of the perception of the beaches (score from 0 to 10)	Base line	7,9 out of 10	8,2 out of 10	8,6 out of 10
4	KPI 4 Flows control in the beaches (improvement)	Base line		12%	Flow control improvement has been 19% during summer 2022 compared to summer period in 2019 in La Manga
5	KPI 5 Optimisation of the municipal resources (% annual saving €)	Base line		2%	3% (194.224€)
6	KPI 6 Improvement of the mobility in Cartagena	Base line		1%	2,2% more travels are made by wlaking and cycling since 2020.

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Assessment of city performance - progress against KPIs

City performance	Where we started		Midway through the challenge	Final results
7 KPI 7 Reduction of traffic jams (% time improvement)	Base line		NO data available	Traffic jams has been reduced by 15% during summer 2022 compared to summer period in 2019 in La Manga
8 KPI 8 Reduction of the CO_2 emissions (Tn)	Base line		19 Tn of CO_2 emissions	69 Tn of CO_2 emissions from the beginning of the Project until september 2022
9 KPI 9 Citizens awareness on sustainable mobility	Base line	(5,5 out of 10 people are willing to use sustainable means of transport)	(6,2 out of 10 people are willing to use sustainable means of transport)	(6,9 out of 10 people are willing to use sustainable means of transport)
10 KPI 10 Electricity supplied by the e-charging network per month (KWh/month)	Base line	0 Kwh/month	18.000 KWh/month	43.000 KWh/month
11 KPI 11 Improvement of the city accessibility	Base line		6,6%	9,6%

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Assessment of city performance - progress against KPIs

City performance	Where we started	Midway through the challenge	Final results
12 KPI 12: Development of new services for citizens and tourists	Base line	2 more	4 more
13 KPI 13 City transformation with a new natural urban development open to citizens	Base line	8.000 m2 of recoved green áreas for walking and cycling	35.500 m2 of recoved green áreas for walking and cycling
14 KPI 14: % of reduction of fatalities (base line 2019)	Base line	-5,4%	-6,4%

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Assessment of city performance - discussion

- Our solutions are causing a positive impact in general terms, however some of them are getting more success than others, in terms of positive impact solutions like "**Algameca space**" and "**Smart beaches services: LaManga365**" are bringing much more value to the city than other that are limited to a reduced number of beneficiaries like "Navilens" (impaired people).

- Besides, it has been difficult to estimate some KPIs.

- KPIs based on opinion polls (KPI 1, KPI 2, KPI 3 and KPI 9) are relatively easy to calculate and will allow the city if Cartagena to re-calculate periodically.

- We find especially difficult to assess "KPI 5 Optimisation of the municipal resources (% annual saving €)". The factors that influence in this KPI are related with how these solutions impact of the municipal annual maintenance or repair costs, energy consumed, or indirect environmental costs linked to CO_2 emissions.

Assessment of solution maturity - progress against KPIs

	Where we started	Midway through the challenge	Final results
Initiative 1- Smart Tourism APP			
① KPI 1 % of public data available	72%	82%	87%
② KPI 2 TB open data offered	4	6	7
③ KPI 3 Number of services of the App	6	9	11
Initiative 2- La Manga 365			
① KPI 1 % satisfaction of the beaches' users	Base line	22%	32%
② KPI 2 Number of services offered within the App	6	9	11
Initiative 3- E-charging stations			
① KPI 1 % of travels of personal cars saved	Base line	3%	6%
② KPI 2 Number of hours searching for parking saved per month	Base line	1,45 h	1,87 h
③ KPI 3 % use from Cartagena citizens	4%	6%	8%

Assessment of solution maturity - progress against KPIs

	Where we started	Midway through the challenge	Final results
Initiative 4- E-bike			
(1) KPI 1 Increase of the sustainable mobility	Base line	3%	6%
(2) KPI 2 Improvement of the traffic flow	Base line	5%	7%
(3) KPI 3 Reduction of the air pollution	Base line	0,1%	0,12%
Initiative 5- Navilens codes			
(1) KPI 1 Increase of digital services	Base line	36	100
Initiative 6- Algameca Space			
(1) KPI 1 m2 of natural space recovered	Base line	5.400 m2	12.000 m2 until september 2022
(2) KPI 2 Satisfaction of citizens	69%	72%	77%
(3) KPI 3 Mobility improvement	Base line	6%	8%
Initiative 7 - Smart pedestrian Areas			
(1) KPI 1 Number of services developed	4	6	6
(2) KPI2 Number of cars identified per month on average per pedestrian cross	6454	7453	5993
(3) KPI 3 Flows control (pedestrians per month on average per pedestrian cross)	5922	5421	5873

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Assessment of solution maturity - discussion

- There are some activities that are easier to scale up than others. In the case of NAVILENS this initiative is easier to scale up because it only requires to place the QR codes in the specific locations (bus stops, municipal buildings, etc…) in contrast, it would take some months to extend the network of electric charging points in Cartagena in case we want.

- Likewise, scaling up the initiative of e-bikes would be in principal easy. The private operator in charge of exploiting and managing the system is already interested in extending the pilot project up to 500 e-bikes and 500 e-scooters, therefore, the city would be very agile when it comes to take action in that respect.

- On the other hand, the outreach of "Algameca space" is limited by some physical constraints and won't be possible to extend the projects further than we have originally foreseen, therefore most of the KPIs designed for it will remain static.

Assessment of city ecosystem and activities - progress against KPIs

		Where we started	Midway through the challenge	Final results
Initiative 1- Smart Tourism APP				
1	KPI **1 -** Number of tourism attractions included in the App	12	17	22
2	KPI **2** Number of tourists using the App per month	309	802	2521
3	KPI **3** Number of citizens using the App per month	198	467	1322
Initiative 2- La Manga 365				
1	KPI **1** Number of beaches using the App	6	8	9
2	KPI **2** M2 of beaches covered	15333 m2	19200 m2	21022 m2
3	KPI **3** % of beaches with digital services	32%	39%	43%
4	KPI **4** Number of services offered by the app	5	7	9
Initiative 3- E-charging stations				
1	KPI **1** Number of echarging points installed	6	13	15
2	KPI **2** Number of vehicles using the echarging points	54	132	187

Assessment of city ecosystem and activities - progress against KPIs

	Where we started	Midway through the challenge	Final results
Initiative 4- E-bikes			
1 KPI 1 - Number of trips requested	3211	5433	7533
2 KPI 2 Number of ebikes available	122	143	149
3 KPI 3 Number of e-scooters available	133	145	150
Initiative 5- Navilens codes			
1 KPI 1 Number of points installed	110	132	150
2 KPI 2 Number of users	354	543	764
Initiative 6- Algameca Space			
1 KPI 1 Number of users per month	5843	19354	32544
2 KPI 2 Number of sport people using the space	973	5322	7532
Initiative 7 - Smart pedestrian Areas			
1 KPI 1 Number of pedestrian areas improved	12	15	18
2 KPI 2 Sensors installed	48	60	97

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5 key lessons

Lesson	Reflections
1	▪ Public-private collaboration is key when it comes to approach impactful City projects
2	▪ The projects or solutions that are likely to be successful do not depend on the implementation of others.
3	▪ It is key to set quantitative goals and be very strict when it comes to assess and monitor progress.
4	▪ The more you get the involvement of a stakeholder the in a Project the further the outreach of the benefits will be
5	▪ The projects and Solutions to be implemented must be motivated by a persistent and clear society need.

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Reflections on city collaborations

- Even though European cities are very heterogenous, we all share some similar challenges, therefore we have more in common than we think.

- Cartagena has had several online meetings with <u>Rome</u> and <u>Budapest</u>, as a conclusion we can say that we share similar concerns related to how to make our touristic offer more diverse and how to attract sustainable and cultural tourism.

- <u>Palaio Faliro</u> demonstrated us that working hard to build Project proposals for EU funded programs worth doing the effort. They invited us to collaborate in several joint proposals, however we haven't found the right one yet to kick that collaboration off.

- Sometimes you just have to copy and paste and take advantage of others experience.

- We would have liked to have the opportunity to travel to other European cities and ICC labs, we felt that the ICC lost half of the effectiveness because of COVID 19 restrictions.

Commitments

Commitments to on-going resources	Commitments to on-going collaboration	Commitments to on-going KPIs
1. Cartagena is going to **invest in extending the urban cycle lanes** in order to encourage the use of the shared e-bikes and scooter systems with +10km within the next year. 2. Cartagena is going to up **scale the tourism APP with new features** and with integration with other sources of municipal information and third parties. 3. Cartagena will invest in **scaling up** the activity **NAVILENS** and **also in installing electric charging stations** in other key urban spots during 2023.	1. Cartagena will keep on collaborating with key stakeholders in the ICC like **UPCT** (Universidad politécnica de Cartagena), **Autoridad porturaria de Cartagena**, **ITREM**, and many others. 2. Cartagena will host **periodic meetings** with its ICC stakeholders to explore the feasibility of scaling up the iniatiatives, jointly thinking about launching new initiatives and report about the progress made on implementing them.	1. Cartagena is committed to reach to **40.000m2 of re-generated green spaces** in the initiative "Algameca Space" within the next 3 years. 2. Cartagena will have privately operated e-bike system with **+500 ebikes and +500 e-scooters** by 2025. 3. The smart tourism APP will have +**18.000 active** users per month by the end of 2023. 4. Cartagena will facilitate the installation of +**50 fast charging points** across the municipality and **+60km of cycle lines** with the next 3 years.

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3 Year plan - ambitions

Building on the ICC, what would will the city aim to achieve in 3 years time?	▪ Based on the progress we achieve in 2023 in reaching to our goals Cartagena will revise them in order to set more ambitious ones. ▪ We want to make use of the methodology and analysis we have used in the ICC to further extend it to other municipal areas that are also key for the future of Cartagena according to the new urban agenda of the City. ▪ We want to work in a more coordinated way within the City council structure in order to build larger multidisciplinary teams and be capable to address more complex projects. ▪ We want to identify more stakeholders and local actors in order to keep on feeding the ecosystem of Innovation and collaboration we have built.
What steps will you take over the next 3 years to achieve these goals?	1. We are going to designate a municipal technician to be in charge of gathering the required information needed to calculate the KPI's . Besides the City has contracted the construction of the Urban Agenda Observatory where some of the designed Solutions' KPIs will be monitored and shown to the public. 2. The city is going to allocate proper funding within the municipal budget of the coming years to assure the economic feasibility of the scaling up plans for some of the deployed initiatives and also for new developments aligned with the Vision of the city. 3. The key city council departments involved in the ICC will be strengthened with the required economic and human resources to guarantee Cartagena will be capable to meet the demanding goals stated previously. 4. Cartagena will make special efforts to keep on collaborating with other European cities in order to foster cross city learning and replicate whatever best practices may identify with regards the goals set by Cartagena within the framework of its intelligent and sustainable city strategy.

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