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CHALLENGE

Aix-en-Provence : Intelligent City Transformation Overview

ICC Final Deliverable

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

Executive summary

The vision of the city of Aix-en-Provence

The city of Aix-en-Provence (France) has launched a number of Smart City initiatives since 2015. These initiatives are structured around 3 axis:

1. For a healthier, cleaner, safer and more sustainable city
2. For a city more connected with its citizens
3. For a more attractive and dynamic city

The city of Aix-en-Provence has also defined its IS Master Plan 2021-2026 around 4 strategic objectives:

1. Moving from a digital city to a smart, innovative and secure city
2. Improving user relations
3. Accelerate e-administration and the digitalisation of services
4. Facilitate sustainable development and Green IT

These objectives has been broken down into a set of nearly 200 projects, prioritised according to several criteria, leading to a list of 20 major projects including 7 Smart City projects. The city of Aix-en-Provence has wished to take advantage of the ICC program to frame 3 new projects included in the digital master plan : Smart Parking, Safe City and Smart Watering.

The document presents the framework of these initiatives and the progress of the city.

Mayor Foreword

The ICC approach has **breathed new life into the Smart City projects of the city of Aix en Provence.**

It has also made it possible to **better frame and manage the city's Smart City projects**, in particular through the establishment of **dedicated governance.**

Finally, it helped **feed the city's reflections through various exchanges with other ICC partner cities.**

The city of Aix-en-Provence 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

Reported as one section

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

	1 Preparation & assessment	2 Ambition & roadmap	3 Implementation	4 Review & way forward
Summary	Find out where a city is, where it should go and who in the ecosystem is going to mobilise make things happen	Develop a concrete plan to achieve measured improvements, collaborating with the community; push action with immediate benefits	Get "big moves" done and see results; take action in partnership with others	Measure success, and commit to keep connections and improvements going

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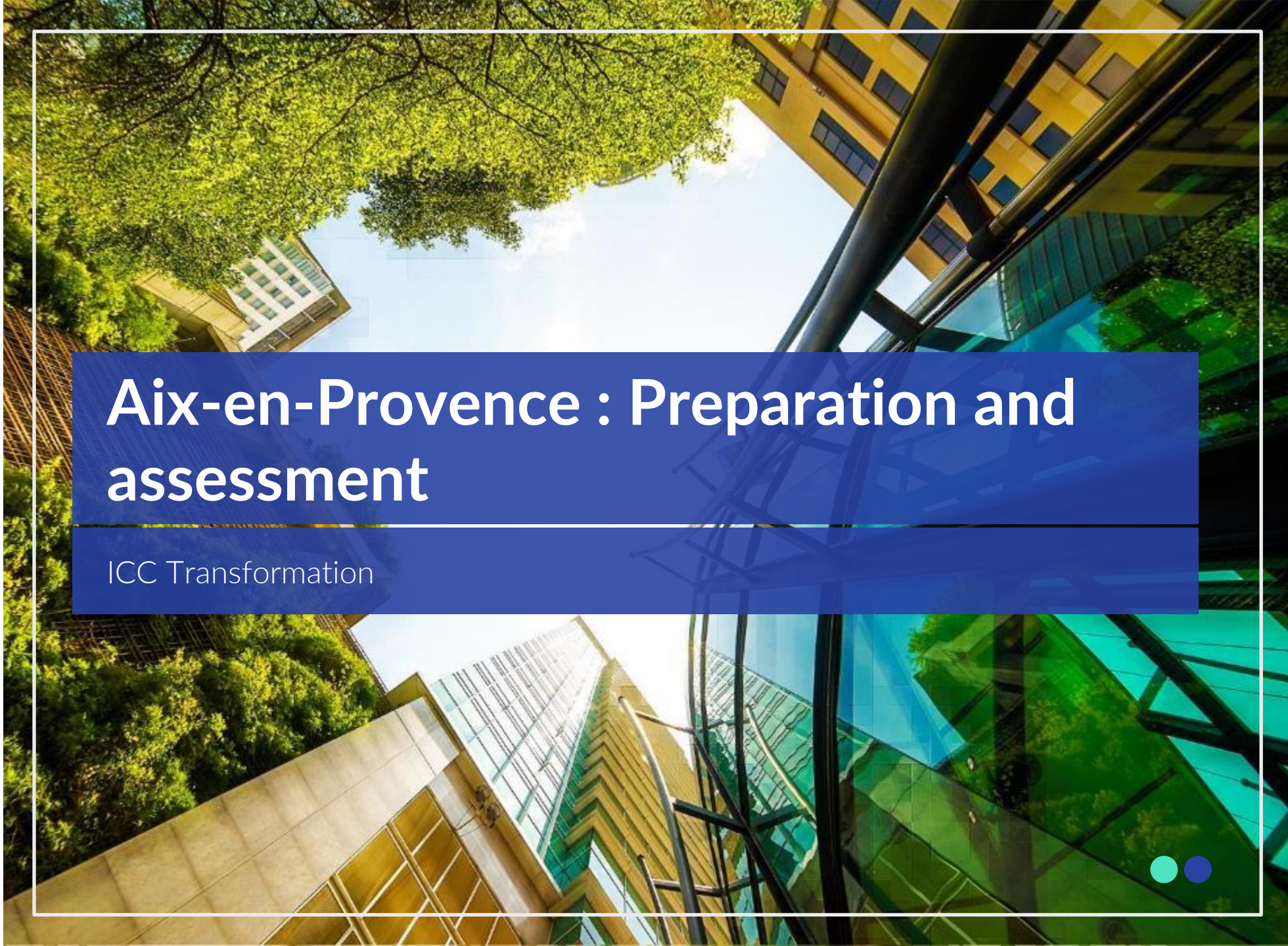
Section

1



Aix-en-Provence : Preparation and assessment

ICC Transformation

September 2020 to January 2021

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Introduction to city vision

AIX-EN-PROVENCE

- City in the South-East of France
- **Over 145,000 inhabitants** (2018)
- **Over 35,000 students** (2018)
- **Overnight visitors: 3,752,000** (2018)
- **2786 business creations** (2018)
- **6 National and European awards for its Smart City initiatives**

VISION

- A **Smart City policy initiated in 2015** by the city's elected officials
- **Launch of the first Smart City initiatives in 2015** (next page)
- Different **strategic issues**:
  - **Become a healthier, cleaner, safer and more sustainable city**
  - **Become a more connected city with its citizens**
  - **Become a more attractive and dynamic city**

The city of Aix-en-Provence has launched a number of Smart City initiatives since 2015 ...

Axis 1 - For a healthier, cleaner, safer and more sustainable city

- Connected trashcans
- Noise pollution management
- Air quality management
- Heat islands
- Pedestrian flow management
- Intelligent lighting
- Public Wifi
- Smart Parking
- Smart Watering
- Safe City

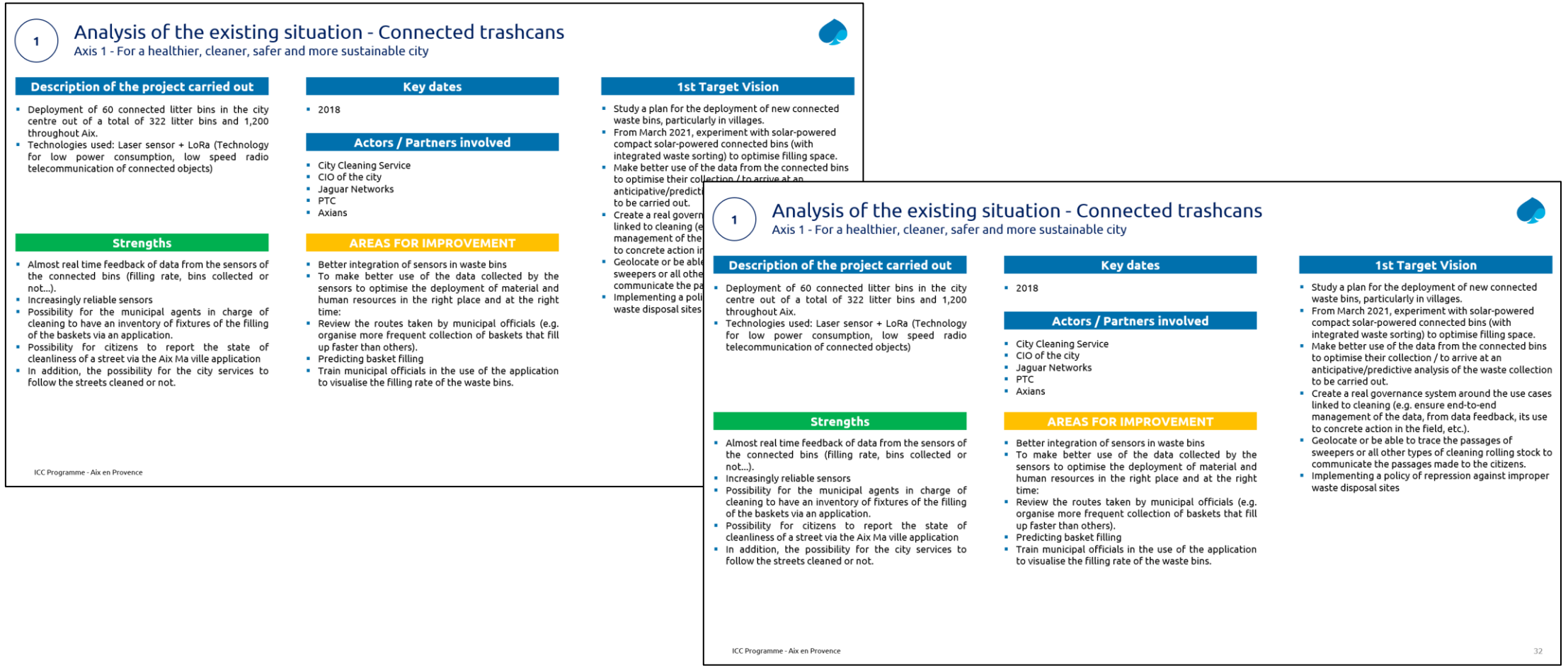
Axis 2 - For a city more connected with its citizens

- Citizen Relationship Management
- Open Data platform

Axis 3 - For a more attractive and dynamic city

- aix-en-provence.fr website
- Mobile app Aix Ma ville
- Social networks Aix Ma ville
- Information totems
- Plateform Tout Aix
- Website and Social Networks Granet Museum
- Digital Granet Museum
- Website and Social Networks Méjanes Library
- Digital Méjanes Library
- Digital Tourist Office

Each initiative was analysed in phase 1 “Preparation & Assessment".



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Analysis of the existing situation - Connected trashcans

Axis 1 - For a healthier, cleaner, safer and more sustainable city

Description of the project carried out

- Deployment of 60 connected litter bins in the city centre out of a total of 322 litter bins and 1,200 throughout Aix.
- Technologies used: Laser sensor + LoRa (Technology for low power consumption, low speed radio telecommunication of connected objects)

Key dates

- 2018

Actors / Partners involved

- City Cleaning Service
- CIO of the city
- Jaguar Networks
- PTC
- Axians

1st Target Vision

- Study a plan for the deployment of new connected waste bins, particularly in villages.
- From March 2021, experiment with solar-powered compact solar-powered connected bins (with integrated waste sorting) to optimise filling space.
- Make better use of the data from the connected bins to optimise their collection / to arrive at an anticipative/predicti
to be carried out.
- Create a real govern
linked to cleaning (e
management of the
to concrete action in
- Geolocate or be able
sweepers or all othe
communicate the pa
- Implementing a poli
waste disposal sites

Strengths

- Almost real time feedback of data from the sensors of the connected bins (filling rate, bins collected or not...).
- Increasingly reliable sensors
- Possibility for the municipal agents in charge of cleaning to have an inventory of fixtures of the filling of the baskets via an application.
- Possibility for citizens to report the state of cleanliness of a street via the Aix Ma ville application
- In addition, the possibility for the city services to follow the streets cleaned or not.

AREAS FOR IMPROVEMENT

- Better integration of sensors in waste bins
- To make better use of the data collected by the sensors to optimise the deployment of material and human resources in the right place and at the right time:
- Review the routes taken by municipal officials (e.g. organise more frequent collection of baskets that fill up faster than others).
- Predicting basket filling
- Train municipal officials in the use of the application to visualise the filling rate of the waste bins.

ICC Programme - Aix en Provence

1

Analysis of the existing situation - Connected trashcans

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- Make better use of the data from the connected bins to optimise their collection / to arrive at an anticipative/predictive analysis of the waste collection to be carried out.
- Create a real governance system around the use cases linked to cleaning (e.g. ensure end-to-end management of the data, from data feedback, its use to concrete action in the field, etc.).
- Geolocate or be able to trace the passages of sweepers or all other types of cleaning rolling stock to communicate the passages made to the citizens.
- Implementing a policy of repression against improper waste disposal sites

Strengths

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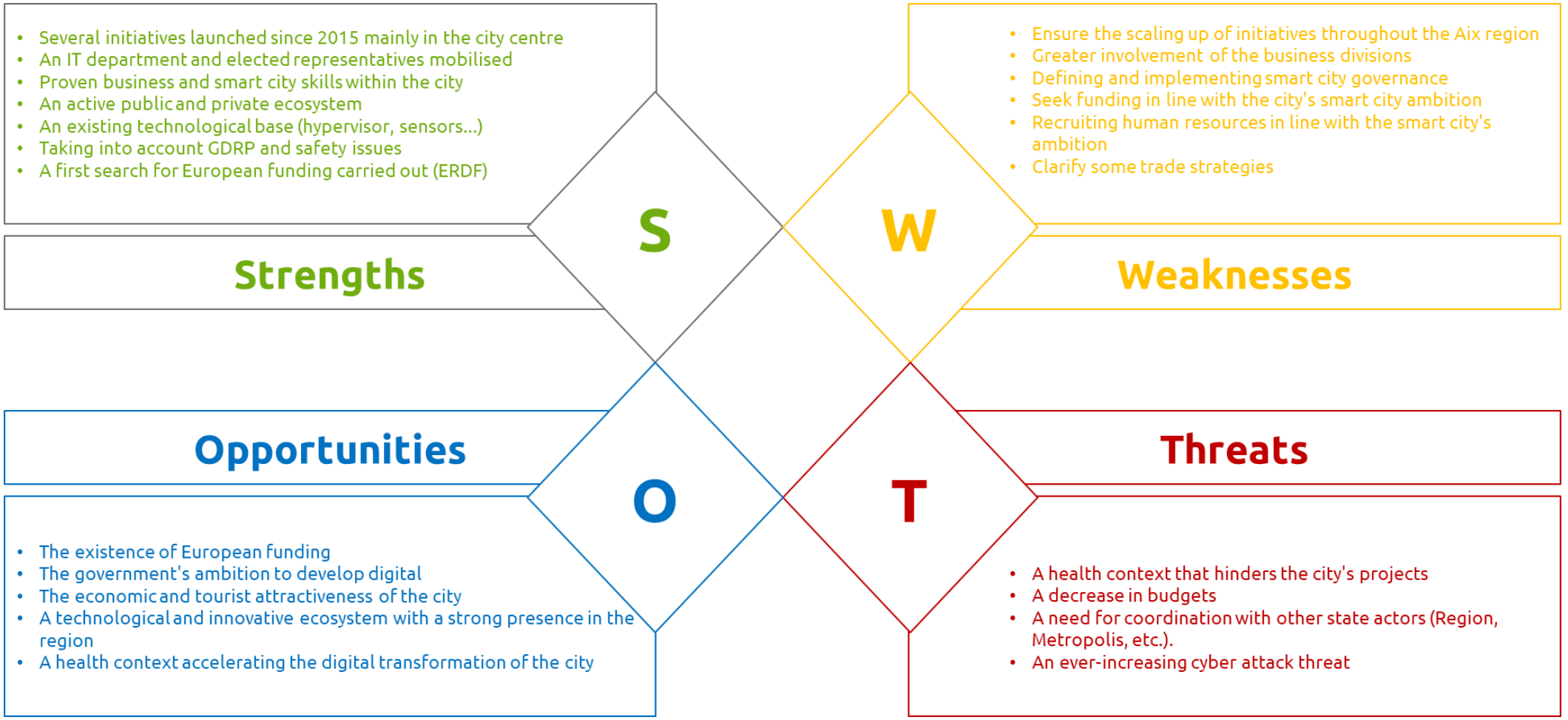
ICC Programme - Aix en Provence

32

SWOT


S
Strengths
• Several initiatives launched since 2015 mainly in the city centre
• An IT department and elected representatives mobilised
• Proven business and smart city skills within the city
• An active public and private ecosystem
• An existing technological base (hypervisor, sensors...)
• Taking into account GDRP and safety issues
• A first search for European funding carried out (ERDF)
W
Weaknesses
• Ensure the scaling up of initiatives throughout the Aix region
• Greater involvement of the business divisions
• Defining and implementing smart city governance
• Seek funding in line with the city's smart city ambition
• Recruiting human resources in line with the smart city's ambition
• Clarify some trade strategies
O
Opportunities
• The existence of European funding
• The government's ambition to develop digital
• The economic and tourist attractiveness of the city
• A technological and innovative ecosystem with a strong presence in the region
• A health context accelerating the digital transformation of the city
T
Threats
• A health context that hinders the city's projects
• A decrease in budgets
• A need for coordination with other state actors (Region, Metropolis, etc.).
• An ever-increasing cyber attack threat

City needs

The city of Aix en Provence having already launched several Smart City initiatives since 2015, the city wishes to:

1. **Scale up the Smart City initiatives already launched**
2. **Develop new use cases, consistent with its strategic ambition**
3. **Set up Smart City governance within the City**

City Ecosystem

To achieve its ambitions, the city of Aix-en-Provence works with many stakeholders

Axis 1
For a healthier, cleaner, safer and more sustainable city

- Elected representatives
- City services
  - Roads
  - Cleaning
  - Public health
- Other public players
  - City of Istres
  - Municipal police force
- Technology partners
  - Thelab in the air
  - Thecamp
  - Axians / Vinci Energie
  - ComNetwork
  - Jaguar Network

Axis 2
For a city more connected with its citizens

- Elected representatives
- City services- User relations- Communication- Citizenship and Proximity
- Technology partners
  - GardeTonCorps
  - Berger-Levrault
  - Logitud Solutions
  - ComNetwork

Axis 3
For a more attractive and dynamic city

- Elected representatives
- City services
  - Public management and commerce
  - Communication
  - Attractiveness
- Other public players
  - Tourist Office
  - Granet Museum
  - Méjanes Library
- Technology partners
  - Axians / Vinci Energie
  - ComNetwork

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Section

2

Aix-en-Provence: 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

In parallel with this assessment, the city of Aix-en-Provence has defined its Information System Master Plan 2021-2026 (1/3)

4 strategic objectives…

1. Moving from a digital city to a smart, innovative and secure city
2. Improving user relations
3. Accelerate e-administration and the digitalisation of services
4. Facilitate sustainable development and Green IT

In parallel with this assessment, the city of Aix-en-Provence has defined its Information System Master Plan 2021-2026 (1/3)

...broken down into a set of nearly 200 projects, prioritised according to several criteria...

<u>The issues at stake in the project</u>

- Response to a political issue
- Provision of new services to citizens
- Improving the working conditions of the city's employees
- Development of the city's attractiveness and influence
- Contribution to making the city more sustainable
- Image/modernity issue
- Financial issues (gains, cost reductions, etc.)

<u>The accessibility of the project</u>

- Validation of the initiative by the Mayor
- Availability of business and IT departments
- Maturity of the project
- Technological complexity
- Estimated cost of implementation

In parallel with this assessment, the city of Aix-en-Provence has defined its Information System Master Plan 2021-2026 (1/3)

...leading to a list of 20 major projects including 7 Smart City projects

- Optimisation and deployment of existing Smart City use cases: connected litter bins, noise pollution, air quality, pedestrian flows, heat islands, smart lighting, public wifi, etc.
- Experimentation of new Smart City use cases: smart watering, smart parking, safe city

- New user teleservices
- Open Data Portal

- Evolution Application "Aix ma ville
- Evolution aix-en-provence.fr website
- Creation of digital paths Culture and sport

For a healthier, cleaner, safer and more sustainable city

For a city more connected with its citizens

For a more attractive and dynamic city

A list of projects to which the city wishes to add a project to structure Smart City governance

Ambition in the framework of the ICC program

The city of Aix-en-Provence wishes to take advantage of the ICC program to frame 3 new projects included in the digital master plan

Smart Parking

Safe City

Smart Watering

And work about a Smart City governance (Business indicators and dashboards, hypervisor v2 and comitology)


P
Smart Parking

Smart Parking - Target ambition

Axis 1: For a healthier, cleaner, safer and more sustainable city

Description of the initiatives

- Deploy sensors on certain parking spaces (PRM spaces, delivery spaces, parking spaces, spaces reserved for electric vehicles, etc.) offered in the city of Aix-en-Provence to meet several objectives:
  - To make it easier for users to find free spaces by allowing them to see the number and location of available spaces directly on the Aix ma Ville application (GPS coordinates) and by proposing an itinerary (Google Maps type) to reach them
  - Be able to have the Municipal Police check that parking rules are respected (e.g. maximum parking time in a PRM space, fight against vacuum vehicles, etc.)
  - Be able to correlate different data and monitor the occupation of these spaces via several indicators in order to adapt the parking offer (number of spaces, new price range, etc.) and/or develop new mobility schemes within the city (e.g. park-and-ride facilities on the outskirts of the city and HST and/or development of soft mobility)
- Upgrade the Aix ma Ville application to include the SEETY or YESPARK online payment applications (payment for on-street parking spaces): payment for parking via smartphone, consultation of remaining time, extension of parking with payment on smartphone
- Encourage users to use the Aix ma Ville application by placing QR codes underneath the parking signs to download the app

Key milestones

- End of June 2021
  - Deployment of 130 sensors (100 on PRM spaces, 15 on delivery spaces and 15 on parking spaces) at a rate of 20 per week
  - Data upload to the V2 hypervisor
  - Access to this data on the Aix Ma Ville app
- September 2021
  - Establishment of a "Smart Parking" governance system within the city involving all stakeholders: Elected officials, Roads, Parking, DSI, SEMEPA, Municipal Police...
- 2022
  - Development of the Aix ma Ville application (consultation of GPS coordinates of available spaces and suggestion of an itinerary, integration of online payment apps, etc.)
  - Feedback following the deployment of the first 130 sensors
  - Deployment of new sensors (depending on feedback)

Expected earnings

- Easier search for places for the user
- Simplification of payment for the user
- Smoother traffic flow in the city
- Improved air quality
- Easy control of compliance with parking rules
- Access to new data
- Modern image

Actors / Partners to be mobilised

- City of Aix en Provence
- Com Network
- Axians

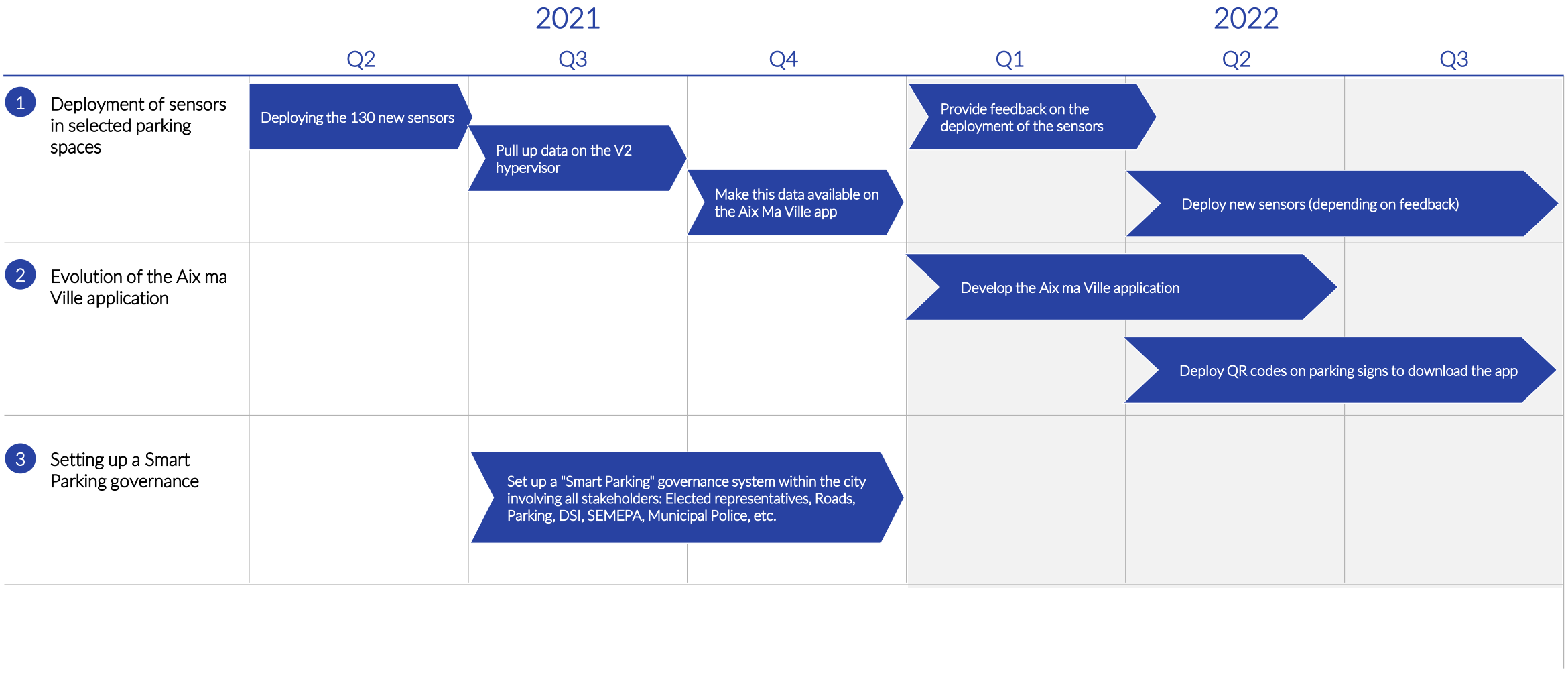
Risks

- Lack of co-construction with the business
- Lack of a sensor deployment plan
- Complexity and duration of sensor installation
- Lack of communication with users
- Lack of new parking enforcement processes
- Lack of Smart Parking governance
- Lack of reliability of sensors and data feedback
- Complexity of migrating to a v2 hypervisor

First KPIs

- Number of rotations per day
- Occupancy rate of the space
- Minimum occupancy time per day
- Maximum occupancy time per day

Smart Parking project trajectory




Safe City

Safe city - Target ambition

Axis 1: For a healthier, cleaner, safer and more sustainable city

Description of the initiatives

- **Intelligent video surveillance:** Deploying intelligent cameras that allow the public space to be viewed at 360° and according to defined scenarios. To be able to use these cameras to automatically detect objects (e.g. suspicious packages) or people (e.g. people on the ground) and to be alerted. To be able to search for certain situations on the camera indexes (e.g. traffic of a red vehicle). Associate AI with the city's surveillance cameras.
- **Automatic number plate reading (ANPR):** Experiment with ANPR technology that allows a car armed with cameras to detect vehicles that have not paid the parking meter (by reading the number plates).
- **Emergency call points:** Deploy emergency call points to contact the Municipal Police in case of incidents.
- **Municipal Police mobile tools:** Enrich the mobile ticketing application (on smartphones) used by the Municipal Police with documents providing road information and GIS data (e.g. blocked streets, removal or parking permits, etc.). Enrich the Municipal Police's mobile intranet.
- **Drone unit:** In conjunction with the Municipal Police, set up a drone unit within the Aix-en-Provence CIO, consisting of 2 or 3 agents capable of piloting 3 drones and thus detecting illegal dumping, rodeos on two wheels, etc.
- **Smart Circulation:** Remote control of the traffic signals on the Aix-en-Provence "ring road" (e.g. turning all the lights red at the same time to allow police or emergency vehicles to pass).
- **Garde Ton Corps v2:** Deploy a second version of the application to combat street harassment.
- **Troov:** Allow Aixois to declare and/or consult on a portal the objects found in the city and then to recover them (if they are theirs).
- **Intrusion in buildings:** Use sensors and cameras to detect intrusions into public buildings.
- **Cybersecurity:** Carry out, in conjunction with the ANSSI, a security audit of the Smart City environment of the city of Aix-en-Provence

Key milestones

Short term (2021)

- From mid-May 2021, experiment with two Up City fibre cameras to analyse flows, waste and noise in the Allées Provençales and Allée de la Verrerie. Study the possibility of testing a third camera on Place des Cardeurs. Compare the data with that of the delinquency observatory (Municipal Police data collected over the last 3 years)
- Create a drone unit within the IT Department
- Deploy the Garde Ton Corps v2 application
- Deploy the Troov portal

Medium term (within 3 years)

- Deploy emergency call points in the city center, trying to build on existing information totems
- Develop the mobile working environment of the Municipal Police (enhanced ticketing application, mobile intranet, etc.)
- Experiment with ANPR technology
- Carry out a security audit of the Smart City environment

Long term (by 2026)

- Deploy emergency call points on the outskirts of the city center (if possible on existing masts)
- Remotely control the signaling of the Aix "ring road".
- Use sensors and cameras to detect intrusions into the city's public buildings
- Associating AI with the city's surveillance cameras

Expected earnings

- Reduction of delinquency and crime
- Reduction of the feeling of insecurity
- Development of well-being in the city
- Supporting the police in their work
- Ability of the police to intervene more quickly
- Increased efficiency of the municipal police's interventions
- Consideration of cyber security risks
- Modern image

Actors / Partners to be mobilised

- City of Aix-en-Provence
- Municipal Police
- Com Network
- Axians
- Start-up Garde Ton Corps and Troov

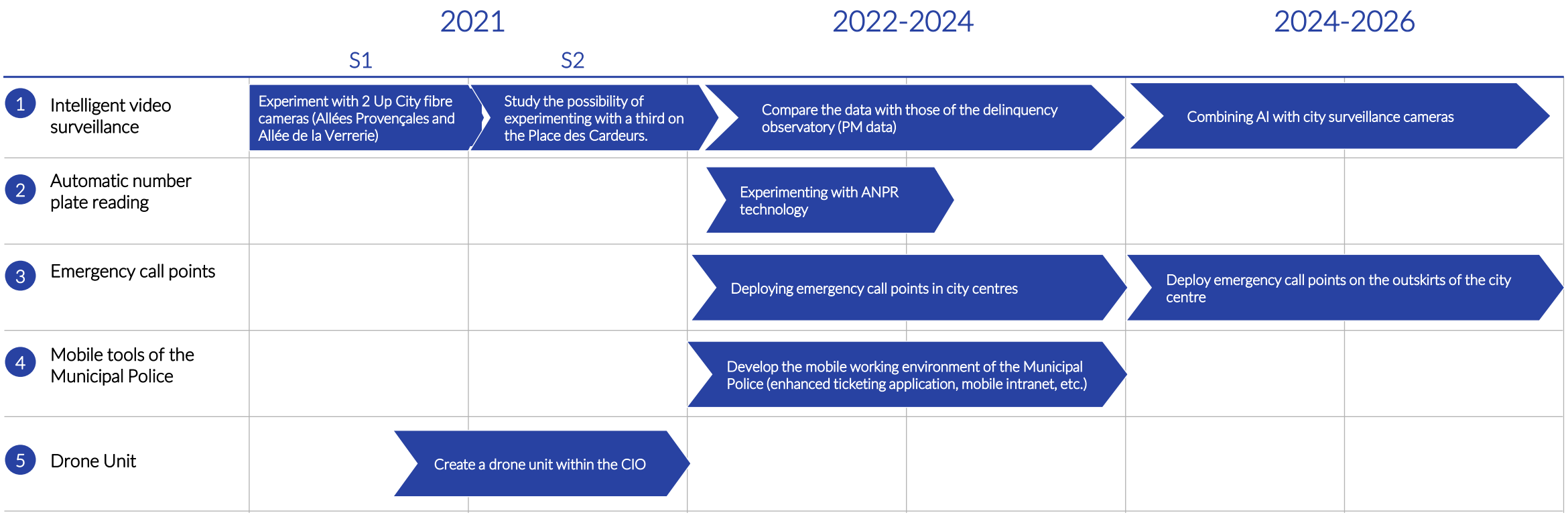
Risks

- Failure to respect the legal framework
- Lack of a camera deployment strategy
- Cost of deploying new infrastructure
- Need to adapt the processes of the Municipal Police
- Lack of communication with users
- Lack of Safe City governance

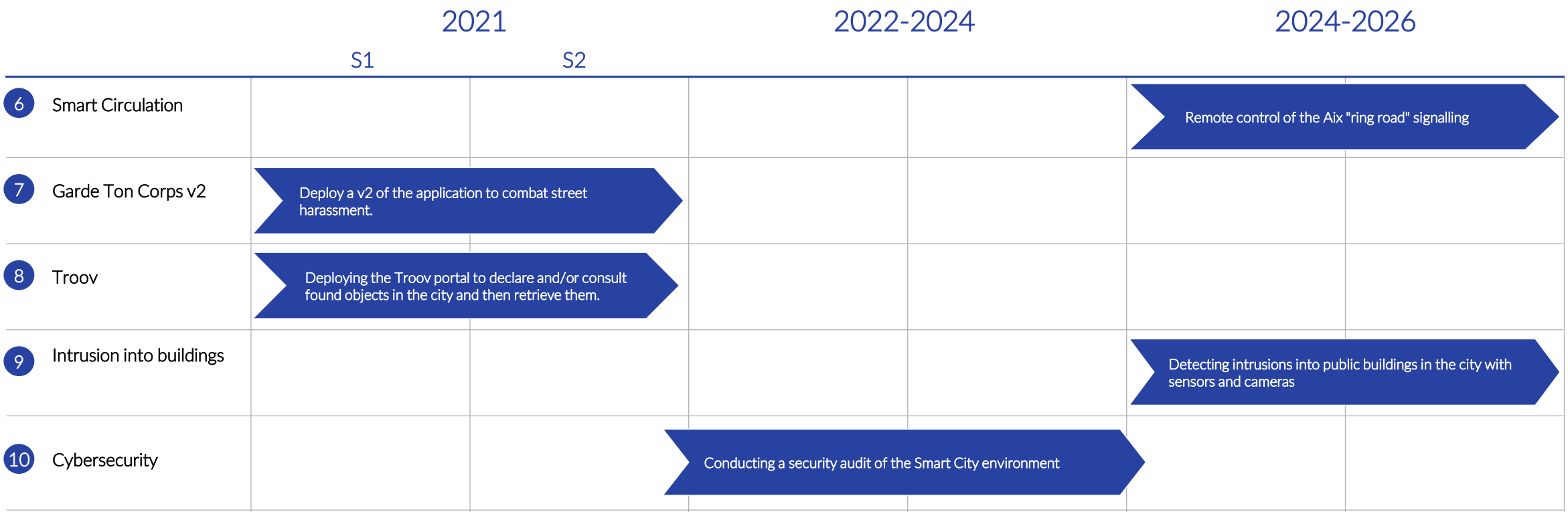
First KPIs

- Evolution of the number of calls to the Municipal Police
- Evolution of the number of crimes and offences
- Evolution of the rate of perceived insecurity
- Evolution of the rate of well-being in the city
- Evolution of the number of interventions by the Municipal Police
- Time saved by the Municipal Police during an intervention
- Number of foiled cyber attacks

Safe City project trajectory (1/2)



Safe City project trajectory (2/2)




Smart Watering

Smart Watering - Target ambition

Axis 1: For a healthier, cleaner, safer and more sustainable city

Description of the initiatives

- Deploying new tensiometric probes (1 probe for 10 trees - currently 69 probes) in the parks and gardens of the City of Aix-en-Provence and its various territories to meet several objectives:
  - To be able to internalise the end-to-end monitoring and management of the City's water consumption, by uploading the data from the probes to the v2 hypervisor via the LoRa network
  - Be able to measure the growth of the tree's root system and therefore better manage the watering cycles and the water needs of the various trees (water savings)
  - Facilitate the daily life of the agents by supervising the green spaces remotely so that they only move when the trees really need it (saving time and energy)
- Equip the park with an automatic irrigation system using connected water meters (meters to be changed or adapted according to discussions with the Régie des Eaux du Pays d'Aix) to meet several objectives:
  - To control and program the irrigation system remotely for automatic and intelligent watering by delivering the right level of water thanks to the deployment of sensors at each solenoid valve (humidity sensor and water flow meter)
  - Enable automatic detection of hidden leaks in the network and identify broken irrigation devices
  - Know the actual water consumption per day, week, month... of the connected green spaces

Key milestones

Short term (2021)

- Experiment with 2 new tensiometric probes on the Cours Mirabeau
- Experiment with about 10 new humidity sensors / flowmeters on the Parc Vendôme electrovalves
- Upload data to the V2 hypervisor (LoRa network)
- Accessing data in the GIS (for the business)
- Conduct feedback following the deployment of new probes and sensors

Medium term (within 3 years)

- Define a deployment plan for probes / sensors
- Deploy new probes and sensors according to the deployment plan
- Set up a "Smart Watering" governance within the city involving all stakeholders: Elected officials, IT department, the city's Green Spaces Department, the Pays d'Aix Water Authority and the Canal de Provence

Long term (by 2026)

- Feedback following deployment
- Deploy new probes and sensors (depending on feedback)

Expected earnings

- Decision-making support (watering, maintenance, etc.)
- Improvement of the water consumption of the city of Aix-en-Provence
- Reduction and optimisation of agent movements in the field (being in the right place at the right time)
- Continuous monitoring of the water requirements of plants

Actors / Partners to be mobilised

- City's Green Spaces Department
- DSI of the city
- Pays d'Aix Water Board
- Canal de Provence
- Technological partner to be identified

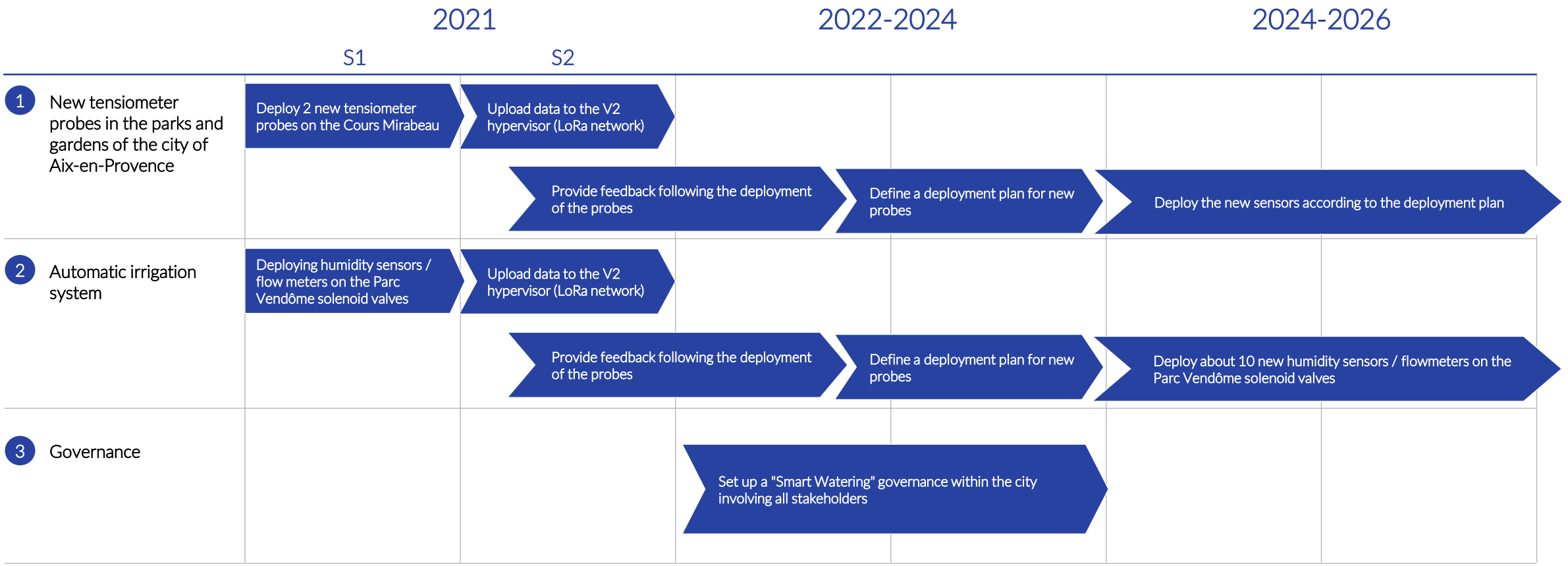
Risks

- Lack of a sensor deployment plan
- Complexity and duration of sensor installation
- Lack of Smart Sprinkler governance
- Complexity of migrating to a v2 hypervisor
- Cost and time to deploy new infrastructure
- Need to adapt processes, tools, functions of the city's Green Spaces Department
- Need to highlight the return on investment of this initiative to communicate it to the Mayor

First KPIs

- Evolution of water consumption in real time (per day, week, month...)
- Soil moisture content
- Water flow and pressure indicators
- Number of meters / solenoid valves operating vs. not operating
- Duration of watering and water volumes
- Evolution of events (leaks, breaks, etc.)
- Time saved by the city's green space agents

Smart Watering project trajectory

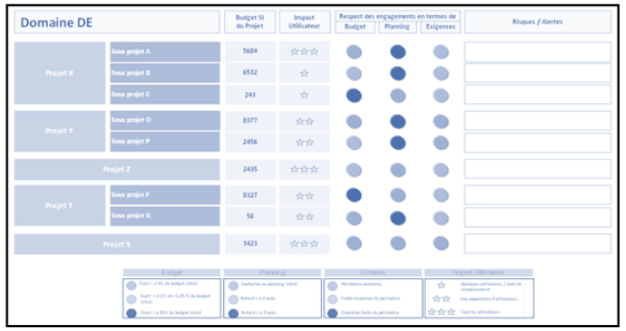


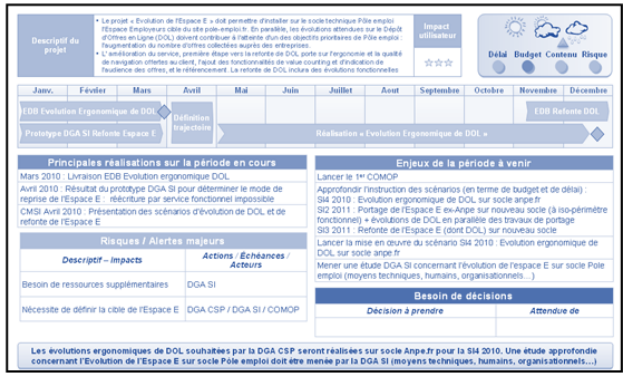
Smart City Governance

Why and how to structure a Smart City governance for Aix-en-Provence?

Why set up a Smart City governance?

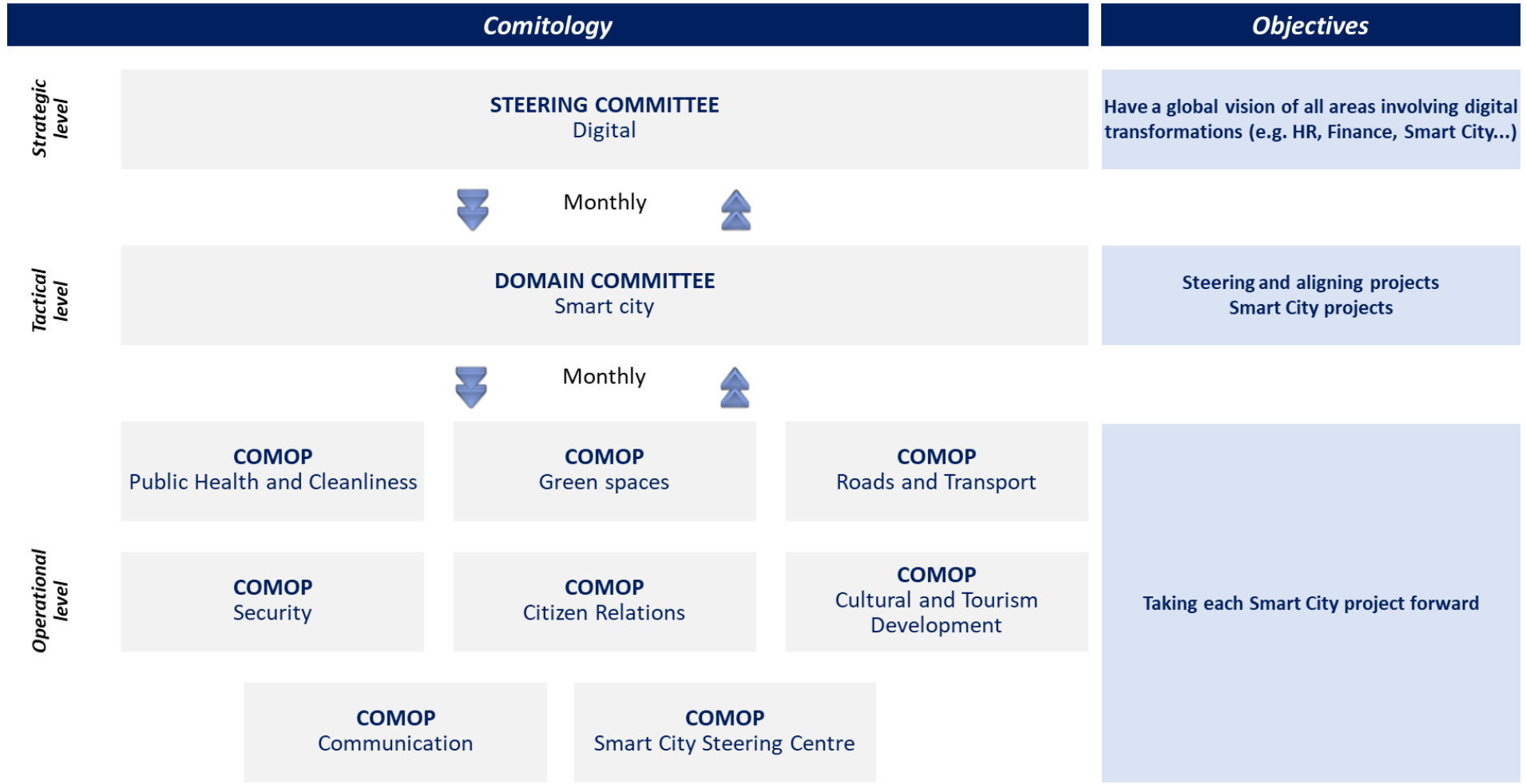
- Define and maintain Aix's Smart City ambition and roadmap
- Manage the city's portfolio of Smart City projects
- Monitor the implementation of projects (quality, budgets, deadlines, risks, etc.)
- Identify and manage possible adherences between projects and/or cross-cutting projects (e.g. evolution of the hypervisor)
- Make decisions / arbitrations when necessary
- Manage the achievement of the objectives and KPIs defined by the city
- Establish a continuous improvement process
- Mobilise the city's teams but also its ecosystem
- Facilitate collaborative work between departments, the IT department and the city's ecosystem
- Make the players responsible for their area of intervention





Examples of reporting

Smart City governance for Aix-en-Provence



Distribution of projects in the different COMOPs

COMOP Public Health and Cleanliness	• Air quality • Noise pollution • Connected litter bins
COMOP Roads and Transport	• Smart lighting • Public Wifi • Pedestrian flow • Smart Parking
COMOP Security	• Safe City
COMOP Citizen Relations	• New teleservices
COMOP Cultural and Tourism Development	• Digital Pathways Culture and Sport
COMOP Communication	• Aix ma ville" app • Website aix-en-provence.fr
COMOP Green spaces	• Smart Watering • Heat islands
COMOP Smart City Steering Centre	• Hypervisor v2 • Open data

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3+4

Aix-en-Provence: Impact

ICC Transformation

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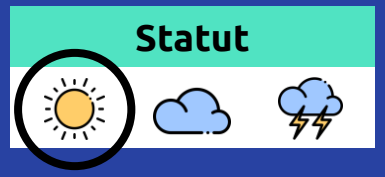
Summary of the city's progress (1/3)



Smart Parking

Main achievements

- Deployment of the V2 hypervisor
- Deployment of 130 sensors (100 in PMR spaces, 15 in delivery spaces and 15 in parking spaces)
- Uploading data to the V2 hypervisor
- Positioning of sensors in the GIS of the city of Aix-en-Provence

Next steps

- Organize meetings with the "Roads" and "Parking" trades on the needs for data displays and dashboards
- Develop and make possible access to "Smart Parking" data on the Aix Ma Ville app
- Plan, order and implement 200 additional new sensors
- Define the processes for monitoring compliance with parking rules: measure the impact on the configuration of the platform

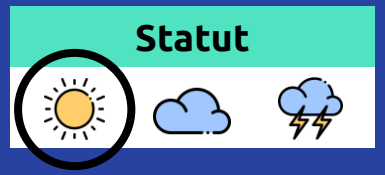
Results obtained

- Hypervisor V2 much richer in features and information
- Location of sensors in the GIS
- Access to new parking data
- Search for places made easier for the user
- Fluidification of traffic in the city (to be measured)
- Improved air quality (to be measured)
- Image of modernity

Risks and difficulties encountered

- Complexity and installation time of new sensors
- Reliability of sensors and reported data
- Reliability and coverage of the LoRa network
- Difficulties encountered in the implementation of Smart Parking governance

Summary of the city's progress (2/3)



Safe City

Main achievements

- Experimentation with 3 sensors (Place de la Mairie, Place des Cardeurs and Rue de la Verrerie): these sensors make it possible to reliably measure pedestrian flows and noise. Feedback of data from these 3 sensors in the V2 hypervisor. Purchase of 15 additional sensors being deployed
- Creation of the Drones Unit within the DSI (validation obtained from HR)
- Deployment of the Garde Ton Corps v2 application
- Equipping 100 municipal police officers with CrossCall equipment and portable cameras (against attacks)
- Cyber Security Audit from October 2021 to February 2022: presentation of the ANSSI audit on March 11 to the CEO and elected officials

Next steps

- Deploy the 15 additional sensors
- Refine the camera deployment strategy
- Deploy the Troov portal (deployment in September 2022)
- Organize meetings with the Municipal Police and the "Roads" business on intelligent video surveillance, automatic reading of license plates, emergency call terminals
- Finalize the specifications for the mobile tools of the Municipal Police
- Organize a meeting with the "Communal Buildings" on building intrusion

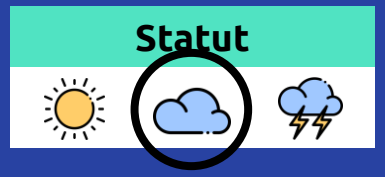
Results obtained

- Reduction of delinquency and offenses
- Reduction of the feeling of insecurity
- Development of well-being in the city
- Image of modernity
- Cyber Security Risk Assessment

Risks and difficulties encountered

- Compliance with the legal framework
- Costs of deploying new infrastructure
- Need to adapt Municipal Police processes

Summary of the city's progress (3/3)



Smart Watering

Main achievements

- Positioning of the "Smart Watering" use case as one of the 5 priority Smart City use cases for the city of Aix en Provence (Decision of the Mayor + DGS)
- Deployment of 69 new tensiometric probes (1 probe for 10 trees)

Next steps

- Organize a meeting with the "Green Spaces" of the city to study the needs

Following this meeting:

- Experiment with 2 new tensiometric probes on the Cours Mirabeau
- Experiment with around 10 new humidity sensors / flowmeters on the solenoid valves at Parc Vendôme
- Upload data to the V2 hypervisor (LoRa network)
- Access data in the GIS (for the business)
- Provide feedback following the deployment of new probes and new sensors

Results obtained

- Improvement of water consumption in the city of Aix-en-Provence (to be measured)
- Reduction and optimization of agent travel in the field (to be measured)
- Continuous monitoring of plant water needs

Risks and difficulties encountered

- Organizational risk: many external players to coordinate (Régie des eaux du Pays d'Aix)

Lessons learned

What worked well over the period of ICC program…

- Successful launch of work on the three new use cases
- First experiments with positive results

What worked less well over the period of ICC program…

- Difficulty in mobilising the business divisions over the long term and/or having visibility over their work

What lessons can be learned from the period?

- Need to set up shared business/IS governance for Smart City projects