# The European Commission's INTELLIGENT CITIES CHALLENGE

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# Métropole Rouen Normandie Intelligent City Transformation Overview

#### ICC Final Deliverable





### **Executive summary in video**



# The city of X 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  |
|---------|--|---|---|--|
|         | Preparation & assessment   | 2 Ambition & roadmap  | 3 Implementation  | Review & way forward   |
|         | 5 months:<br>September 2020 – January 2021   | 3 months:<br>February 2021 – April 2021   | 15 months<br>May 2021 – July 2022   | 2 months<br>August 2022 – September 2022                                     |
| Summary | Find out where a city is, where it<br>should go and who in the ecosystem<br>is going to mobilise make things<br>happen | Develop a <b>concrete plan</b> to achieve<br><b>measured improvements</b> ,<br>collaborating with the community;<br>push action with immediate benefits | Get "big moves" <b>done</b> and <b>see</b><br><b>results</b> ; take <b>action in partnership</b><br>with others | Measure success, and commit to<br>keep connections and<br>improvements going |



The European Commission's INTELLIGENT CITIES CHALLENGE

Section

September 2020 to January 2021





# Métropole Rouen Normandie : Preparation and assessment

ICC transformation





#### Introduction

#### Rouen Normandie includes its digital transition approach in the ICC system

- Axes identified and orientations within the framework of the ICC programme:
  - Improving citizen participation
  - Developing the territory's **resilience to climate change**
  - Transforming industry, green manufacturing and clean production
  - Innovating for green and smart mobility and transport
- National and international openness
  - Create an opening and networking with other European cities developing international collaborations
  - Revive the attractiveness of the territory by placing it at the heart of a new market offering the possibility of attracting new young innovation players
- Calendar
  - Phase 1 (September 2020 January 2021): Preparation & evaluation
  - Phase 2 (February 2021 April 2021): Ambition & roadmap
  - Phase 3 (May 2021 July 2022): Application
  - Phase 4 (August 2022 September 2022): Analysis & Outlook



#### City needs: State of the city overview







#### **City Ecosystem**



**Governance** Ecosystem, roles & responsibility, decision-making, etc.

**Organization & Skills** Pool of talents, available resources, skills, etc.

**Technological Foundations** Open data, data lake, data center, cloud, IAM, ETL/BUS, etc.

**Cybersecurity** Data integrity and protection, BCP, etc.

Access to funding Ease to access funding, financial state, etc. A collaborative and cross-disciplinary working group, #MaMétropoleConnectée, dedicated to the development of the Smart City approach. 2 key elected officials: one elected official for Digital, one elected official for Citizen Participation and Open Data 1 project manager for "Smart Territory and Smart City" (Territoire Intelligent et Smart city) Master plan for information systems (SDSI) with a Smart City componentTranslated with www.DeepL.com/Translator (free version)

A digital sector supported by AD Normandie (Normandy regional development agency) and piloted by Normandie Web Xperts and Pôle TES. Several non-profit organisations (NWX, RNFT, Codeurs en seine, Normandigital, Syntech numérique, Cléon 4.0 ecosystem) and other organisations active in the field (NAE, Moveo...) + 1 federating business centre: Seine Innopolis

Around 30 academic degrees specialising in digital technology (offered by INSA, University, Esigelec, CESI, Normandy Web School, etc.) 500 researchers with expertise in computer science, information and systems processing, robotics, etc.

Participation in the consortium DATALAB NORMANDIE : a regional accelerator for Artificial Intelligence and Data projects Regional data centre

Regional Coordination of Geographical Information (CRIGE) with a data dissemination platform "Geonormandie" Member of the OpenData France network to exchange with other institutional partners.

A Data Protection Officer (DPO) and an Information Systems Security Officer (ISSO) for internal cybersecurity governance Information systems security policy currently in preparation

Establishment of an internal safety certification commission in accordance with ANSSI guidelines Member of AFCDP - National Association of Data Protection Experts and Territorial Working Group Creation of a Regional Security Club (CLUSIR) in NormandyTranslated with

Funding for the "Rouen Intelligent Mobility for All" project (€5.2 million secured from the national programme "High ambition innovation territory" or TIGA, with potential ERDF co-funding and demonstrators financed by Horizon 2020) Cohesion Policy 2021-2027 : ERDF OP1 : A smarter Europe by promoting innovative and intelligent economic transformation.

National recovery plan (#France relance), cofunded by the European recovery plan, with priority funding on transition to a digital and intelligent economy ("Digital transformation of the State and territories" strand in #Francerelance)



#### **City strategy: justification**



#### **ICC** strategy: Vision and ambition statements



Capital of the World After :

Becoming a more inclusive, sustainable, resilient and attractive metropolis that is a model of ecological and social transition in a changing world.

Towards a more inclusive and participative metropolis Towards a more attractive and dynamic metropolis Towards a more sustainable and resilient metropolis



### **City strategy: justification**

| Axes<br>Ambitions   | Mobilising an innovative<br>ecosystem   | Implementing data<br>governance   | Supporting the digital transformation of actors and territories   | Involving citizens  | Simplifying access to services   | Building a transversal<br>infrastructure  |
|---|---|---|---|---|--|---|
| Towards a more<br>inclusive and<br>participative metropolis | Promoting Open<br>Innovation in the<br>territory<br>Living Lab  | Co-construction of an<br>Open data approach   | Catalogue of services for municipalities  | Citizen participation<br>"Je participe" platform<br>Transparency of public<br>policy-making | Bridging the digital gap<br>Connected cabins /<br>Telemedicine   |   |
| Towards a more<br>attractive and dynamic<br>metropolis      | Responsible digital<br>approach<br>Training to support the<br>digital transformation of<br>the Metropolis                                       |   | Digitital transition of the<br>economic actors<br>Resilience of the territory<br>Reducing the ecological<br>footprint of digital<br>technology<br>Encouraging new<br>mobility for goods and<br>people | Optimising the use of<br>digital technology for<br>crisis management                        | Reuse of computer<br>equipment<br>"Mon tri" application  | Network optimisation<br>Public/private<br>partnership                                     |
| Towards a more<br>sustainable and resilient<br>metropolis   | Encourage innovation, by<br>supporting the most<br>innovative players in the<br>field of digital technology<br>(e.g. Hospital of the<br>Future) | Participation to the<br>regional Datalab<br>Harnessing the potential<br>of data to provide<br>innovative services (e.g.<br>optimising energy<br>management in buildings)<br>Smart cap | Encourage innovation by<br>supporting and<br>accompanying the most<br>innovative digital players<br>in all sectors  |   | E-administration<br>"Ma Métropole dans ma<br>poche"<br>Simplifying administrative<br>procedures (CRM)<br>Public WIFI | Information system<br>urbanisation (data<br>warehouse)<br>Internet of Things<br>(sensors) |



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Section

2

February 2021 to May 2021





# Métropole Rouen Normandie : Ambition and roadmap

ICC Transformation



#### High level implementation roadmap ("10000m plan")



## Example: High level implementation roadmap for a given solution ("10000m" plan") – From June 2021

🛨 Milestone



## MA METROPOLE DANS LA POCHE APP

| INITIATIVE OVERVIEW         |  | INITIATIVE CONTENT                               |  | INITIATIVE FOLLOW-UP               |   |
|-----------------------------|--|--|--|------------------------------------|---|
| Initiative name:            | Smartphone app Ma Métropole<br>dans la poche   | Ultimate goal<br>and scope of<br>this initiative | Application combining all the services offered<br>by the Metropolis as well as additional<br>functionalities<br>The objective is that all the inhabitants of the<br>Metropolis have access to the services of the<br>Metropolis in a single click on a single<br>application | Impact and<br>timing<br>O<br>Risks | From September the first uses will be<br>evaluated  |
| Initiative lead:            | Communication dept (COM)<br>Information System dept (DSI)  | Major<br>milestones                              | Opening of the first tiles in September 2021<br>2022: deployment of new functionalities  |                                    | needs<br>Data quality: Data update<br>Entire territory not covered by the application   |
| Initiative<br>working team: | COM / DSI<br>#MaMétropoleConnectée<br>Joint Geomatics and Territorial<br>Knowledge Service (GIS) | Dependencies                                     | This project is dependent on data structure in<br>the different departments of the Metropolis,<br>their quality and updating   |                                    | Need for clear project governance and<br>dedicated human resources<br>Strong sponsor from the General<br>Management and elected officials |
| Contributors:               | All services that deal with the<br>data<br>All municipalities of the<br>Metropolis               | Key<br>stakeholders<br>€                         | This application is developed by Orange<br>The internal project leaders are therefore in<br>contact with the service provider for the<br>implementation of this application  | -0,                                | 14  |

# All of three types of KPIs selected and with targets (where needed)

Ma Métropole dans ma poche app

- Number of tiles in the application
- Number of municipalities visible in the application
- Number of people using the application





## **CO-CONSTRUCTION OF THE OPEN DATA APPROACH**

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**INITIATIVE OVERVIEW** 

#### INITIATIVE CONTENT

**INITIATIVE FOLLOW-UP** 

• define a territorial approach to the Open Initiative name: Open Data: co-construction of the data process This project will start to have an impact Ultimate goal Impact and approach with the municipalities • pool resources and expertise when the first data sets are published and timing and scope of • promote new services throughout the when a facilitation programme is this initiative territory Ì implemented on the territory • provide high value-added data to foster R innovation, contribute to the transparency of public life and modernise public services Digital and Open Data Project Risks Municipalities of the Metropolis do not wish Manager of the MRN Initiative lead: to join the approach • Digital WG  $/ \]$  #MyConnectedMetropolis • SDSI: Information Systems • MRN Open Data Deliberation from Lack of human resources to lead the process Master Plan 08/02/2021 both internally at the Metropolis and in the Major • EOI from municipalities for coterritorv milestones • MRN / City of Rouen Initiative construction of the approach (June 2021) • DSI, PRADA, DAJ, DPO, GIS, • Territorial roadmap at the end of 2021 working team: departments with datasets. Business Opening of a shared platform - 2022 application project managers • The municipalities of the Metropolis Budget dedicated to the Open Data Support Reflection within the "CRIGE Normandie" Dependencies platform needed on a shared regional platform Contributors: Presence of an elected representative for "Je Participe" platform • K  $\left(\begin{array}{c} \\ \\ \\ \\ \end{array}\right)$ citizen participation and Open Data: Sylvie  $\int_{0}^{0}$ Metropolitan Development Council Nicq Croizat Citizen Committee Living Lab Kev • Bi-monthly updates between the MRN / Datalab stakeholders City of Rouen pilots • WG with the municipalities (currently

under preparation)

# All of three types of KPIs selected and with targets (where needed)

#### Co-construction of the Open Data approach

- Number of open datasets by theme
- Number of municipalities involved in the process
- Number of workshops organised



Number of municipalities involved in the approach

Number of workshops organised



# 18



#### **ENERGY DATAHUB**

| INITIATIVE OVERVIEW  |   | INITIATIVE CONTENT                               |  | INITIATIVE FOLLOW-UP |   |
|--|---|--|--|----------------------|---|
| Initiative name:   | Energy data warehouse to<br>develop use cases (indicators,<br>open data, predictive analysis,<br>energy registry, etc.)                           | Ultimate goal<br>and scope of<br>this initiative | This project is divided into two phases:<br>- mapping of energy data and identification of use cases<br>in order to produce a data roadmap for the coming<br>months;<br>- implementation of a first energy data warehouse to put<br>these use cases into production. | Impact and timing    | The setting up of a demonstrator in the<br>first quarter of 2022 will make it possible<br>to show the benefits of this type of<br>project |
|  |   | Major  | <b>April - May 2021:</b> Project definition in conjunction with the business and IT departments  | Risks                | Lack of internal capacities to keep the project sustainable   |
| Initiative lead:   | Information Systems Dept<br>Energy Dept   | milestones                                       | September - December 2021: Framing and business support / Preparation of the technical base and definition of indicators   |                      | Lack of availability of internal / external data providers  |
|  | Open Data Project Manager   |  | January 2022 - December 2022: Development of the use case using an agile method and deployment of the versions developed on the target environments /  | Support              | Call for data projects under the Recovery Plan for Digital  |
| Initiative<br>working team:                                  | Project management assistance<br>will be required for both phases<br>of the project:<br>- framing of the strategy<br>- development of the datahub |  | continuous improvement   |                      | <ul> <li>Validation of the project at political level</li> </ul>  |
|  |   | Dependencies                                     | This project depends on the recruitment of a business intelligence expert  |                      | <ul> <li>Line of €350,000 to be included in the 2022<br/>budget</li> </ul>  |
| Contributors:  | The public energy service (under creation)  | Key<br>stakeholders                              | Who are the stakeholders that the team needs to communicate with?  |                      |   |
|  | Private actors could also join this initiative  | KO⊅<br>←∭→                                       | How often does the team communicate with each stakeholder group?   |                      |   |
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# All of three types of KPIs selected and with targets (where needed)

#### Energy Datahub

- Number of data flows mapped
- Number of use cases addressed
- Impact assessment on energy consumption

- Number of data flows mapped



- Number of use cases addressed



Impact assessment on energy consumption





#### **Governance structure for roadmap implementation**



20

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Section

3 + 4

February 2021 to May 2021



# Métropole Rouen Normandie : Impact

ICC Transformation



#### Impact executive summary



What worked well over the period ...

- Structuring of the approach
- Deliberation Smart and sustainable territory voted on July 5, 2021
- Digital COPIL
- WG #MaMétropoleConnectée
- Data ecosystem led by the Datalab and digital topics Pôle Tes



What worked less well over the period ...

- Seeking funding
- Communication action



What lessons can be learned from the period?

- Lack of human resources on data topics
- Working in silos
- Need to support the development of digital skills internally

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



#### **Final results : citizen app**

#### Ma Metropole dans ma poche App : Final Résults

https://apps.apple.com/lr/app/rouen-m%C3%A9tropole-dans-mapoche/id1568313714

1

TousAntiCovid







- Number of tiles in the application : 12
- Number of municipalities visible in the application : Rouen
- Number of people using the application (number of downloads) : 9000 since launch



#### Final results: open data plateform

Open data : Final Résults

https://data.metropole-rouen-normandie.fr





- Number of dataset : 30
- Number of municipalities : 5
- Number of people using the application : Public opening of the platform 01/09



#### **Final results: dashboard energy**

#### Data hub energy : Final Résults

Consommation Totale en kWh en 2021

#### 12 560 234

Nombre de Bâtiment en 2021

#### 54

#### Consommation par type de bâtiment

En décomposant cette consommation par type de bâtiment, on constate que ce sont les musées qui représentent la plus grande partie de la consommation d'énergie. Les musées ont en effet de grandes surfaces à chauffer, et il s'agit pour la plupart de bâtiments anciens qui ont un fort intérêt patrimonial : les interventions pour améliorer leurs performances énergétiques sont donc plus compliquées.



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- Number of data flows mapped
- Number of use cases addressed
- Impact assessment on energy consumption



Work in progress

## 5 key lessons

#### COHERENCE OF DIGITAL STRATEGY

- 1. To include the strategy in the IT Master Plan
- 2. To evaluate **the benefits** for the Metropolis, users, agents.
- 3. To assess **the relevance** of the project in the global digital strategy.
- 4. To ensure **consistency** between the different digital tools of the Metropolis.
- 5. To pool resources, reduce costs and environmental impact.





## Commitments

| Commitments to on-going resources   | Commitments to on-going collaboration  | Commitments to on-going KPIs  |
|---|--|---|
| <ul> <li>Project 1 (Citizen App) – the project will continue as planned, with the secured and foreseen resources and funding</li> <li>Project 2 (Open data platform) – the project will continue as planned, with the secured and foreseen resources and funding</li> <li>Project 3 (Datahub Energy) - the project will continue as planned, with the secured and foreseen resources and funding</li> </ul> | <ul> <li>Project 1 (Citizen App) - In the framework of the ICC project no collaborations with ICC cities were set up for this project.</li> <li>Project 2 (Open data platform) - the existing collaboration between the 5 involved municipalities will continue as foreseen - future collaboration with other municipalities is not excluded. In the framework of the ICC project no collaborations with ICC cities were set up for this project.</li> <li>Project 3 (Datahub Energy) - In the framework of the ICC project no collaborations with ICC cities were set up for this project.</li> </ul> | <ul> <li>Project 1 (Citizen App) - continuation of commitment to on-going KPIs</li> <li>Project 2 (Open data platform) – continuation of commitment to on-going KPIs</li> <li>Project 3 (Datahub Energy) - continuation of commitment to on-going KPIs</li> </ul> |
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#### 3 Year plan - ambitions

| Building on the<br>ICC, what would<br>will the city aim to<br>achieve in 3 years<br>time? | <ul> <li>Mobility hub(s) established</li> <li>Pilot for "rolling bus shelter"</li> <li>Local energy grid/district level in implementation</li> </ul>  |
|---|---|
| What steps will you<br>take over the next<br>3 years to achieve<br>these goals?           | <ul> <li>Digital infrastructure for mobility will be further developed (as initiated under ICC)</li> <li>New discussions with state/regional government about Road 95, bus stops etc., to provide a place for piloting of "rolling bus shelter"</li> <li>Define The "Arctic Center of Energy"-building at Campus Skellefteå to use a local energy grid in some way</li> </ul> |



## **3 Year plan - ambitions**

| Building on the<br>ICC, what would<br>will the city aim to<br>achieve in 3 years<br>time? | <ul> <li>Implement a responsible digital strategy</li> <li>Coordinating an E-inclusion policy</li> <li>Develop projects around the valorization of data : Energy, mobility, etc.</li> </ul>  |    |
|---|--|----|
| What steps will you<br>take over the next<br>3 years to achieve<br>these goals?           | Responsible Digital StrategyBe labelled Digital Responsible by the Responsible Digital InstituteImplementation of responsible purchasingE-inclusionCarry out an assessment of the digital fragility of the territoryMapping the actors of digital inclusionDataDevelop data visualizationsContinue the experiments on AI |    |
| INTELLIGENT CITIES<br>CHALLENGE   |  | 20 |