

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

This document was compiled by City of Białystok. The information and views set out in this report are those of the City and do not necessarily reflect the official opinion of EISMEA or of the European Commission. Neither EISMEA, nor the European Commission can guarantee the accuracy of the data included in this document. Neither EISMEA, nor the European Commission or any person acting on their behalf may be held responsible for the use which may be made of the information contained therein.

City of Białystok: Intelligent City Transformation Overview

ICC Final Deliverable

Executive summary

The City of Białystok, in cooperation with municipal companies, creates the conditions for an energy cluster and installation of the first Renewable Energy Sources on municipal buildings. Despite good server infrastructure, there is a lack of interoperability in the City's IT processes. The City does not offer too many e-services with a maturity level, allowing for the complex realisation of matters in the Municipal Office. The City is in the early stages of its development path, which needs to be improved. The City is currently preparing the Strategy for Development of the City of Białystok 2030, which is also essential in developing solutions in the framework of the ICC programme.

The City of Białystok purposefully and consistently pursues efforts following the adopted vision "**Green & digital future city**", which means: a green, sustainable City with cleaner air, using green energy sources in cooperation with other entities forming a shared network with a minimum of 20% RES on municipal buildings by 2025. Thanks to a comprehensive range of e-services, residents and entrepreneurs can deal with 30% of matters without visiting the Office by 2022. They could also check the status of settled matters and their accounts' balance.

We intended to implement **four projects: two in the sphere of green energy and two in the IT field**. Although the themes and scopes of each project are different, they will follow a similar pattern related to the specificity of TSU activity in Poland.

During the two years since the launch of the Challenge, we are following the implementation of PV installations on certain buildings. We are also in the middle of negotiating and developing e-service solutions such as a video-visit system and a citizen portal. In addition, we made concrete steps toward integrating and implementing a unified financial and accounting system at the Municipal Office. Due to global economic factors significantly impacting our country's economy, **we had to re-prioritise our challenges and activities** at the expense of helping those who needed our help the most, that is, refugees from Ukraine.

Over the coming years, there are goals of increasing urban independence and energy efficiency, reducing CO2 and consistently improving the quality of digital services. In particular, we are committed to developing the concept of an energy cluster, which we have not managed to achieve at the moment. However, the process will be much smoother with the developed methods, roadmaps and indicators.

Mayor Foreword

„The City of Białystok meets the needs of its citizens by concentrating on **green intelligent, sustainable growth** through increasing the quality and efficiency of city services in all areas of its functioning, improving the quality of life and supporting new opportunities for citizens.

The digitalisation of the economy and society is one of the most radical changes of our time. Mainly the pandemic and COVID-19 have forced us to become automated faster, to do remote learning, remote working and encounter each other online. It has also resulted in a very rapid global digitalisation process, which not only Poland but the whole world has entered.

The final document developed over the past two years **with the help of experts from the European Commission and KPMG Poland** is the product of many hours of team and individual work. It is only the beginning of the transformation process towards a better functioning city as a modern urban centre on the map of Poland and Europe. The initiatives outlined in the Challenge comply with the Smart City concept, and the resulting document is a real help in supporting the City's development towards smart solutions.

Having pointed out the weaknesses and strengths of the City and having taken into consideration the responsibilities as well as the competence, technological and civilisational challenges which determine the strengthening of the competitiveness of the City of Białystok, I firmly believe that **from a perspective of the forthcoming years** we will be able to bring the City's space into a high level of advanced solutions and conveniences which, by the assumptions of sustainable development, will provide its inhabitants with living and working conditions corresponding to their high expectations and aspirations.”

Tadeusz Truskolaski
the Mayor of the City of Białystok

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

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



1 Preparation & assessment

5 months:
September 2020 – January 2021



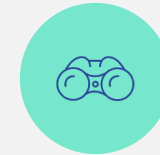
2 Ambition & roadmap

3 months:
February 2021 – April 2021



3 Implementation

15 months
May 2021 – July 2022



4 Review & way forward

2 months
August 2022 – September 2022

*Reported as
one section*

Summary

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**

Section

1

September 2020 to January
2021

City of Białystok : Preparation and assessment

ICC transformation



Introduction


The City of Białystok, with a population of almost 300,000, is the largest city in north-eastern Poland and the capital of the Podlaskie region. It plays the role of administrative, economic, scientific and cultural centre of this part of the country, which **is called the Green Lungs of Poland** because of its unique ecological values. The city's location in an ecologically clean region full of tourist attractions and its rich infrastructure make Białystok and its surroundings an **attractive place to live, relax and develop tourism**.


The main areas to improve by the city of Białystok in ICC programme were selected so as to improve the most pressing matters affecting Polish cities, among which there were the development of ICT services and energy-related issues for city's residents.


In order to release the potential of the City's strengths via participation in the ICC programme, the most important thing is to **make people aware of the need for change**, not only among the city authorities but also among city's residents and local stakeholders. To reveal the potential of strengths and resources, it is also necessary **to work together across the entire urban eco-system** and to involve local actors in the process of change which was made during the 1:1 dialogues while working under the ICC supervision.

City needs: State of the city overview

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

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

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

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

The state of Białystok today

The City of Białystok cooperates with stakeholders in terms of the undertaken activities. In particular, close cooperation is carried out with municipal companies whose task is to conduct many ongoing city affairs activities.

In cooperation with municipal companies, it creates the conditions for an energy cluster and installation of the first Renewable Energy Sources on municipal buildings.

Unfortunately, these actions are too slow and delayed for a few years, and they need to intensify.


Despite good server infrastructure, there is a lack of interoperability in the City's IT processes. The variety of programs and applications results in making decisions based on dispersed data.


The City does not offer too many e-services with a maturity level, allowing for the complex realization of matters in the Municipal Office. The City is in the early stages of its development path, which needs to be improved. The current pandemic situation is significantly enforcing this type of service available in the Office's offer.


The City is currently preparing the Strategy for Development of the City of Białystok 2030, in which directions concerning, among others, Smart City and the environment will be elaborated. This document is also important in the context of developing solutions in the framework of the ICC programme.


Key insights from city performance analysis


Higher performance observed

 **1** High ranks in rankings of living standards in Poland and Europe in the last 10 years


 **2** Increasing electricity and heat from RES in municipal units generates a high potential for transition to the zero-emission system through solar photovoltaic installations and energy from waste incineration.

 **3** Modern network infrastructure and high coverage of the metropolitan area with about 120 km of municipal fibre optic line as well as private and university lines


 **4** Existence of IT Service Centre for Municipal Office (SSC) and Białystok Science and Technology Park

 **5** Innovative protection solutions for the living nature resources: flower meadows, no lawns mowing in parks and on the roads, insects protection, city beekeeping, and developed system of ecological education


Lower performance observed

 **1** The lack of an interconnection between the different systems operating within the city

 **2** No coherent vision for city development in the new technologies area and exclusion of smart city and open data aspects in existing policies and public dialogue

 **3** The untapped potential of local universities for Smart City tasks - no permanent cooperation in developing new solutions

 **4** The insufficient proportion of biologically active areas to built-up areas

 **5** Relatively low resilience of the city's ecosystem to climate changes that undermine the quality of life and safety for residents

City Ecosystem

Key topics for discussion

Shared aspirations and vision

- Stakeholders notice the necessity of improvements in critical areas such as energy efficiency and the expansion of e-service offerings.

What we bring and how we work together

- Stakeholders are willing to cooperate to initiate changes in the City, and they have the relevant knowledge to support the City in these efforts. They noticed a necessity for greater involvement of local stakeholders and improved communication of the City's actions.

Urban resources for transformation

- The city possesses resources in the form of qualified staff and the ability to obtain funding for actions, and many years of experience in implementing projects.

Executive summary of city needs

Our City today

The City of Białystok, in cooperation with municipal companies, creates the conditions for an energy cluster and installation of the first Renewable Energy Sources on municipal buildings. Despite good server infrastructure, there is a lack of interoperability in the City's IT processes. The City does not offer too many e-services with a maturity level, allowing for the complex realization of matters in the Municipal Office. The City is in the early stages of its development path, which needs to be improved. The City is currently preparing the Strategy for Development of the City of Białystok 2030, which is also essential in developing solutions in the framework of the ICC programme.

High & low performance areas

- | | |
|--|--|
| 1 High ranks in the rankings of living conditions in Poland and Europe | 1 The lack of an interconnection between the different systems operating within the city |
| 2 Increasing electricity and heat from RES in municipal units | 2 No coherent vision for city development in the new technologies area |
| 3 Modern network infrastructure (about 120 km of municipal fibre optic line) | 3 The untapped potential of local universities for Smart City tasks |

Our Vision & ambitions

A green, sustainable city with cleaner air, using green energy sources in cooperation with other entities forming a shared network with a minimum of 20% RES on municipal buildings by 2025. Thanks to a comprehensive range of e-services, residents and entrepreneurs can deal with 30% of matters without visiting the Office by 2022. They could also check the status of settled matters and their accounts' balance.

Takeways from stakeholders

- | | |
|---|---|
| 1 | Respondents mainly pointed to administrative barriers resulting from the "paper over anything" principle, and the inability to deal with official matters, and the limited possibility to contact the City Hall electronically. |
| 2 | The business environment associated with the renewable energy area indicates an increase in the City's activities and an increased number of proceedings related to it. |
| 3 | The business community points primarily to the need to improve the City's image both in Poland and abroad. |
| 4 | Respondents expressed the importance of cooperation mainly in new technologies and smart city solutions with the support of both the IT industry and academic experts. |

Executive summary of city solutions and delivery strategy

Priority solutions



Main roadblocks

- × Model for the sale and purchase of electricity
- × Financial resources
- × The uncertain situation related to the COVID-19 pandemic
- × Instability and legal constraints arising from legislation on local government units
- × Regulations on grid connection conditions

Potential cross-city collaboration areas



ICC strategy: Vision and ambition statements



Overarching ICC city vision Green & digital future city

1

Ambition statement 1

Reduction of CO₂ emissions, energy efficiency, improvement of air quality

2

Ambition statement 2

A friendly and easily accessible contact with the Office, widening the range of e-services offered by the Office

3

Ambition statement 3

Gathering and sharing more data through an increase in the number of sensors and ICT solutions

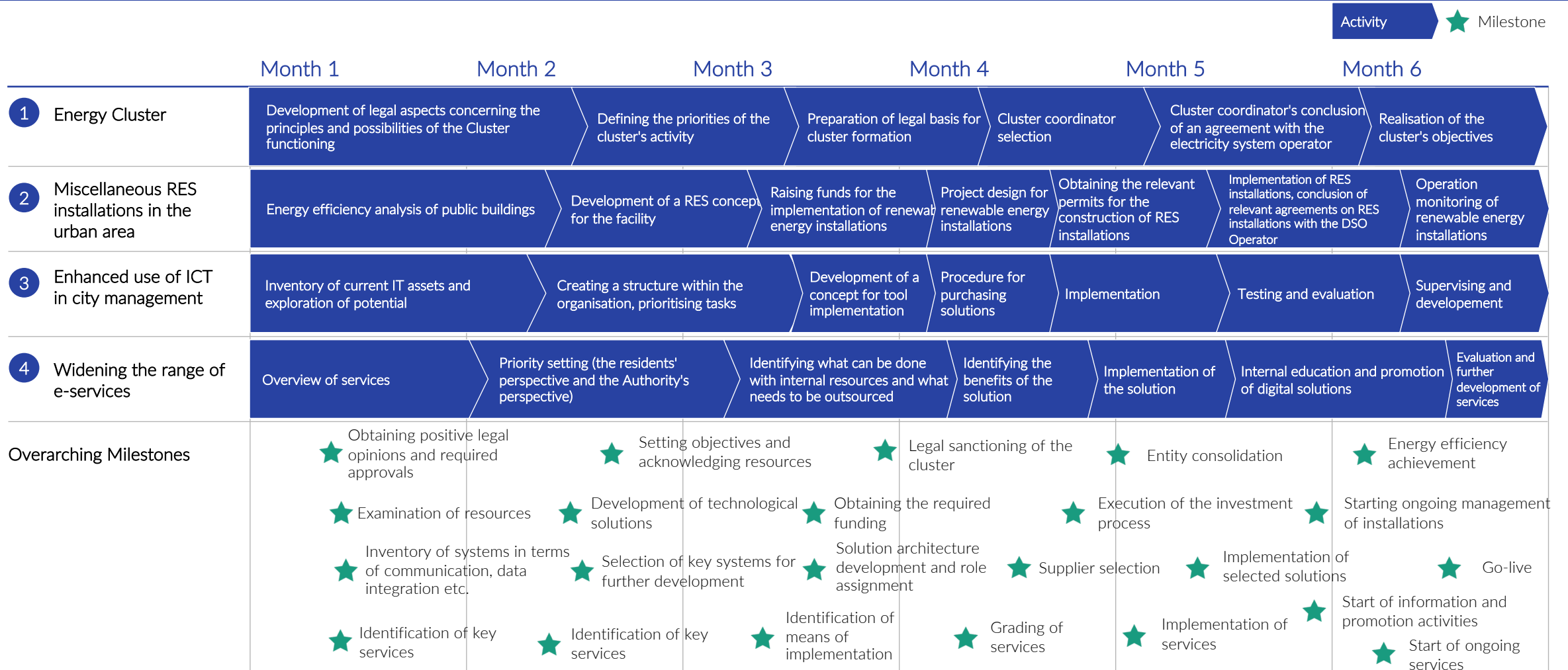
Section 2

City of Białystok: Ambition and roadmap

ICC Transformation

February 2021 to May 2021

High level implementation roadmap ("10000m plan")



Rationale to road map

The City of Białystok intended to implement four projects: two in the sphere of green energy and two in the field of IT. Although the themes and scopes of each of these projects are different, they will follow a similar pattern related to the specificity of territorial self-government units (TSU) activity in Poland.

In order to prepare a solid basis for efficient project implementation our road map for each solution will start with an inventory and legal and technical analyses. Getting to know internal and external resources of the organisation and possibilities of validation of given solutions is the only way to approach the problem comprehensively and to implement further steps efficiently.

Subsequent steps on the road map are activities aimed at planning the implementation process or investments that will bring us closer to achieving the final goal.

In each of the projects, an important component will be the process of carrying out a public procurement under the Public Procurement Law, hence a great emphasis must be placed on the earlier stages.

Following the analytical and formal stages, the investment processes and implementation of selected solutions will be carried out in order to streamline the decision-making processes in the office and improve the quality of the environment and, consequently, the quality of life of the residents.

Key Performance indicators – Activities (inputs and actions)

Solution	Initiative	Activities – Inputs and actions
Energy cluster	Set goals and validate resources	<ul style="list-style-type: none"> - additional heat generation capacity from renewable sources - additional electricity generation capacity from renewable sources
	Consolidation of entities	number of entities connected to the cluster
	Achieving energy efficiency	decrease / change in CO2 emissions after years
Miscellaneous RES installations in the urban area	Resources investigation	% of municipal buildings with installations generating energy from renewable sources
	Development of technological solutions	potential reduction in annual primary energy consumption in public buildings
	Commencement of the current management of installations	<ul style="list-style-type: none"> - reduction of CO2 emissions - amount of electricity saved
Enhanced use of ICT in city management	Inventory of systems in terms of communication, data integration, etc.	increase in the amount of data exposed outside (open data)
	Development of solution architecture and role assignment	<ul style="list-style-type: none"> -% of integrated APIs -% legacy solutions / applications replaced
	Go-live	<ul style="list-style-type: none"> - the number of processes integrated and managed with the help of ICT - number of digitized documents containing public sector information - number of public programs with improved interoperability - reducing the number of people / units / departments involved in the implementation of the process
Widening the range of e-services	Identification of implementation methods	<ul style="list-style-type: none"> - number of digitized documents - number of standardized data sets
	Service gradation	amount of min. 4th category e-services
	Starting the current operation of the services	<ul style="list-style-type: none"> - % share of matters handled online to matters that can be handled in the office - optimising the ratio of physical visits to the office

Initiative charter Energy cluster

Strategy

Description



Energy independence for the City, its subsidiaries and external partners.

Link to vision



Green & digital future city

Link to ambition statement

Reduction of CO2 emissions, energy efficiency, improvement of air quality



Expected impact and timing

Long term impact , preparation to provide cluster 1 year



Stakeholders involved

Solution lead:



Municipal Office in Białystok

Solution working team:



Steering comitee - Tadeusz Truskolaski & Krzysztof Marek Karpieszuk,
Project management - Karol Reńko,
PGE Dystrybucja – Andrzej Dąbrowski,
PGE Obrót – Justyna Raubo

Contributors:



Municipal companies - LECH and Wodociągi Białostockie
Energy producers PGE Dystrybucja - energy transmission
Other municipal units - energy consumers

Risks and mitigation



The pace and quality of issuing technical conditions
High fluctuation in electricity prices
Monopoly of the local energy distributor

Inputs, outputs, outcomes and impacts

Source of funding and estimated cost



Self-financing budget
EU co-financing

Solution maturity outputs














- Timely implementation of the commissioned opinions
- Use of resources for specific purposes
- Number of entities included in the cluster
- % reduction in costs of energy obtained from operators in relation to energy from renewable sources

City performance outcomes and impacts













- % of reduced expenditure on electricity
- amount of surplus energy given to the grid by entities associated in the cluster
- amount of electricity saved

Initiative charter Miscellaneous RES installations in the urban area

Strategy		Stakeholders involved		Inputs, outputs, outcomes and impacts	
Description 	Usage of the natural potential to generate green energy in municipal buildings and accessible urban areas not only by photovoltaic but also by, among others, biogas production or hydrogen utilization.	Solution lead: Municipal Office in Białystok 		Source of funding and estimated cost 	City budget EU funds
		Solution working team: 	Core team Head of Smart City Office Head of the IT Service Centre Head of Information Security Office Heads of Departments with responsibility for data and e-services	Solution maturity outputs 	<ul style="list-style-type: none"> • % of potential buildings for renewable energy installations • % of funds obtained from EU funds • % of buildings selected as potential locations where a RES installation has been installed (by 2030)
	Link to vision 		Contributors: 		
Link to ambition statement 	Reduction of CO2 emissions, energy efficiency, improvement of air quality	Risks and mitigation 	Unrecognized structural limitations of building structures hindering the implementation of investments in RES Diversified ownership structure of buildings in the city - private ownership, cooperatives, housing communities No funding Problems with cooperation with DSOs (distribution system operators) and energy suppliers Poorly developed electricity infrastructure in the city Lack of interest among residents and entities in investing in renewable energy.	City performance outcomes and impacts 	<ul style="list-style-type: none"> • increase % of municipal buildings with installations generating energy from renewable sources • % of reduced expenditure on electricity
Expected impact and timing 	Long term impact, activities planned for 5 years				

Initiative charter Enhanced use of ICT in city management

Strategy		Stakeholders involved		Inputs, outputs, outcomes and impacts	
Description 	Technological solutions which are supporting the City's functioning and its internal management processes - efficient resident service, the possibility of influencing what is being done in the City, and increased security sense. To meet the expectations of residents and stakeholders regarding the case of accessing data that is important to them - developing an open data platform.	Solution lead: 	Municipal Office in Białystok	Source of funding and estimated cost 	Funds from the EU City budget
		Solution working team: 	Monika Kamińska - Head of Smart City Office Krzysztof Lachowski - Head of IT Service Center	Solution maturity outputs 	<ul style="list-style-type: none"> the potential of digitization of areas optimization of the number of IT solutions used in the office % share of trained people
		Contributors: 	IT Services Center in Białystok - expert knowledge, organization of implementation and supervision over its implementation Municipal units - have the data and information necessary to make decisions Companies from the IT industry / Infotech Cluster - offer of available solutions, support, consulting	City performance outcomes and impacts 	<ul style="list-style-type: none"> increase % of integrated APIs increase % legacy solutions / applications replaced
Link to vision 	Green & digital future city				
Link to ambition statement 	Gathering and sharing more data through an increase in the number of sensors and ICT solutions.				
Expected impact and timing 	Short time impact, activities planned for 2 years	Risks and mitigation 	Regulatory and legal risks, data ownership Lack of documentation and lack of knowledge about individual systems Risk of losing the availability or confidentiality of information / data Information security breach risk Lack of resources - programmers, analysts, architects. Legal risk related to the statutory obligation of local government units to use tools or solutions designed for the government administration.		

Initiative charter Widening the range of e-services

Strategy

Description



Implementation of a citizen's portal provides a comprehensive service quickly and transparently without the need for the resident to visit the office, with an adapted e-payment module. Increasing the share of e-services in the office's services range and developing new ways of communication and dialogue with residents.

Link to vision



Green & digital future city

Link to ambition statement



A friendly and easily accessible contact with the Office, widening the range of e-services offered by the Office.

Expected impact and timing



Short time impact, activities planned for 2 years

Stakeholders involved

Solution lead:



Municipal Office in Białystok

Solution working team:



Monika Kamińska - Head of Smart City Office
Krzysztof Lachowski - Head of IT Service Center
Piotr Krzywosz - Head of Information Security Office
Departments with responsibility for the e-services concerned

Contributors:



IT Services Center in Białystok - expert knowledge about the solutions, possibilities of their use and implementation of the solution.

Enterprises from the IT industry, Infotech Cluster - knowledge about available solutions and possibilities, consulting Inhabitants - expectations and needs.

Risks and mitigation



Integration risk - IT systems integration risks, open code, no API, unfulfilled interoperability requirements.

Siloed data resulting from siloed implementations.

Lack of documentation and insufficient knowledge of individual systems.

Inputs, outputs, outcomes and impacts

Source of funding and estimated cost



Funds from the EU
City budget
The estimated amount is about 4 million PLN

Solution maturity outputs



- Satisfaction of residents with contacts / services with the office so far
- % of cases to be digitized
- Conversion rate when reaching residents

City performance outcomes and impacts



- increase number of e-services min. IV tier
- increase of % share of matters handled online for matters that can be settled in the office
- increase of online to physical visit ratio

Key Performance indicators - overview

Solution	Activities – Inputs and actions	Solution Maturity - outputs	City performance – outcomes and impacts
Energy cluster	<ul style="list-style-type: none"> • Additional heat generation capacity from renewable sources • Additional electricity generation capacity from renewable sources • Number of entities connected to the cluster • Decrease / change in CO2 emissions after years 	<ul style="list-style-type: none"> • Timely implementation of the commissioned opinions • Use of resources for specific purposes • Number of entities included in the cluster • % reduction in costs of energy obtained from operators in relation to energy from renewable sources 	<ul style="list-style-type: none"> • % of reduced expenditure on electricity • amount of surplus energy given to the grid by entities associated in the cluster • amount of electricity saved
Miscellaneous RES installations in the urban area	<ul style="list-style-type: none"> • % of municipal buildings with installations generating energy from renewable sources • potential reduction in annual primary energy consumption in public buildings • reduction of CO2 emissions • amount of electricity saved 	<ul style="list-style-type: none"> • % of potential buildings for renewable energy installations • % of funds obtained from EU funds • % of buildings selected as potential locations where a RES installation has been installed (by 2030) 	<ul style="list-style-type: none"> • increase % of municipal buildings with installations generating energy from renewable sources • % of reduced expenditure on electricity
Enhanced use of ICT in city management	<ul style="list-style-type: none"> • increase in the amount of data exposed outside (open data) • % of integrated APIs • % legacy solutions / applications replaced • number of processes integrated and managed with the help of ICT • number of digitized documents containing public sector information • number of public programs with improved interoperability • reducing the number of people / units / departments involved in the process 	<ul style="list-style-type: none"> • the potential of digitization of areas • optimization of the number of IT solutions used in the office • % share of trained people 	<ul style="list-style-type: none"> • increase % of integrated APIs • increase % legacy solutions / applications replaced
Widening the range of e-services	<ul style="list-style-type: none"> • number of digitized documents • number of standardized data sets • number of e-services min. IV tier • % share of matters handled online for matters that can be settled in the office • optimization of the rate of physical visits to the office 	<ul style="list-style-type: none"> • Satisfaction of residents with contacts / services with the office so far • % of cases to be digitized • Conversion rate when reaching residents 	<ul style="list-style-type: none"> • increase number of e-services min. IV tier • increase of % share of matters handled online for matters that can be settled in the office • increase of online to physical visit ratio

Rationale to KPI approach

With no access to historical data, which the City does not possess, we have encountered difficulties identifying which KPIs are most valuable and relevant to the intended objectives. Identifying good KPIs that are simple to understand and relevant yet fully measurable is difficult. Despite intra-industry collaboration, it does not prove easy to monitor the KPIs set.

Governance structure for roadmap implementation

Detailed information about the governance structure for roadmap implementation of each of sub-projects, including particular activities and people responsible, has been moved to Appendix.

Section

3+4

City of Białystok: Impact

ICC Transformation

February 2021 to May 2021

Impact executive summary

Several external factors have affected the activities that have been initiated so far as part of the implementation of the ICC programme. Factors such as the COVID-19 pandemic, which limited the availability of hardware, new legislation limiting further 'stand-alone' action to improve the availability of e-services, and the current situation in Ukraine, which forced us to reallocate resources and funding to support war refugees from that country, among others, proved to be such factors. Projects planned for a considerable time by current situations beyond the control of the City have had to be postponed for performance in subsequent years. It should be emphasised that all ICC solutions depend on external actors in various ways, and therefore the City is not always solely responsible for implementing the solution.

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



Assessment of city performance - progress against KPIs

City performance		Where we started	Midway through the challenge	Final results
1	% of reduced expenditure on electricity	- („Energy Cluster” project not yet started, KPIs are not being monitored)		
2	amount of surplus energy given to the grid by entities associated in the cluster			
3	amount of electricity saved			
4	increase % of municipal buildings with installations generating energy from renewable sources	30	50	40
5	% of reduced expenditure on electricity	0 (Energy expenditure has not decreased as the price of energy went up)	0 (Energy expenditure has not decreased as the price of energy went up)	0 (Energy expenditure has not decreased as the price of energy went up)
6	increase % of integrated APIs	(„Enhanced use of ICT in city management” & „Widening the range of e-services” projects not yet started, KPIs are not being monitored)		
7	increase % legacy solutions / applications replaced			
8	increase number of e-services min. IV tier			
9	increase of % share of matters handled online for matters that can be settled in the office			
10	increase of online to physical visit ratio			

Assessment of city performance - discussion

Developing and measuring all indicators and their influence on further stages of the work requires considerable time. The City of Białystok has been unable to create full-scale data during the relatively short duration of the ICC project. This is related to implementation delays and problems accessing funds within the city's resources. Solutions that depend on changes to the physical infrastructure take time to implement - the city's planning procedures and legislative processes are too slow to achieve the solution within the ICC project timeframe fully.

Assessment of solution maturity - progress against KPIs

Where we started		Midway through the challenge		Final results
Energy cluster				
1	Timely implementation of the commissioned opinions	- („Energy Cluster” project not yet started, KPIs are not being monitored)		
2	Use of resources for specific purposes			
3	Number of entities included in the cluster			
4	% reduction in costs of energy obtained from operators in relation to energy from renewable sources			
Miscellaneous RES installations in the urban area				
1	% of potential buildings for renewable energy installations	90	90	90
2	% of funds obtained from EU funds	0	0	0
3	% of buildings selected as potential locations where a RES installation has been installed (by 2030)	70	70	70

Assessment of solution maturity - progress against KPIs

Where we started		Midway through the challenge	Final results
Enhanced use of ICT in city management			
1	The potential of digitization of areas	(„Enhanced use of ICT in city management" & „Widening the range of e-services" projects not yet started, KPIs are not being monitored)	
2	Optimization of the number of IT solutions used in the office		
3	% share of trained people		
Widening the range of e-services			
1	Satisfaction of residents with contacts / services with the office so far	(„Enhanced use of ICT in city management" & „Widening the range of e-services" projects not yet started, KPIs are not being monitored)	
2	% of cases to be digitized		
3	Conversion rate when reaching residents		

Assessment of solution maturity - discussion

Directions from the ICC project helped to create plans and set important milestones. Unfortunately, the progress towards solutions has not proceeded as quickly as intended. Due to global economic factors significantly impacting our country's economy, we had to re-prioritise our challenges and activities at the expense of helping those who needed our help the most, that is, refugees from Ukraine.

Solutions related to the ICT sector are currently in conceptual work and awaiting funding in the City's next financial year. Some of these include a video-visit system that allows customer service without needing a visit to the Office using national identity authentication tools and the Resident's Portal, which is a platform for collecting data on a citizen's tax payments with the possibility of making payments online.

As for the Energy Cluster solution, The City has not yet taken any specific steps to implement this solution. This is related to legal issues and the country's economic situation concerning energy and uncontrolled prices, which is beyond our control. Therefore, a pressing necessity is to establish such an entity in the coming years to gain resilience to economic independence.

Assessment of city ecosystem and activities - progress against KPIs

Where we started		Midway through the challenge		Final results	
Energy Cluster					
1	Additional heat generation capacity from renewable sources	- („Energy Cluster” project not yet started, KPIs are not being monitored)			
2	Additional electricity generation capacity from renewable sources				
3	Number of entities connected to the cluster				
4	Decrease / change in CO2 emissions after years				
Miscellaneous RES installations in the urban area					
5	% of municipal buildings with installations generating energy from renewable sources	3	4	5	
6	potential reduction in annual primary energy consumption in public buildings	93 000 kWh	145 500 kWh	300 200 kWh	
7	reduction of CO2 emissions amount of electricity saved	60 000 kg/year	90 000 kg/year	180 120 kg/year	

Assessment of city ecosystem and activities - progress against KPIs

Where we started	Midway through the challenge	Final results
Enhanced use of ICT in city management		
8 increase in the amount of data exposed outside (open data)	(„Enhanced use of ICT in city management” & „Widening the range of e-services” projects not yet started, KPIs are not being monitored)	
9 % of integrated APIs		
10 % legacy solutions / applications replaced		
11 number of processes integrated and managed with the help of ICT		
12 number of digitized documents containing public sector information		
13 number of public programs with improved interoperability		
14 reducing the number of people / units / departments involved in the process		

Assessment of city ecosystem and activities - progress against KPIs

Where we started		Midway through the challenge	Final results
Widening the range of e-services			
15	number of digitized documents	(„Enhanced use of ICT in city management” & „Widening the range of e-services” projects not yet started, KPIs are not being monitored)	
16	number of standardized data sets		
17	number of e-services min. IV tier		
18	% share of matters handled online for matters that can be settled in the office		
19	optimization of the rate of physical visits to the office		

Assessment of city ecosystem and activities - discussion

No unique KPIs for ecosystems (in this case, stakeholders) were established. As the recipients of the solutions are the Municipal Office in Bialystok (as the leader) and the citizens, there was no need to involve stakeholders in the performance indicators directly. The ecosystem of the individual solutions implies the involvement of primarily local actors within the organisation.

5 key lessons

Lesson	Reflections
1	Practical internal cooperation and clear role assignment.
2	Common, consistent and uniform goals and vision.
3	Excessively detailed reporting duplicating the same information in multiple places does not help productivity.
4	The risk of economic problems across the country complicates many activities and investments.
5	Prioritising activities and accurate task allocation are crucial.

Reflections on city collaborations

Learning from other cities is a valuable experience. During the ICC, we discovered some exciting projects and how they work in the legal framework of those cities.

We were expecting more support for the project from the mentor cities. Unfortunately, their role was severely limited and reduced to guest contributions only.

Noteworthy - the cooperation between the local government representatives could have been much more effective if they had met them in person. Meetings and social interactions in real life significantly influence cooperation opportunities. However, in general, online meetings, due to the global problem of the COVID-19 pandemic, were the only way to experience at least a substitute for unity in the project.

Commitments

Commitments to on-going resources	Commitments to on-going collaboration	Commitments to on-going KPIs
Periodic evaluation of the final document in order to keep the data up-to-date	Maintaining cooperation within departments in order to preserve and keep on improving solutions Reuse of ecosystem group support in relation to further solutions	Maintaining a constant growth of indicators within the project „Miscellaneous RES installations in the urban area” scope

3 Year plan - ambitions

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

1. Increasing urban energy independence
2. Increasing the integration of domain systems and establishing the basis for a fully "Digital City Hall"
3. Local Energy Cluster in implementation

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

1. Exploration and investment in new types of Renewable Energy Sources
2. Continuous growth in the share of e-services in overall
3. Launching the Energy Cluster pilot project

3 Year plan - targets

KPI	Category	What commitments will the city make to this end?
1	City Performance	The indicators developed through the work on energy projects will be reused and slightly modified. Indicators must be adapted to current economic conditions.
2	City Performance	IT projects require further refinement of certain matters, so modifications will be required.
3	Activities & ecosystem	The City of Bialystok, alongside actors, will analyse possible key performance indicators for the ecosystem. For this purpose, stakeholder resources will be used, especially in the field of the Energy Cluster.

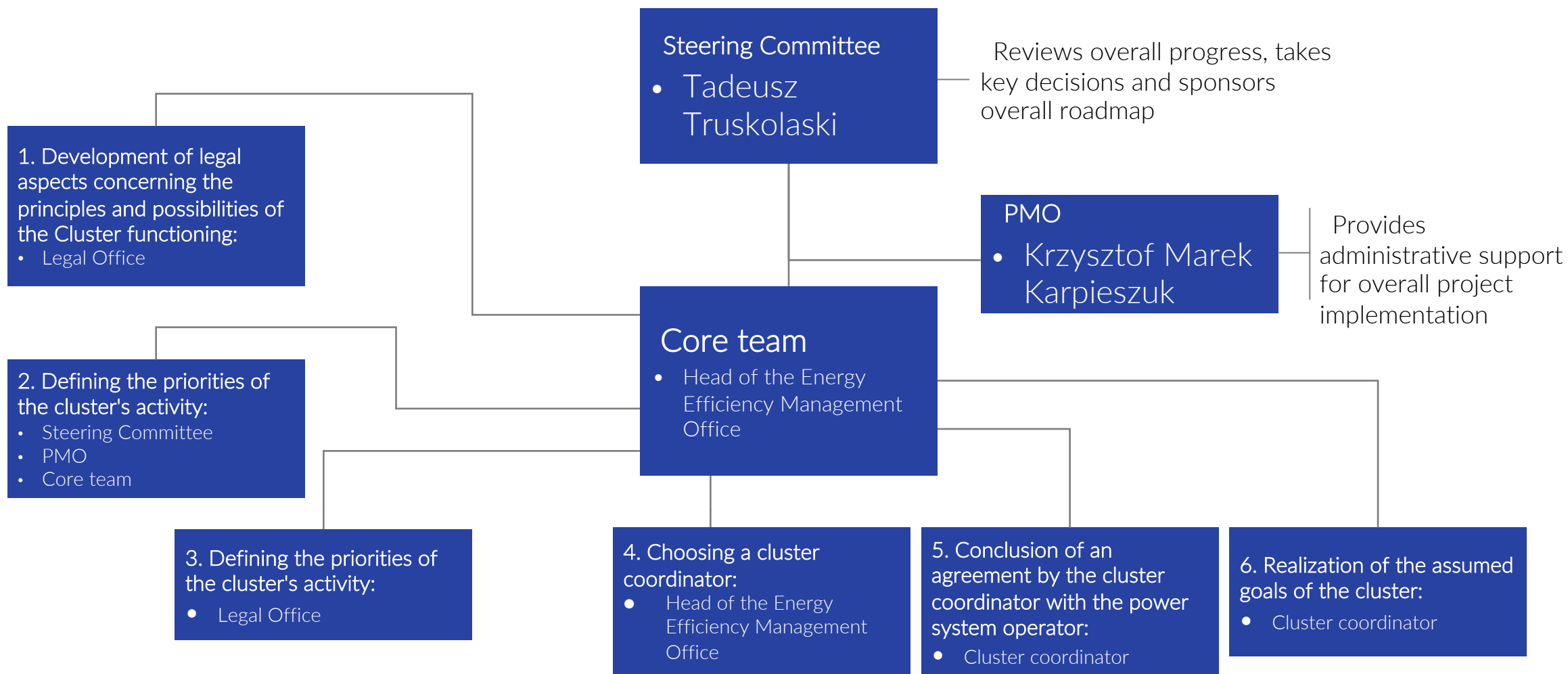
Appendix

City of Białystok : Additional information

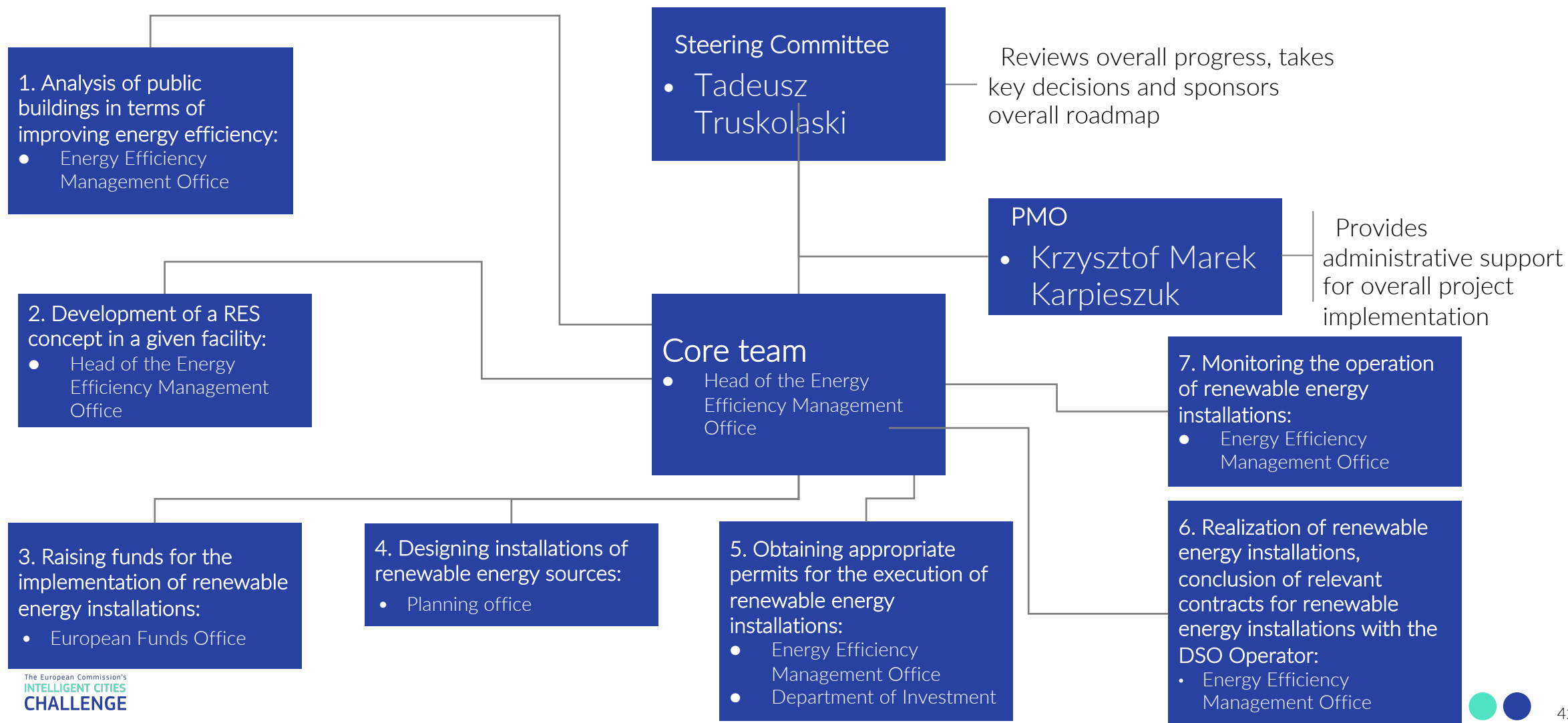
ICC Transformation

February 2021 to May 2021

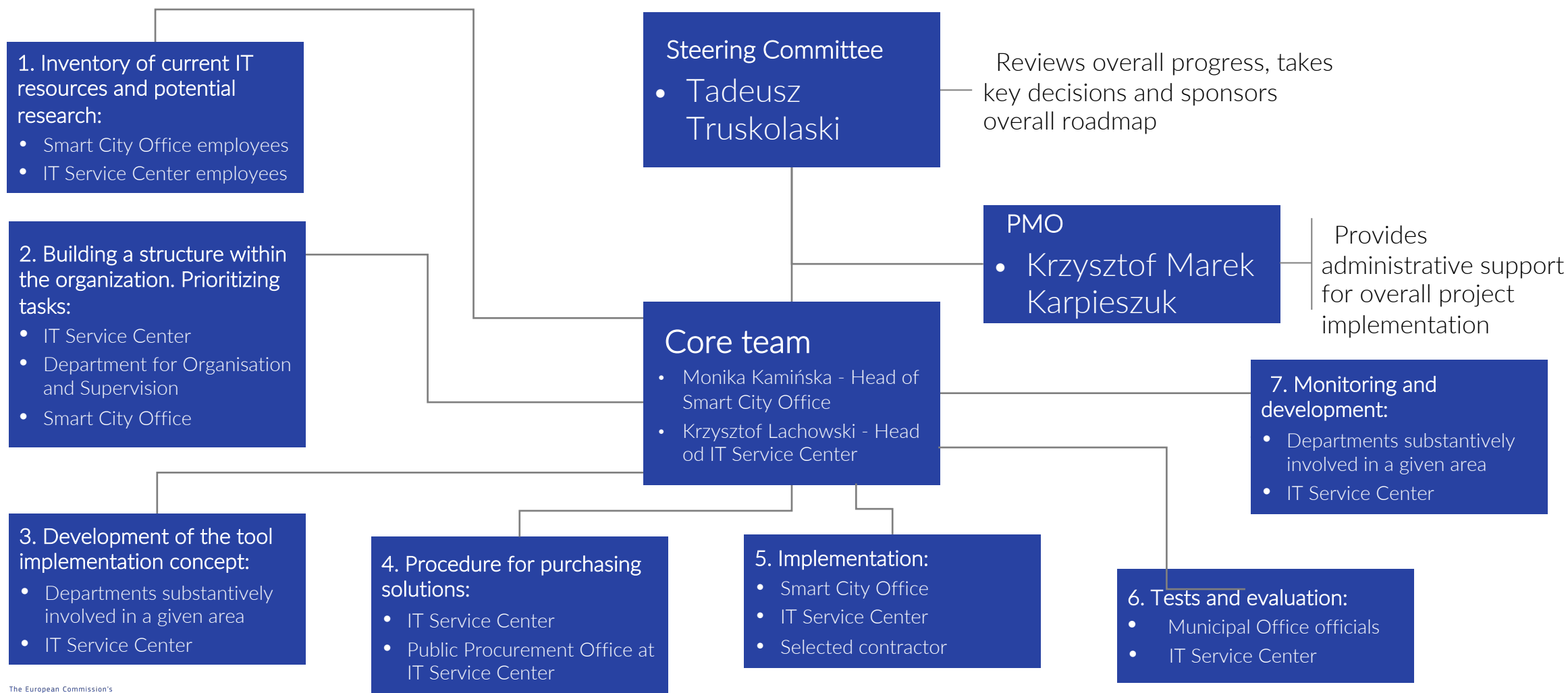
Governance structure for roadmap implementation: Energy Cluster



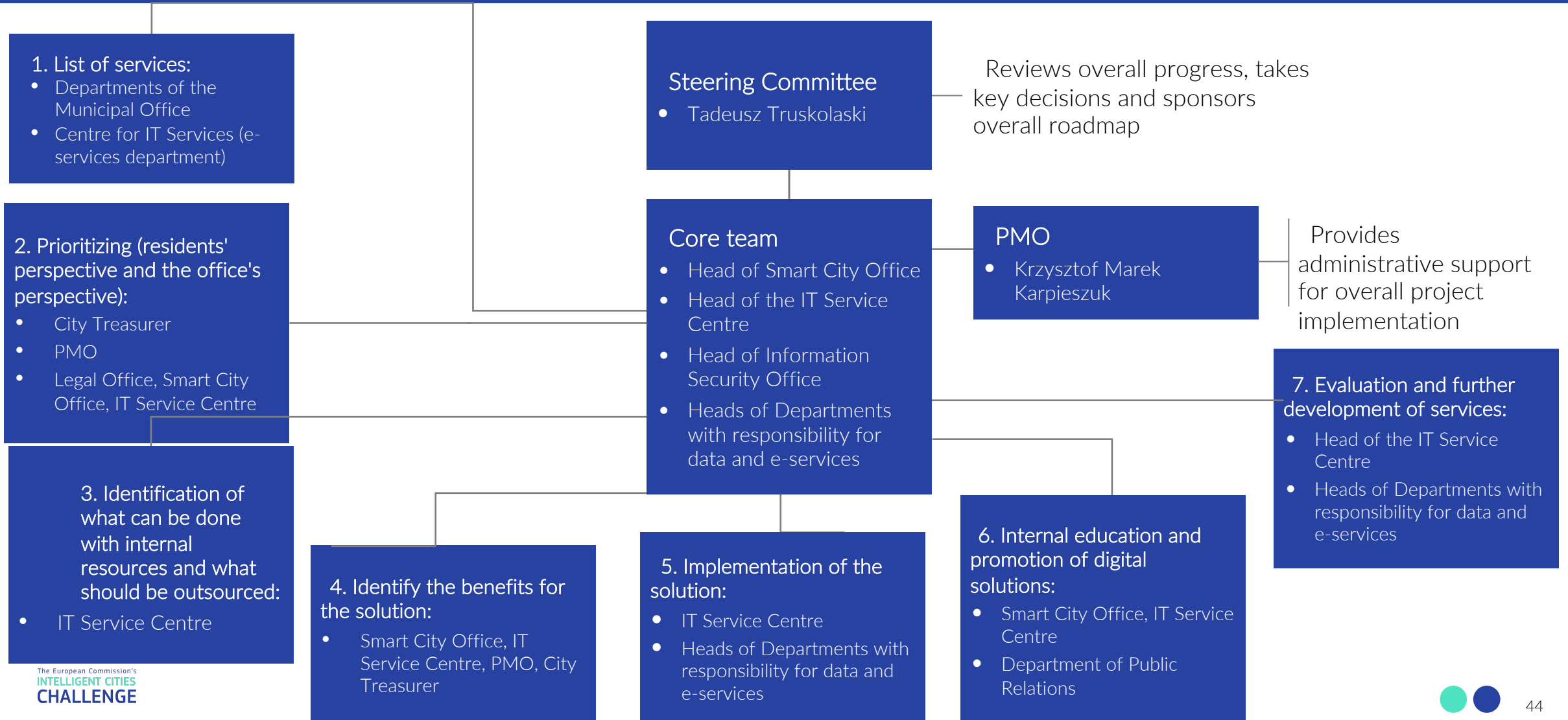
Governance structure for roadmap implementation: Miscellaneous RES installations in the urban area



Governance structure for roadmap implementation: Enhanced use of ICT in city management



Governance structure for roadmap implementation: Widening the range of e-services



Recap on previous guidance given for solution strategy

Suggested approach to strategy deliverable

Element	Suggest effort	Key elements
Solution strategy (for each solution)	~3-6 slides per solution	<p>What does the solution set out to solve? What is its problem statement? How is this linked to the vision, and any specific data points from the Needs Workshop?</p> <p>What are the main features of the solution? What should happen? Where? Why? Can we visualize what it might look or feel like?</p> <p>Why is this the right solution for the city? How does it link to the results of the maturity assessment? How does it fit to the local enablers? What can we say on stakeholder enthusiasm or fit?</p> <p>What is the business model? How can it be funded from tomorrow? How can it become sustainable so it is still having impact in 5 years from now? Include a business model canvas exercise</p> <p>What are the main blockers and risk and how will the be overcome? What big assumptions does the solution rest on? Why hasn't this solution happened already?</p> <p>What, at the highest level, are the main stages from today to getting this solution at full impact? What are the 3-5 life stages of this solution?</p> <p>Who is making it happen? How do different parties interact to make it happen What does each get out? Consider a diagram of different 'contributions' and 'benefits' from each party involved. What could the management structure be?</p> <p>What major uncertainties still need to be investigated? If there was one more piece of analysis, or one more stakeholder group you'd speak to, who would it be?</p>
Overall strategy (for city as a whole)	~3-6 slides	<p>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?</p> <p>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</p> <p>What are the key factors that define success across all of your solutions? These could not be solution related, e.g., managing political cycles</p>

Principles to follow throughout




Explain 'why?' – ensure that you always document the rationale for why the strategy is how it is – this will be critical for testing and refining in implementation

Be data-driven – to strengthen your arguments and to be specific (and thus actionable) think on what data (that you have gathered so far, or could investigate) that justifies your design decisions; this can also more easily enable visuals on your strategy

Refer back to the ten tests – and any other sources that provides good guidance on public sector strategy development – check with your expert

Provide something 'stand alone' – when questioning the level of detail you need to go to, ask if another city could pick this up, understand why you made every main decision, and set about starting the same project tomorrow. The suggested effort is only a guide – add more or less to meet this bar

Overview of our approach to the development of KPIs to assess city performance and activities

	<u>Idea</u>	<u>What purpose do they serve?</u>	<u>What is it 'attached' to</u>	<u>When do we measure them?</u>	<u>What have we set?</u>
 Helps deliver	City performance	How well a city is performing on outcomes and impacts (e.g., quality of life)	City programme as a whole	At the end of Implementation cycle 2 and for Programme Review workshop	< >
 Helps deliver	Solution maturity	How well a city is using new technological solutions	Each solution	At the end of Implementation cycle 2 and for Programme Review workshop	< >
	Activities	How well a city is taking action and encouraging others to take action	City programme as a whole	Once per month	< >