The European Commission's
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CHALLENGE

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Brno: Intelligent City Transformation Overview

ICC Final Deliverable

May 2022

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

Executive summary

Brno city municipality in terms of needed digital transition and modernisation has set itself the objective of developing a wide range of online services in order to make access easier, cheaper and more efficient.
We've identified two ways of how to utilize digitalization and achieve the overarching visions of becoming a smart city - digital identity and open data platform.

During ICC some results have been achieved: besides the different level of implementation of single solutions (documented in the rest of the document), city initiatives are now more coordinated and there is more mutual exchange in the ecosystem to inform one another about ongoing projects and collaboration opportunities.

Digital identity was, at the beginning of the project, on a very good level. Our attention has been focused to the newly built open data platform where we moved from the very beginning phase to fully operational platform.
For the next 3 years, through data-driven management, Brno city municipality will establish more responsible ways of facilitating, managing, and monitoring city services and providing innovative education and training for upskilling and reskilling.

Mayor Foreword

The ICC project allowed Brno to accelerate the process of digitalization with a professional methodology and expertise. The work done will increase efficiency of digital services, trust of citizens and, of course, it means money savings for both the city of Brno and its citizens. The inspiration we got from other cities was very beneficial. We will continue working to complete the total digitalisation of services.

Tomas Kolacny, Deputy Mayor for Digitisation

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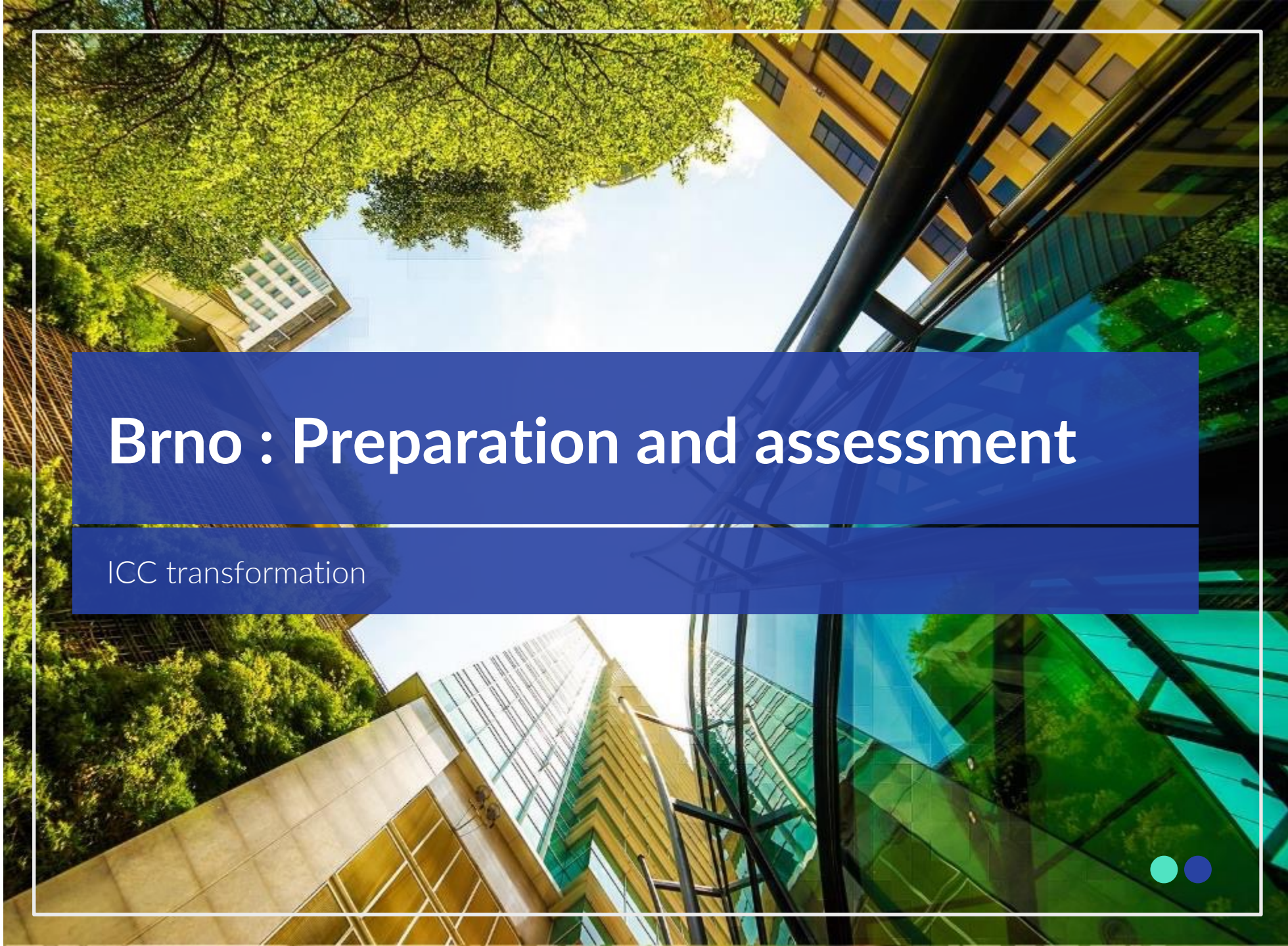
Section

1



Brno : Preparation and assessment

ICC transformation

September 2020 to January 2021

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

Introduction

Brno is a city in the South Moravian Region of the Czech Republic. Located at the confluence of the Svitava and Svratka rivers, Brno has about 380,000 inhabitants, making it the second-largest city in the Czech Republic after the main capital, Prague, and one of the 100 largest cities of the EU. The Brno metropolitan area has more than 600,000 inhabitants.

Brno is the former capital city of Moravia and the political and cultural hub of the South Moravian Region. It is the centre of the Czech judiciary, with the seats of the Constitutional Court, the Supreme Court, the Supreme Administrative Court, and the Supreme Public Prosecutor's Office, and a number of state authorities, including the Ombudsman, and the Office for the Protection of Competition. Brno is also an important centre of higher education, with 33 faculties belonging to 13 institutes of higher education and about 65,000 students.

Within the ICC initiative Brno is seeking further development of digitisation of city services, such as Brno iD* or data platform data.brno.cz | datahub.brno.cz, and to establish wider cooperation between cities that are dealing with similar issues. As part of the involvement, we expect that Brno will subsequently update its ICT strategy based on the lessons learned from the project and improve the reputation in this field.

* Solution Brno iD was discontinued during the ICC project as priorities of the city changed. Focus and effort was relocated to the second solution Data.Brno.

The city of Brno 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

Summary

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

2 Ambition & roadmap

3 months:
February 2021 – May 2021

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

3 Implementation

15 months
May 2021 – July 2022

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

4 Review & way forward

2 months
August 2022 – September 2022

Measure success, and commit to keep connections and improvements going

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 Brno today

Brno has a diversified economic base with a high share of employment in the tertiary sector. The city has a strong tradition namely in electrical engineering and exhibition industry. The current development of the city has been accelerated also by the opening of the Technology Park Brno and other technological incubators. Universities and research centres form a superior knowledge base, which enhances the competitiveness on a global scale.

Key insights from city performance analysis

Higher performance observed

1. Significant university and R&D centre in the hearth of Europe
2. Low Unemployment rate
3. Many start-ups
4. Compact city with vibrant and attractive public spaces
5. Tolerant, open and socially cohesive city

Lower performance observed

1. Lower railway and accessibility. Occasional traffic jams.
2. State of digitisation of services provided by the city itself
3. Plenty of Brownfields all over the city
4. Decreasing number of university students and demographic change in general

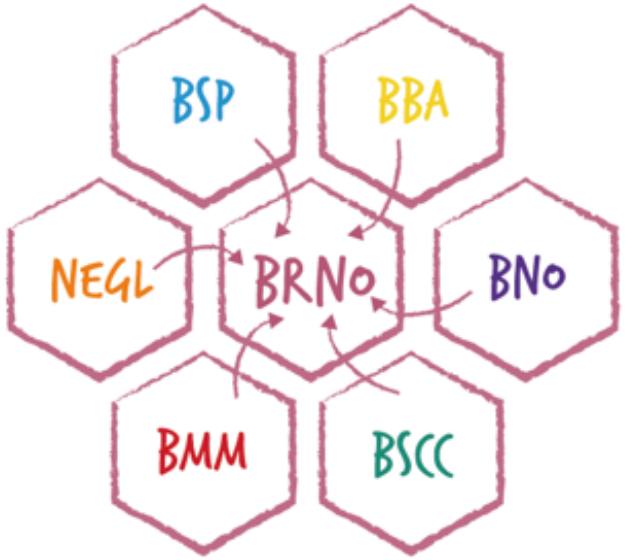
City Ecosystem

We can perceive the city ecosystem as an ongoing collaboration of all stakeholders in Brno, its hinterland and at the regional, national and European levels. The objective of this collaboration is the long-term development of the city.

The city of Brno, which we often perceive only as a political representation or office, is also composed of city districts, municipal companies and organisations. Along with its natural partners from the academic, business and non-profit spheres and active individuals in particular, Brno forms a unique city ecosystem.

The advantage of the ecosystem is the strengthening of cooperation between individual stakeholders and their deeper involvement in the management of the city. On the other hand, it has to be said that meeting with all stakeholders and hearing their views, which may contradict the city's position, sometimes leads to delays in some projects.

Brno can become a really smart city if it fully exploits the potential of the human capital it owns. Our effort is therefore to further develop a suitable environment and tools for a deeper cooperation in shaping the future of Brno.



Brno Science Partners
Universities, research and development centers and the Czech Academy of Science

Brno Business Alliance
Self-employed, small and medium sized enterprises, big corporations, investors and chamber of commerce

Brno Non-Governmental Organizations
Non-governmental and non-profit organizations, associations, foundations and endowments

Brno Smart City Community
Active citizens, professionals and expats

Brno Managing Members
Municipality, city districts, political clubs, municipal companies and organizations

National and European Governmental Level
Brno metropolitan area, the South Moravian Region, regional, state and European institutions

ICC strategy: Vision and ambition statements

City vision based on #Brno2050 strategy

In 2050, Brno is a synonym for an attractive and at the same time sustainable city in international comparisons.

The people of Brno appreciate the high quality of life in the city, which offers them employment and business, entertainment and relaxation. The fruits of research and innovation are linked here with the economic prosperity of individuals and companies. The urban landscape mingles with the surrounding countryside. Openness and cohesion on the one hand, and a healthy and resilient environment on the other, create a home and safe background for half a million people.

The people of Brno are aware of the scarcity and limitations of natural resources; they support their efficient use, so that the city always has enough water, energy and resources for its development. They want to leave the city in an equal or better condition for future generations. The people of Brno can see that the city is managed energetically, in a modern and efficient manner. The governance and development of the city are based on a cultivated public debate and long-term cooperation of all partners.

As part of its involvement in the project, Brno would like to launch a new version of the data portal and move from the test-bed phase to fully operational by the end of the project with various types of data formats to download, APIs, map apps etc, which can actually improve citizens lives. In the same way, it is desirable to move forward the development of the Brno id in order to involve Brno citizens as much as possible.

The city breathes for its inhabitants and they in turn can be proud of their city.

What is Brno like in 2050?

ATTRACTIVE - Brno has become a synonym for an attractive city where life is good. It is a self-confident, developing city, appealing for the life of existing and new inhabitants. It gives them space and opportunities for professional, personal, social and civic life. Brno is a cultivated, vibrant city with a unique identity, which people love. And it is a love that lasts a lifetime.

DEVELOPING - Brno has emerged from international anonymity, with a reputation as a significant university and research & development centre in Central Europe. It is a prosperous city, achieving excellence in specific areas of research, development and manufacturing. Brno values knowledge and experience, fresh innovation and bold technological solutions. And this is well known: its reputation attracts new talent and experienced staff and scientists into the city. Anyone who wants to can get to the centre of events in Brno quickly and comfortably from anywhere in the world.

VIBRANT - Brno is made up of its people. All of them and without difference. It is an open, tolerant and socially cohesive city. No-one is a second-class citizen. It supports equality and mutual respect between all its citizens and is accommodating to newly-arriving people. Brno supports stable family ties and allegiance across generations. The city is fully aware of the irreplaceable position of family in the process of raising children and the young generation and the importance of family for the future of the city. Brno's citizens feel strong ties to their families. Modern health and social care respects the individual needs of people and combines itself with their responsible approach to their own lives and health. Brno's inhabitants know how to enjoy and savour life in the city. Its distinctive cultural and creative scene helps to create the unique identity of the city and its hospitality is renowned. Brno's citizens adhere to a healthy lifestyle and the city provides them with plenty of opportunities for active leisure and quiet relaxation.

HARMONIOUS - The linking of the natural and urban landscape in Brno is unique. This compact city with vibrant public spaces is interwoven with a comprehensive system of greenery, natural linked to its attractive natural hinterland. Brno's rivers and their surroundings form the green backbone of the city. Brno has been able to effectively utilise and further develop its architectural and urban heritage, linking these with modern architecture and new ways of their use. The city, its spaces and buildings are easily accessible and permeable for all people. It is easy to live in and move around the city even without a car. As a result of all this Brno has been able to create a healthier environment for all.

SUSTAINABLE - Brno deals carefully and efficiently with resources and energy; its systems and technological solutions are environmentally-friendly and robust at the same time

WELL ADMINISTERED - Brno is administered well and with love. The system of administration of the city is simple, comprehensible and forthcoming to the city's inhabitants. Brno's citizens have taken an interest in the city's development and actively participated in it for a long time. However, this has long not been limited to Brno alone: the city with its hinterland functions as an interconnected whole – the Brno Metropolitan Area.

City strategy: justification

The city has a comprehensive development concept strategy with more than 300 indicators to be monitored and evaluated. Therefore, it is necessary to build a data platform where data will be available both internally and to the public. Decisions made on the basis of data should lead to fewer friction points between politicians, and hopefully citizens will also understand them.

Through data-driven management, the municipality will establish more responsible ways of providing, managing, operating and monitoring city services, including transportation, social services, tourism, economy, air quality, climate change actions, etc. Concerning the two initiatives of the Smart Cities programme, they should be reliable, they should be available and easy-to-use and be promoted by the city's authorities to the all the people

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Section

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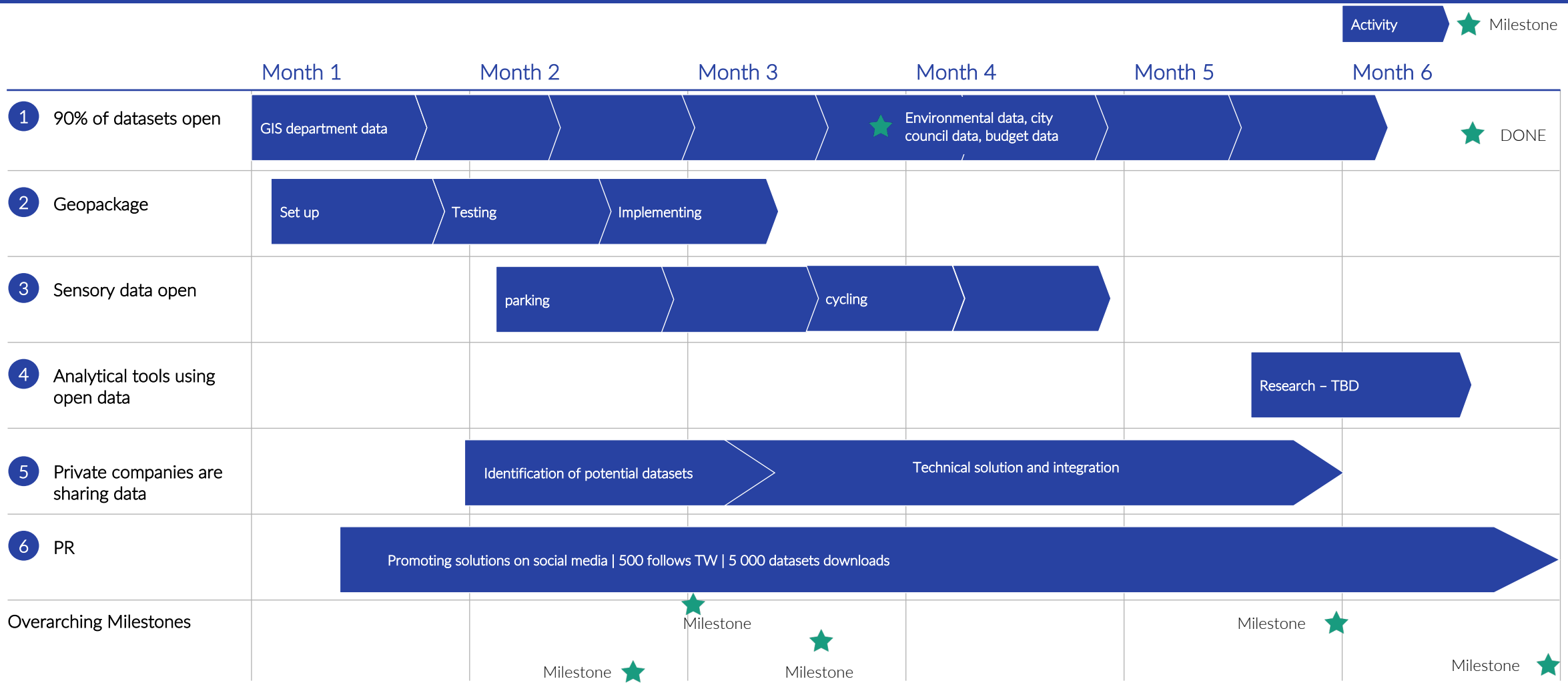
Brno: Ambition and roadmap

ICC Transformation

February 2021 to May 2021

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

High level implementation roadmap for solution (“10000m plan”)



Rationale to road map

The main activity of the past few months was to form the analysis of the Brno data platform (see data.Brno analysis). After several iterations and workshops with the KPMG partner, the main document was written (only in Czech) with the structure:

1. Introduction
   - 1.1 Description of the current state
   - 1.2 Evaluation
2. Key findings and recommendation
   - 2.1 Data platform
   - 2. 2 Cross sectional fields
     - 2.2.1 Data Governance
     - 2.2.2 Metadata
     - 2.2.3 Data quality
     - 2.2.4 Master data and dials
     - 2.2.5 Enterprise Content Management
3. Vision and further development
   - 3.1 Data Enrichment
   - 3.2 Datasets combination
   - 3.3 Advanced analytics and prediction
   - 3.4 User interface and citizens experience
   - 3.5 Inspiration
4. GDPR
5. Annexes
   - 5.1 DCAT-AP specification
   - 5.2 Recommendation for data opening
   - 5.3 Data sources
   - 5.4 Data Governance
   - 5.5 Metadata
   - 5.6 Data quality
   - 5.7 ECM

Based on the analysis the data platform tries to improve identified weak sections and to extend the focus of data opening process. Data management was set with concrete roles.

Rationale to road map

The main focus of Brno City Municipality in the IT sector is its data platform that serves as a central access point for open data to the public in the need of data for the research or business projects in order to facilitate further growth of key sectors that underpin prosperity of our region. Data platform data.brno.cz was launched in December 2020 and several projects are already requesting the data through API of platform after only a couple of months – e.g. Kamsnim.cz app that navigates and lets users find the correct containers for recyclables or several providers of micro-mobility services such as bike or scooter sharing companies.

Brno Data Platform aspires to be among the best 10. European urban data portals within the 2-3 years framework. From the technical standpoint of view, our data platform has several strengths and advantages compared to many other similar solutions. On the other hand, if we are to be among the top city data platforms there are still many weak points that need to be addressed. All strengths and weaknesses are outlined in our medium-term strategy plan which could be considered to be our road-map. Within the ICC period following goals should be met:

- 90% of city data is open
- Adding .gpkg distribution to major datasets
- 100% of sensor data open
- 5-6 analytical tools based on open data that improve city governance
- At least 10 private companies have incorporated city data into their systems/apps
- Enable private companies to share their own open data through data.brno.cz
- Monitoring of indicators important for city strategy Brno 2050 – e.g. quality of greenery
- Sharing data outputs via twitter

Long term goal (over 3 years):

- inception of start-up thanks to data.brno.cz
- 1 AI predictive tool that uses open data created

Initiative charter 90% of datasets open

Strategy

Description

Almost every possible dataset needs to be open in order to facilitate opportunities for companies. We are currently standing at about 40%.

Link to vision

N/A

Link to ambition statement

eGovernment and digitising public services

Enhancing citizen participation, connectivity and community

Expected impact and timing

Range of possible applications will widen significantly

Stakeholders involved

Solution lead: Robert Spál

Solution working team: Data and analytics Dept. + GIS Dept.

Contributors: City companies and organizations

Risks and mitigation

IT architecture problems that cannot be planned for

Inputs, outputs, outcomes and impacts

Source of funding and estimated cost

10 000 EUR (supported by Brno city municipality)

Solution maturity outputs

Over a hundred open datasets

City performance outcomes and impacts

Businesses are working in a fully open data environment that allows for new concepts and ideas to be made into working solutions

Initiative charter .gpkg distribution added to major datasets

Strategy

Description

To improve access to the data we need to include an open, non-proprietary platform independent and standard based data format defined by the Open Geospatial Consortium in our platform.

Link to vision

N/A

Link to ambition statement

eGovernment and digitising public services

Enhancing citizen participation, connectivity and community

Expected impact and timing

Range of users that can work with the data will widen

Stakeholders involved

Solution lead: Robert Spál, Stanislav Šťasný

Solution working team: Data and analytics Dept. + IT contractor

Contributors: City of Brno

Risks and mitigation

None

Inputs, outputs, outcomes and impacts

Source of funding and estimated cost

2 000 EUR

Solution maturity outputs

Half of the open datasets have enhanced download options

City performance outcomes and impacts

Further enhancement of the impact that bbusinesses are working in a fully open data environment that allows for new concepts and ideas to be made into working solutions

Initiative charter 100% sensor data open

Strategy

Description

All the sensor data should be available through the data.brno.cz. Most importantly – parking data that shows where it is possible to park in real time.

Link to vision

N/A

Link to ambition statement

eGovernment and digitising public services

Enhancing citizen participation, connectivity and community

Expected impact and timing

Range of possible applications will widen significantly

Stakeholders involved

Solution lead: Martin Dvořák, Jiří Komínek

Solution working team: Data and analytics Dept. + Dept. of Transportation

Contributors: City and Brno Roads Company (city owned)

Risks and mitigation

IT architecture problems that cannot be planned for

Inputs, outputs, outcomes and impacts

Source of funding and estimated cost

15 000 EUR

Solution maturity outputs

6 sensor open data – cycling sensors, parking sensors, public transit positional data, WAZE data, air quality data, traffic flow intensities data

City performance outcomes and impacts

Better governance of the city through the use of live data, quicker response time to problems and issues arising. Further enhancement of the impact that bbusinesses are working in a fully open data environment that allows for new concepts and ideas to be made into working solutions

Initiative charter Analytical tools using open data

Strategy

Description

Primary goal is to create analytical tools/apps build upon open data that will help the city to improve its governance and efficiency. Example of such tool can be found here - https://data.brno.cz/apps/df024538267d4770a7c779c56e2135b0/explore. The tool helps to plan transport planners the whole schedule by giving them visual map of the current state of network.

Link to vision

N/A

Link to ambition statement

eGovernment and digitising public services

Enhancing citizen participation, connectivity and community

Expected impact and timing

Improving of city governance – saving money and time. Improving quality of life

Stakeholders involved

Solution lead: Martin Dvořák

Solution working team: Data and analytics Dept.

Contributors: City of Brno

Risks and mitigation

Talent and human resources is a key factor of success of this goal. The goal cannot be achieved without the adequate financial and personal support of the city.

Inputs, outputs, outcomes and impacts

Source of funding and estimated cost

At least 40 000 EUR

Solution maturity outputs

Walking accessibility of containers model, transit accessibility model, + 4 more TBD

City performance outcomes and impacts

Better policy planning and decision making for the city stakeholders.

Initiative charter Enable private companies to share their own open data through data.brno.cz

Strategy

Description

We are planning to allow private companies to share their data through data.brno.cz after about 80% of the city data is open. Comprehensive survey of the needs of the private sector will be conducted before we make final decision about this initiative.

Link to vision

N/A

Link to ambition statement

eGovernment and digitising public services

Enhancing citizen participation, connectivity and community

Expected impact and timing

Inclusion of other stakeholders in the open data ecosystem. Amount of shared data should increase significantly thus allowing for its higher utilization by the public.

Stakeholders involved

Solution lead: Adam Estefányi

Solution working team: Data and analytics Dept.

Contributors: City of Brno

Risks and mitigation

Disinterest of private sector. Inability to achieve interoperability of various systems.

Inputs, outputs, outcomes and impacts

Source of funding and estimated cost

Around 15 000 EUR yearly

Solution maturity outputs

data.brno.cz component allowing for sharing the data of private entities

City performance outcomes and impacts

Widening opportunities for companies to share and collaborate.

Initiative charter Twitter data communication

Strategy

Description

Data is more accessible for general public through the tweets, which will accelerate data based knowledge.

Link to vision

N/A

Link to ambition statement

eGovernment and digitising public services

Enhancing citizen participation, connectivity and community

Expected impact and timing

The Brno data community is established

Stakeholders involved

Solution lead: Martin Dvořák

Solution working team: Data and analytics Dept.

Contributors: City of Brno, city companies

Risks and mitigation

Lack of interests about data outputs

Inputs, outputs, outcomes and impacts

Source of funding and estimated cost

free

Solution maturity outputs

500 followers, 3 tweets per week

City performance outcomes and impacts

Citizens have another possibility for data consumption. Data is more accessible.

Key Performance indicators

Solution	Activities – Inputs and actions	Solution Maturity - outputs	City performance – outcomes and impacts
data.brno.cz	90% of datasets open	Over a hundred open datasets	Businesses are working in a fully open data environment that allows for new concepts and ideas to be made into working solutions
data.brno.cz	.GPKG distribution	Half of the open datasets have enhanced download options	Further enhancement of the impact above
data.brno.cz	Sensor Data	6 sensor open data – cycling sensors, parking sensors, public transit positional data, WAZE data, air quality data, traffic flow intensities data	Better governance of the city through the use of live data, quicker response time to problems and issues arising. Enhancement of the impacts above.
data.brno.cz	Analytical tools	Walking accessibility of containers model, transit accessibility model, + 4 more TBD	Better policy planning and decision making for the city stakeholders.
data.brno.cz	Private sector data	data.brno.cz component allowing for sharing the data of private entities	Widening opportunities for companies to share and collaborate.
data.brno.cz PR	twitter	500 followers, 3 tweets per week	Citizens have another possibility for data consumption. Data is more accessible.

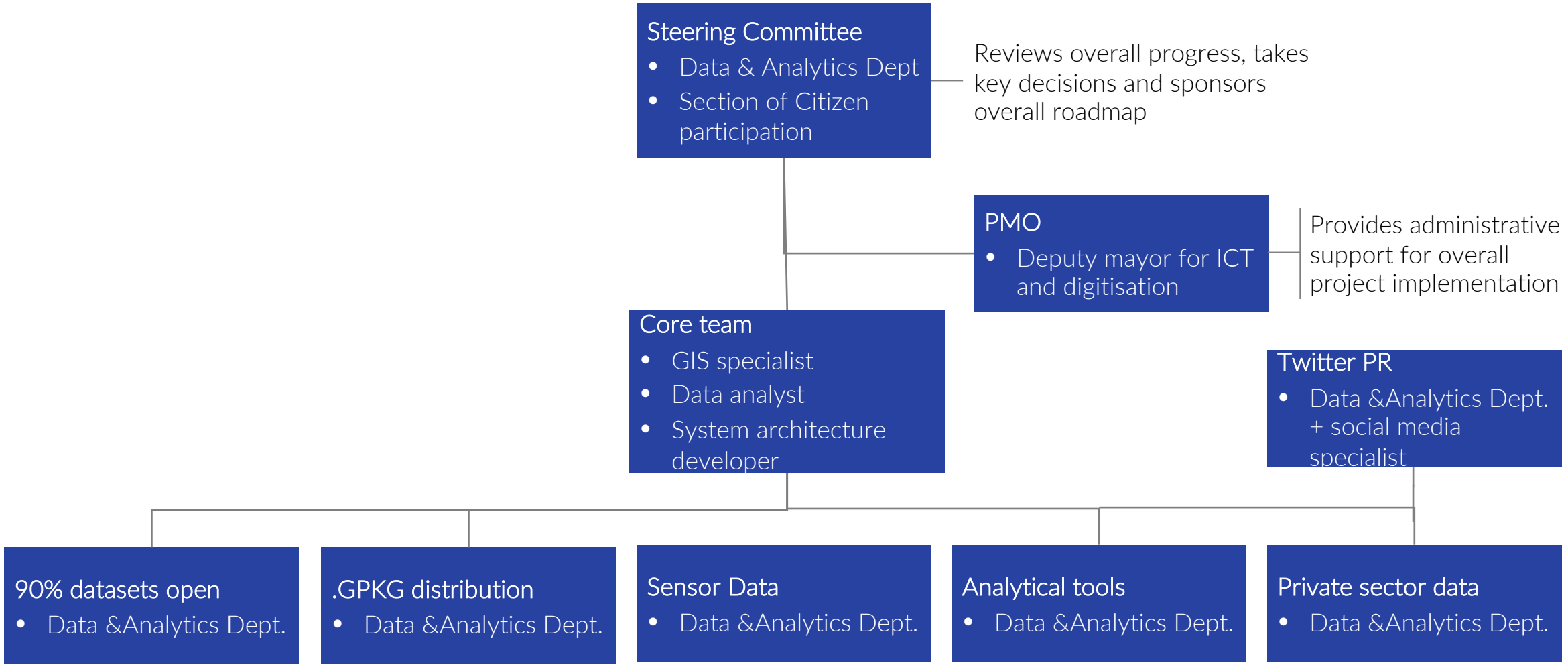
Key Performance indicators - Cross cutting indicators

Cross cutting indicators
Number of data requests (via e-mail, formulars) related to the specific formats is **decreasing.** People are satisfied with data and its **distributions/formats to download/connect**.
Overall satisfaction with dataportal (through research) is **increasing**.
Data.Brno is placed on the ranking of european UDP study.
Data.Brno is placed on the ranking of european UDP study.
Increasing the digital literacy of the population.

Rationale to KPI approach

Digital literacy is an important aspect of education in the 21st century. Brno also lists it as one of the key aspects in its strategy. The data portal can clearly contribute to increasing digital literacy, especially with regard to data formats, data connection via API, but also embedding content (charts), etc. Moreover, the platform by its nature (open data) refutes fake news, disinformation, etc.

Governance structure for roadmap implementation



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Section

3+4

Brno: Implementation, Review & Way Forward

ICC Transformation

February 2021 to May 2021

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

Impact executive summary

The main achievement during the ICC project was the launch of the data.brno.cz data portal, which serves as the very signpost of data about the city of Brno. The data portal has gone through a journey of setup, launch, testing and operation. It is now fully operational, and efforts are being made to further scale it up through the steps described in Phase 2.

The set KPIs were met and in some cases successfully exceeded. The biggest success is the involvement of 8 private companies which share their own data via data.brno. Specifically: Sewers and canalisation comp., City technical company, Transportation company of Brno city, City architecture studio, Waze, REbox & REcup, Brno city museum and Brno waste collection comp. We also managed to exceed the number of followers on the social network twitter, which could be interpreted by quality and interesting content we publish.

Despite the achievements, it is necessary to ensure further development in the coming years, especially with regard to the implementation of the Open Data Directive, the Data Act and Czech legislative requirements. The involvement of other stakeholders from the university, private companies and the public is crucial.

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

…makes it easier to undertake certain…

…which work to drive up…

…leading to improved…

Change measured over time during ICC

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

Assessment of solution maturity - progress against KPIs

City performance	Where we started	Midway through the challenge	Final results
1 KPI 1	30 % of datasets open	90% of datasets open	Completed
2 KPI 2	Only default, vendor locked in formats provided in distributions	.GPKG distribution	70 % of datasets offer GKPG to download
3 KPI 3	No integrated sensory data	Sensory Data	we have 10 sensory datasets
4 KPI 4	Just one analytical tool	6 Analytical tools	6 analytical tools
5 KPI 5	Poor collaboration with private companies	6 private data providers	8 private data providers B2G data sharing enhanced
6 KPI 6	Setting up data communication	Twitter 500 follows	Twitter nearly 1000 follows

Assessment of city performance - discussion

At the beginning of the project, we set several indicators that aimed at significantly improve the quality of the data provided through the data platform. While progressive steps have been taken to meet each objective, there are still many areas that are consistently underestimated.

The biggest achievement was the provision of the downloadable geopackage format, with 70 % of datasets already available. This has been to the benefit of all openminded (i.e. opensource) people.

The biggest challenge remains working with private companies and sharing their data through the data portal. Logistics companies, transport services, post services. No entity is yet willing to take these steps as they protect their data. In the future, hopefully this data will be released to the public administration.

Assessment of solution maturity - discussion

At the beginning of the project, we set several indicators that aimed to significantly improve the quality of the data provided through the data platform. While progressive steps have been taken to meet each objective, there are still many areas that are consistently underestimated.

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Assessment of city ecosystem and activities - discussion

A functional urban ecosystem is the cornerstone of the city's development strategy. Collaboration across all stakeholders is thriving. All stakeholders regularly participate in the urban ecosystem meeting, which takes place once a year. Minutes of each meeting are available and the next steps with regard to the city strategy are determined. The best cooperation between stakeholders can be identified as the city and universities. The city is thus succeeding in profiling itself not only as a student city but also as a city of science and innovation. By sharing data from specific scientific projects on the city portal data.brno, the concept of open science is also being achieved.

Cooperation with other stakeholders is also beneficial. Again, from a data perspective, the sharing of B2G data or efforts to engage the public for data collection and sharing should be mentioned.

5 key lessons

Lesson	Reflections
Sharing is caring	Sharing and comparing city approaches to the issue was very helpful
Cooperation with expert team	A well-chosen team of subject matter experts helped us, especially in the beginning, to start better data management
City Labs and thematic WS	The six-month Citylab as a milestone in the project worked very well in terms of discussion between cities and experts, sharing the knowledge and it worked also a good push factor to have all work done.
Online is not enough	Unfortunately there was not even one offline meeting during the whole project (as far as we know) and especially in the beginning of the project it was a problem to get enough orientation in chats, groups, Teams channels etc.
Dedicated theme (Open data)	Within the project we chose a rather narrowly specified topic (open data), moreover, after half a year of the project we have already launched it (against expectations) and it was difficult to find enough partners and cities addressing this field.

Commitments

Commitments to on-going resources	Commitments to on-going collaboration	Commitments to on-going KPIs
2 persons are fully responsible for managing data.Brno solution but we would like to employ 2 more people, especially for front end development and marketing.	Collaboration with all stakeholders ~~I~~is set and its planned to enhance it.	There is still some work to be done. 1) open more city and its companies data 2) motivate people to use it 3) reach higher number of followers

3 Year plan - ambitions

Building on the ICC, what would will the city aim to achieve in 3 years time?	The data platform is a respected source of information and every citizen, as well as politicians and students and scientist knows they will find quality data here. The quality offered makes it one of the best data portals in the EU.
What steps will you take over the next 3 years to achieve these goals?	Engage citizens to provide their own data. Employ experienced Data analysts. Integrate more companies to provide their own data. Improve searching and browsing tools on the website. Motivate people to use data.

3 Year plan - targets

KPI	Category	What commitments will the city make to this end?
1	Digitisation	Promote a policy of open data and sharing by both city leadership and citizens. Allocate adequate **money** and human **resources** to development.
2	Open data & accessibility	Making available data that the average citizen would not be able to access. For example, data from **mobile operators**, taxis, logistics services, airbnb.
3	Open data & legislation	Incorporate "**open data by default**" approach, which means that only few dataset (gdpr, critical infrastructure) will not be published as open data.
4	Open Data & Economy	Encourage **the reuse of data** to support the economic development of the city. This will not happen without quality data and also its support in the form of, for example, hackathons.