The European Commission's
INTELLIGENT CITIES
CHALLENGE

December 2022

Karlskrona Intelligent City Transformation Overview

ICC Final Deliverable

Executive summary

It is crucial for us to have a high ability to create value, business development and innovation with the help of modern technology to fulfill our vision "A leading edge experience efficiently delivered". Karlskrona's focus areas within ICC are eGovernment and services and enhancing citizen participation, connectivity and community. We have built an internal steering group with, among others, the CEO, CFO and CHRO at the municipality as well as collaboration with Blekinge University of Technology and the local Science Park.

To succeed, we focus on four solutions that we believe are crucial, supported by a staff function for management and support that reports to the steering group. The solutions are, Demand driven development, Aligned and empowered Workforce, City as a platform and The safe and secure city. Our assessment is that the four solutions together create a structure for innovation and digitization to be used in a successful and cost-effective way to increase our ability to meet welfare challenges. The solutions need to be connected and planned with an overall view, but each solutions drives its own activities. To move forward with a comprehensive development, we developed a policy for innovation and digitalization that is adopted at the highest political level.

During the ICC, we have chosen to focus on Demand driven development and City as a platform, but we work with all solutions. Within Demand driven development, we have trained over 400 employees in service design. It has given us an increased ability to work close to customers and find new and better ways to meet needs now and in the future. Within City as a platform, the focus has been on building the technical base to be able to manage processes and automated flows. The work also includes architecture around data supply and master data through the city data model.

Mayor Foreword

Karlskrona is a modern municipality that sets gender equality and security high on the agenda. We work hard to strengthen integration and inclusion, secure jobs and develop public health. Standing still and stomping is not an option. We add in a higher gear to meet the consequences of the pandemic and strengthen our municipality.

ICC contribute to achieving the municipality's overall goals and vision Karlskrona 2030 through guiding principles for the work with innovation and digitalization.

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

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

Reported as one section

1 Preparation & assessment

5 months:
September 2020 – January 2021

2 Ambition & roadmap

3 months:
February 2021 – April 2021

3 Implementation

15 months
May 2021 – July 2022

4 Review & way forward

2 months
August 2022 – September 2022

Summary

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

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

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

Measure success, and commit to keep connections and improvements going

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Section

1

Karlskrona: Preparation and assessment

ICC transformation

September 2020 to January
2021

Introduction

Karlskrona is a naval city with 67000 inhabitants in the southeast coast of Sweden with a very well-preserved environment. Its natural setting amongst islands and surrounded by water is an ever-present element too. The unique attractions of the city have earned it a place on UNESCO's World Heritage List.

Karlskrona Municipality has purposefully worked with digitization for over ten years and has reached a certain level of maturity. The municipality has two years in a row been nominated as one of Sweden's most prominent municipalities when it comes to take advantage of the possibilities with digitalization where DCC was a major contributing factor.

To achieve the stipulated cross-municipal effects of digitization, Karlskrona needs to broaden the scope of work to promote sustainability and growth. In this process, ICC is a natural step that help Karlskrona achieve its vision.

Sustainable development permeates everything we do. This provides better prospects for the future and exciting business opportunities. In the societal debate, security, trust, integration and climate change are other challenges that must be addressed together with societal actors in order to create a sustainable society. We also need to develop our service delivery to meet residents' expectations of simple and smart digital services, which places demands on high efficiency and cohesive service.

To meet the challenges, we need to challenge our current ways of working, think new and dare to test. By understanding the needs of the inhabitants and the influence of the outside world, we can develop value-creating working methods and services.

City needs: State of the city overview

The state of Karlskrona today

Karlskrona Municipality has purposefully worked with digitization for over ten years and has reached a certain level of maturity. The municipality has the last two times been nominated as one of Sweden's most prominent municipalities when it comes to take advantage of the possibilities with digitalization.

Sweden finished last (33) in the 2019 Digital Government Index[1]. Sweden need to adopt a holistic strategic approach towards access to and sharing of data, with particular emphasis on leveraging data-sharing infrastructure, standards and practices that enable public sector organizations to make effective and strategic use of data. Karlskrona, as a Swedish city, suffers from the lack of a national strategic approach.

To achieve the stipulated cross-municipal effects of digitalisation, Karlskrona needs to broaden the scope of work to promote strong leadership, broad competence development, development of existing IT platforms and last but not least a clear structure for user driven development, ICC becomes a natural next step that can help Karlskrona achieve its vision.

The municipality has an ongoing dialog and cooperation with the key players in the Karlskrona Innovation ecosystem and have carried out several pilots and activities with good results.

[1] *Survey results from 29 OECD member states and four non-member partner countries*

Key insights from city performance analysis

Higher performance observed

1. The city has set up clear governance, central support functions and puts the finishing touches on the digital strategy for transforming residents ', users' and organizational results.

2. The city have strategies to actively engage resident and users to co-design their experience and empower them to meet their needs.

3. The city is perceived as an attractive employer and have low workforce turnover

4. Surveys that monitor business climate and business perceptions of city services show a great business environment in the city.

5. The city is successful in engaging and managing partnerships, alliances and vendors in a collaborative manner within the ecosystem.

Lower performance observed

1. The lack of national, strategic guidance highlight the need for transnational cooperation. During 2021 the city will revise its' innovation and development strategy and include several of the OECD recommendations for Digital Government.

2. Surveys show that the residents want greater transparency and are lacking trust in municipality's decisions and activities.

3. Digital competence needs to be increased, and skills exchanged among the municipality's employees.

4. The city do not have a workforce strategy which delivers against the organizational strategy and informs individual and team goals.

5. The organization has not fully achieved the change culture needed to drive and support innovative, agile and adaptive ways of working.
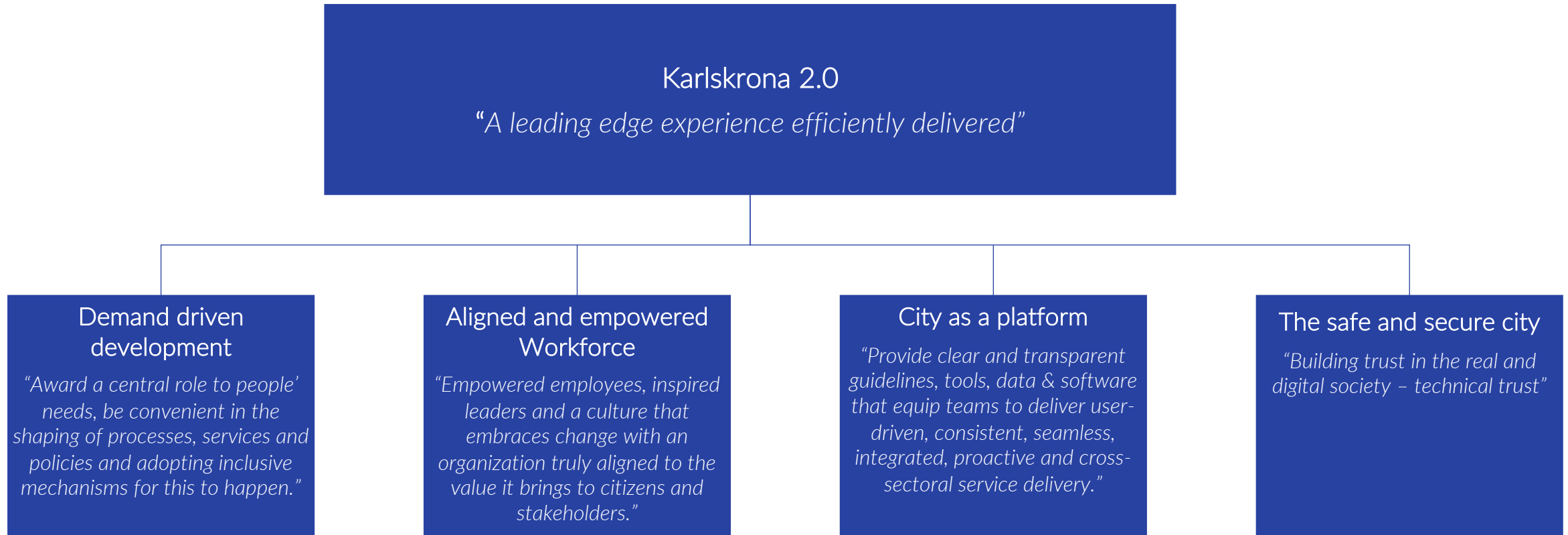
City Ecosystem

Key topics from the discussion

In order to go from words to action a few key areas were identified:

- **From scattered projects to integrated strategy.** The municipality has for a long time collaborated with the local business community and the university. Collaboration has been conducted at a thematic level around, for example, AI and IoT. But the collaboration has also been about specific projects such as digital twin and digital berth rental. The project's various partners agreed that the city now needs a digitization strategy that is integrated with the municipality's overall development strategy. This is one of the main values that the ICC can contribute.

- **Strategic coordination between quality and digitalization.** Clarify cooperation within trend analysis, budget planning, quality measurements, business plan and monitoring. An action plan for development/digitalization should be developed for each department. Include a digitalization platform in the budget.

- **Expand "Quality network" to Quality and Development.** Coordination and monitoring of the departments action plans for development/digitalization. Increase a sense of context and support from the central support within development. Establish suggestions for development and inform about decisions within the area.

- **Support within innovation and development.** Education in service design, methodology and support. Plan for communication in this area is needed.

- **More developed and coordinated roles and responsibilities to replace current system management.** The city need to cluster systems to move these to different steering groups depending on purpose. With that, we are also looking at digital platforms that can replace some of our systems.

ICC strategy: Vision and ambition statements

Karlskrona 2.0

"A leading edge experience efficiently delivered"

Demand driven development

"Award a central role to people' needs, be convenient in the shaping of processes, services and policies and adopting inclusive mechanisms for this to happen."

Aligned and empowered Workforce

"Empowered employees, inspired leaders and a culture that embraces change with an organization truly aligned to the value it brings to citizens and stakeholders."

City as a platform

"Provide clear and transparent guidelines, tools, data & software that equip teams to deliver user-driven, consistent, seamless, integrated, proactive and cross-sectoral service delivery."

The safe and secure city

"Building trust in the real and digital society – technical trust"

City strategy: What type of strategy did we need?

Point of departure

One key question started the strategy discussions: What capabilities are necessary to succeed with digitization?

Insights from the 1:1 interviews, the local enablers analysis and reflections from the stakeholders led us to the need for a **holistic framework** as a basis for further strategy discussions.
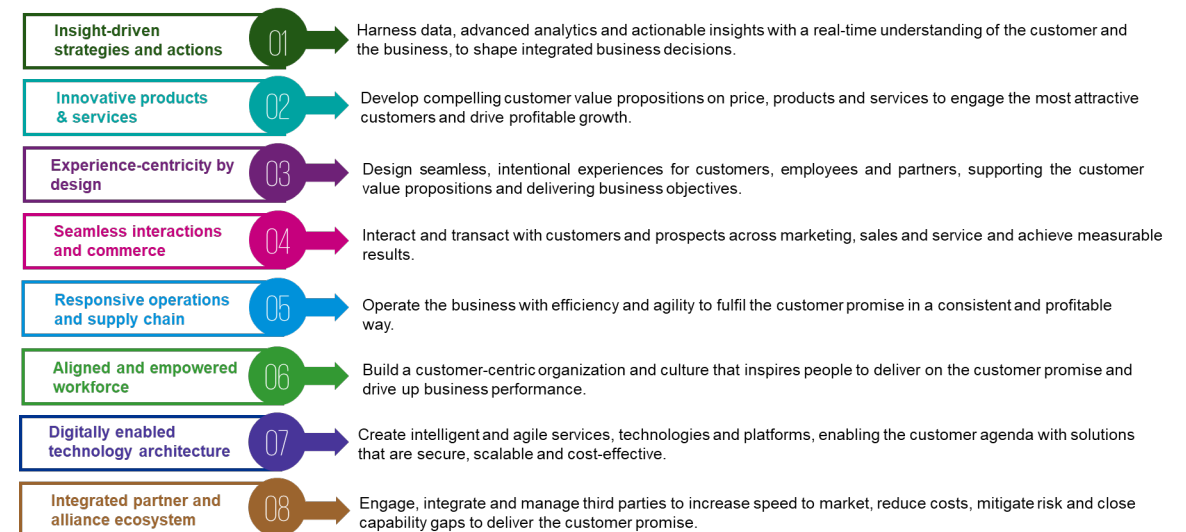
It has been important for us to take a holistic approach to our development where digitization is seen **as an enabler**. Technology can and should not drive the transformation, which is why we have included the areas we see needed to succeed in accelerating our development journey.

The KPMG framework: Connected Cities

The goal is rebuilding the business around the citizens to create a borderless organization, where people, data and technology interact for new levels of productivity and value creation.

With the KPMG Connected Cities framework, we can benchmark the maturity of **eight key capabilities** that are needed to help deliver better customer experiences and effective digital transformation for a whole municipality.

|		
Insight-driven strategies and actions	01	Harness data, advanced analytics and actionable insights with a real-time understanding of the customer and the business, to shape integrated business decisions.
Innovative products & services	02	Develop compelling customer value propositions on price, products and services to engage the most attractive customers and drive profitable growth.
Experience-centricity by design	03	Design seamless, intentional experiences for customers, employees and partners, supporting the customer value propositions and delivering business objectives.
Seamless interactions and commerce	04	Interact and transact with customers and prospects across marketing, sales and service and achieve measurable results.
Responsive operations and supply chain	05	Operate the business with efficiency and agility to fulfil the customer promise in a consistent and profitable way.
Aligned and empowered workforce	06	Build a customer-centric organization and culture that inspires people to deliver on the customer promise and drive up business performance.
Digitally enabled technology architecture	07	Create intelligent and agile services, technologies and platforms, enabling the customer agenda with solutions that are secure, scalable and cost-effective.
Integrated partner and alliance ecosystem	08	Engage, integrate and manage third parties to increase speed to market, reduce costs, mitigate risk and close capability gaps to deliver the customer promise.

Benchmarking Karlskrona

In what way is ICC strengthening the city's key capabilities?

By mapping all the city's digitization Activities against the Connected model, it became clear in which way the city strengthens the 8 key capabilities. Next, we created a roadmap describing how the different Activities are aligned with ICC:

- Activities related to *eGovernment and digitizing public services*

- Activities related to *Citizen participation, connectivity and community*

- Peripheral ICC related activities (*Enablers*)
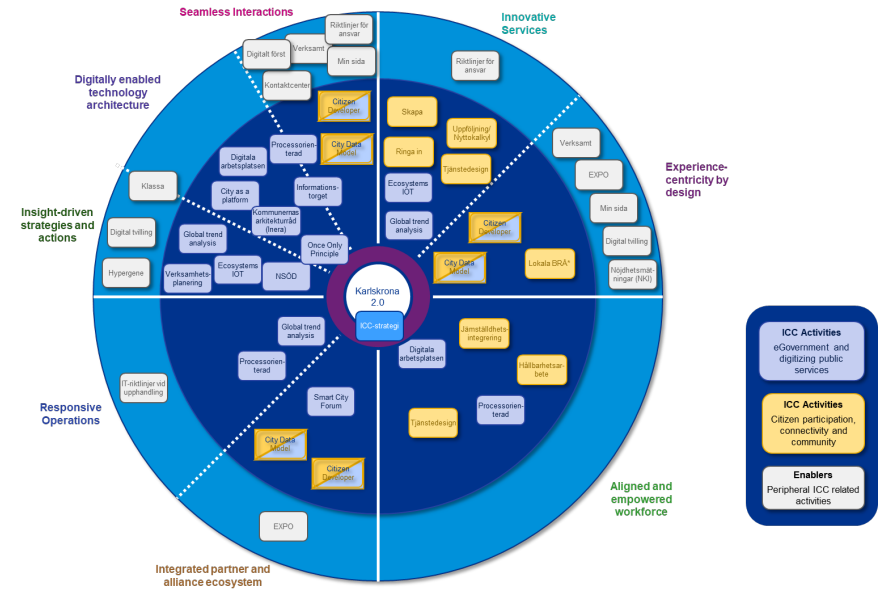
City strategy: What was the result?

Forming the final Strategy

How is ICC being integrated with the municipality's overall development strategy?

Based on our overall roadmap, we were able to cluster the various ICC activities in four different groups[1] – our **solutions**. To create momentum for these solutions, four corresponding task forces were set up directly under the CEO:

- Demand driven development

- Aligned and empowered workforce

- City as a platform

- The safe and secure city

This now constitutes Karlskrona's overall development strategy. Using a **strong theoretical framework** (Connected) and having a **holistic approach** (integrating all projects and enablers) has been the key success factors.
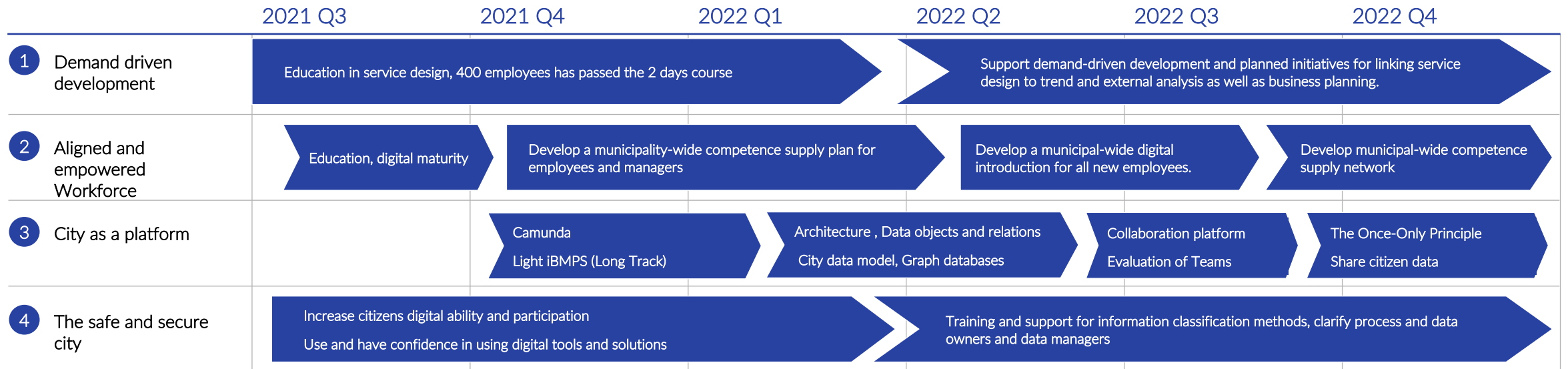
Section

2

Karlskrona: Ambition and roadmap

ICC Transformation

High level implementation roadmap ("10000m plan")

		2021 Q3	2021 Q4	2022 Q1	2022 Q2	2022 Q3	2022 Q4
1	Demand driven development	Education in service design, 400 employees has passed the 2 days course			Support demand-driven development and planned initiatives for linking service design to trend and external analysis as well as business planning.		
2	Aligned and empowered Workforce	Education, digital maturity	Develop a municipality-wide competence supply plan for employees and managers		Develop a municipal-wide digital introduction for all new employees.		Develop municipal-wide competence supply network
3	City as a platform		Camunda / Light iBMPS (Long Track)	Architecture , Data objects and relations / City data model, Graph databases		Collaboration platform / Evaluation of Teams	The Once-Only Principle / Share citizen data
4	The safe and secure city	Increase citizens digital ability and participation / Use and have confidence in using digital tools and solutions			Training and support for information classification methods, clarify process and data owners and data managers		

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Rationale to road map

The Roadmap was based on the overall Strategy

As presented in previous sections on Vision and Strategy, the ICC has been integrated into the city's overall development strategy.

The implementation of the strategy has been placed in four different task forces, each of which has designed its own roadmap.

The starting point is a holistic approach which, among other things, means that there is no mutual hierarchy between the various solutions - all parts must succeed in order for digitization to be successful.

It was natural to prioritize Demand driven development and City as a platform as these contain several strategic enablers. The choice also partly depends on resource-related reasons. Having said this, work has been ongoing in all areas.

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Initiative charter- Demand driven development

Strategy

Description
What: Demand driven development

Why: Develop services that meet the needs of residents

How: Training in service design for all administrations increases the ability to work with needs-driven development out in the business. Service design methods are also used within the different phases of the development process. Central support exists to ensure high quality within the service design work.

Link to vision
A leading edge experience efficiently delivered.

Link to ambition statement
Award a central role to people' needs, be convenient in the shaping of processes, services and policies and adopting inclusive mechanisms for this to happen."

Expected impact and timing
We design innovative services using evidence, insights and leading practices. Design is formed through balancing resident and user needs, policy requirements and business priorities.

Our service delivery capabilities are fit for purpose and consistent with policy and service design.

Stakeholders involved

Solution lead:
The central unit for digitalization development at the municipality

Solution working team:
The central unit for digitalization development

Contributors:
Swedish Association of Local Authorities and Regions

Risks and mitigation
An increased awareness of opportunities and needs places demands on being able to prioritize and handle complex issues, as well as delivering digital solutions that meet the needs.

To address the risk of not being able to technically meet the development need, a prioritization model is introduced that is adapted to the existing budget cycle. The goal is to ensure that we focus on the right things.

Inputs, outputs, outcomes and impacts

Source of funding and estimated cost
The source of funding comes from Omställningsfonden, 20 000 euro.

Solution maturity outputs
Policy for innovation och digitalization in place

The innovation and development process is decided, implementation in progress

400 employees educated in service design

City performance outcomes and impacts
We are a user-driven organization, sensitive to residents who focus on offering simple and efficient processes, services and policies that meet priority needs

Initiative charter- Aligned and empowered workforce

Strategy	
Description	What: Aligned and empowered workforce
	Why: Empowered employees, inspired leaders and a culture that embraces a citizen and service centric approach
	How: Inspiration and education around the possibilities of digitization. Education and measurement of digital maturity. Education platform
Link to vision	A leading edge experience efficiently delivered.
Link to ambition statement	Empowered employees, inspired leaders and a culture that embraces change with an organization truly aligned to the value it brings to citizens and stakeholders.
Expected impact and timing	Our workforce have the right capabilities and are empowered to achieve our organizational objectives, for which they are accountable.
	Our organization has a change culture that drives and supports innovative, agile and adaptive ways of working.

Stakeholders involved	
Solution lead:	HR department, Quality strategy and unit for digitalization development
Solution working team:	HR department, Quality strategy and unit for digitalization development
Contributors:	Blekinge Institute of Technology
Risks and mitigation	The biggest risk is that we do not succeed in providing skills supply and skills development at the pace we need.

Inputs, outputs, outcomes and impacts	
Source of funding and estimated cost	City budget
Solution maturity outputs	Better support for digital learning platforms is a development potential.
City performance outcomes and impacts	That managers and employees should increase their knowledge regarding business development with the help of digitization and that more people should be involved in decisions regarding digitization work. To increase the innovative culture and digital maturity, both based on technology and understanding of developing and leading new ways of working.

Initiative charter City as a platform

Strategy

Description

Cities **build supportive ecosystems** that **support** and **equip public servants** to **design effective policy and deliver quality services**. That ecosystem enables **collaboration** with and between **citizens, businesses, civil society and others** to harness their **creativity, knowledge and skills** in addressing **challenges facing a city**.

Link to vision

To enable transformation **from City as a service** provider **to City as a platform** for public/private co-creation

Link to ambition statement

Provides **powers and resources** to the city organization responsible to **steer the design** and **coordinate the implementation** of the **digital** city strategy across the city.

Expected impact and timing

City Development Platform, Lower Code (2021)

City Data Model, Once Only Principle (SDG) (2022)

Citizen Developer, City Developer (2023)

Process re-engineering, Resource pool (2022)

Lean whole system development (2022)

Stakeholders involved

Solution lead:
City Digitalisation Unit

Solution working team:
City ICT Unit

City Communications Office

Contributors:
Platform Providers

City Infrastructure Company

City Network Company

Risks and mitigation

Stakeholder agendas **not updated** with **challenges facing the city**. Improve work on common **identification, negotiation and agreements on city challenges**. Mitigate risks by:

•i/ Develop a city as a platform, CaaP, **strategy**, complemented by a **plan of action** and an **impact assessment instrument**,

•ii/ Define a clear **governance framework** for CaaP and

•iii/ Update the **legal and regulatory frameworks**

Inputs, outputs, outcomes and impacts

Source of funding and estimated cost
City budget

Solution maturity outputs

Ongoing work on Public Services through pilots who are scaled up after validation

Increased reuse and higher quality of data

Domain Training

Domain Coordination Models

City performance outcomes and impacts

City As A Platform as a testbed for completely new ways to focus on entire end-to-end flows, to reuse data/code and skill forward, inter alia, i) assign tasks based on availability and competence. Ii) monitor and escalate tasks based on service guarantees and processing times, iii) compile decision documents so that the right person has the right documents for the right decision, iv) share and quality-assure decision-making materials based on availability and competence, v) offer traceability for equal and transparent processing and vi) ubiquitous language - the practice of continuously improving a common, rigorous language between domain experts and developers.

Initiative charter- The safe and secure city

Strategy		Stakeholders involved		Inputs, outputs, outcomes and impacts	
Description	What: Building trust in the real and digital society – technical trust	**Solution lead:**	Security manager, information security manager and unit for digitalization development	**Source of funding and estimated cost**	City budget
	Why: Karlskrona should be experienced as a safe municipality where all citizens feel safe both in the real and digital context.	**Solution working team:**	Security manager, information security manager and unit for digitalization development		
	How: Training of employees and management, gap analysis at management level and platform development			**Solution maturity outputs**	A relatively new municipality-wide network to work with counteracting digital exclusion has been created and the collaboration is starting to work well.
Link to vision	A leading edge experience efficiently delivered.	**Contributors:**	Collaboration with representatives from all administrations		The information security work has suffered from a lack of skills, but for some time now it has been adjusted and we view the work positively in the future.
Link to ambition statement	Karlskrona is an open, welcoming, equal and safe municipality. Karlskrona should be experienced as a safe municipality where all citizens feel safe at home, at work and in their free time.	**Risks and mitigation**	Reaching target groups that today are the risk zone for ending up in digital exclusion and offering customized support. To balance innovation and development with information security work.	**City performance outcomes and impacts**	An open, welcoming, equal and safe municipality where all citizens feel safe at home, at work and in their free time. The ability to work proactively and be able to react quickly to changes in both physical security and digital security.
Expected impact and timing	In Karlskrona there shall be the best conditions for everyone to safely take part in, take responsibility for and have trust in the digital society.				Proactive investments in security promoting initiatives increase trust and perceived security, which lays the foundation for a well functioning society.
	Our employees have the right skills and technical support to work in an information-secure manner.				
	Our digital technology stack is designed and built to be secure and to protect our data, systems and products.				

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Key Performance indicators - overview

Solution	Activities – Inputs and actions	Solution Maturity - outputs	City performance – outcomes and impacts
Demand driven development	• New policy for innovation och digitalization • Implement the innovation and development process • Education in service design • Develop a web-based action plan	• Policy for innovation and digitalization in place • The innovation and development process is incorporated • 300 employees educated in service design	• We are a user-driven organization, sensitive to residents who focus on offering simple and efficient processes, services and policies that meet the needs of citizens
Aligned and empowered Workforce	• Develop and implement a municipality-wide strategy and plan for leadership and competence supply • Develop a competence supply plan for employees and managers • Develop a competence supply network	• Strategy for competence in place • New competence plan in place • Supply network established	• To increase the innovative culture and digital maturity, both based on technology and understanding of developing and leading new ways of working.
City as a platform	Initiatives to develop the technical platform • Coordination • Competence • Tools • Data	• A technical platform that meet business demands and achieves a proactive and cross-sectoral service delivery	• New ways to develop and automate business processes, manage master data and code, e.g., from e-services on the web to the management process and back to the citizen. Increased productivity • Demand-driven innovation can be technically met
The safe and secure city	• Proactive security work through data-driven analysis and follow-up of incident reporting • Collaboration with BTH and BSP for secure information management and IT security	• The pilot scales up and enables an increased ability to proactively work with security-related initiatives. • Ongoing and fruitful collaboration	• An open, welcoming, equal and safe municipality where all citizens feel safe both physical and digital.

Key Performance indicators - Cross cutting indicators

Cross cutting indicators
Karlskrona can meet *"The Once-Only Principle"* . This will enable public entities to share citizen data with each other, so that people using any public services only have to enter their information once. Degree of national administration (CR,ERG,TAX) re-use of local administration information and vice versa given life event
To support end user opportunity to create new applications from a city code base, system or structure, i.e. Citizen Developer. As we anticipate a lack of available developer competence and run the risk of a democratic deficit, we are pursuing DIY public service development. Aiming for 80 % non-citizen developed and 20 % citizen developed applications.

Rationale to KPI approach

KPI	Description
KPI 1, Demand driven development	The goal we strive for is to achieve a greater culture of innovation and development in order to increase our ability to make use of the benefits with digitization. We use a national measurement method called Digital maturity in the public sector. We also connect the work to the organization's quality work to use existing forums and working methods. There is a municipal-wide decision to use this measurement method, which also gives us the advantage of being able to compare the result with 150 other Swedish municipalities.
KPI 2, Aligned and empowered Workforce	The main goal is to provide a competence supply that corresponds to the organization's needs and meets the demands that digital development requires. We work together with the HR department and link the work to political assignments in the area. The area is broad and includes both work at policy level down to specific educational efforts. It is difficult to put a number on this KPI and therefore we explain our position in short text.
KPI 3, City as a platform	A challenge in this area has been to explain to management in a simple way, because it is technically complex and thus difficult area. Basically, we need to modernize our technical platforms to be able to handle data-driven development and automated processes. We start from a situation where we can draw processes, more like a sketch, and move towards a situation where we draw processes in a standardized way and can run the processes on a modern process platform. It is difficult to put a number on this KPI and therefore we explain our position in short text.
KPI 4, The safe and secure city	The area captures the need for our residents and customers to feel secure in using the municipality's digital services and also secure in using these. We then need to work both with technical scale protection, information security, but also to increase digital participation among residents. We want everyone to be able to take part in society's digital services in an equal way. It is difficult to put a number on this KPI and therefore we explain our position in short text.

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Governance structure for roadmap implementation

Steering Committee at the municipality

- CEO Anette Sturesson
- CFO Helen Wolf
- CHRO Patrik Pallin
- CDO Fredrik Sjölin
- CQO Lenita Karlsson

Lead expert

- KPMG
  Mattias Wikner

Reference groups

- The municipality's management team
- The quality network at the municipality

Core team at the municipality

- Fredrik Sjölin
- Lenita Karlsson
- Per-Olav Gramstad
- Anneli Häggström
- Mats Hellman
- Anders Wiklander

External partners

- Blekinge Institute of Technology
  Andreas Larsson
- Blue Science Park
  David Appelberg

Demand driven development

- Mats Hellman
- Lina Thorell Nordström

A needs-driven development

Aligned and empowered Workforce

- Anneli Häggström
- Lenita Karlsson
- Fredrik Sjölin

Competence and commitment

City as a platform

- Per-Olav Gramstad
- Lars Erik Strandberg
- Jörgen Nilsson
- Johan Rosenquist

Digital platforms and ecosystems

The safe and secure city

- Anders Wiklander
- Marie-Louise Malmquist
- Fredrik Sjölin

Building trust in the real and digital society – technical trust

Section

3+4

Karlskrona: Impact

ICC Transformation

February 2021 to May 2021

Impact executive summary

To achieve success, it is fundamental to have top management on board. They must understand and own why, what and how the work is to be carried out. We have worked together with the municipal director, finance manager and HR manager and connected the development work to the overall quality work. It is also good to make use of existing groups and networks to gain a broad anchoring and understanding in the organization. In our case, the focus has been on business development and innovation with the help of modern technology to fulfill our vision "A leading edge experience efficiently delivered". We realized early on in the project that we had to work with several areas at the same time to achieve success, in our case four solutions.

The solutions are, Demand driven development, Aligned and empowered Workforce, City as a platform and The safe and secure city. Our assessment is that the four solutions together create a structure for innovation and digitization to be used in a successful and cost-effective way to increase our ability to meet welfare challenges. The solutions are connected and planned with an overall view, but each solutions drives its own activities.

To move forward with a comprehensive development innovation and digitization must be used in a structured and cost-effective way to increase our chances of meeting welfare challenges. We plan to continue the work in the coming years, implement renewed working methods, create structure and coordinated support to improve business development within the municipality.

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
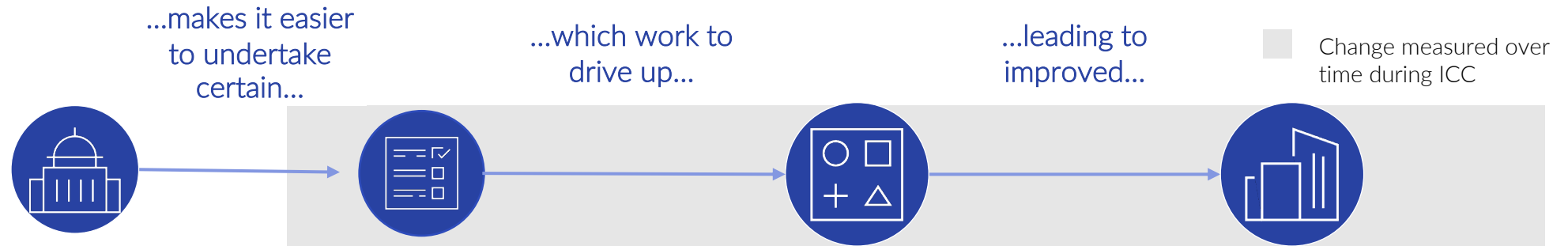
Idea	Local enablers –city characteristics	Activities – actions and inputs	Technology maturity – outputs	City performance – outcomes and impacts
Description	Each city has unique strengths and weaknesses that help action happen. These can be stakeholder networks, local capabilities, cultural factors or 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

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Assessment of city progress against KPIs

City performance	Where we started	Midway through the challenge	Final results
1 KPI 1	No baseline	46 %	60 %
2 KPI 2	Need to update policy, plans and training packages.	Ongoing work in all areas.	Politically adopted policy and plans as well as completed training initiatives.
3 KPI 3	No technical ability to run processes.	Implemented process standards and process platform for short and long automated processes.	Ability to develop technically automated processes at a pace that meets the needs of the business.
4 KPI 4	Unclear central support in the area of information security and low activity to increase citizens' digital participation.	Development of new policy, active work with process and information ownership and municipal-wide working group in the area of increased digital participation	Adopted policy and clear process and information ownership within the organization. Residents experience digital participation.

Assessment of city performance - discussion

Solution	City performance
Demand driven development	• The adopted policy "Innovation and digitalization" states that we shall work with demand-driven development. The policy also describes a development process that clarifies that the development work is part of the regular work and business planning. By clarifying this and offering a support package of solutions, we have taken great strides towards becoming a user-driven organization, responsive to residents who focus on offering simple and efficient processes, services and policies that meet priority needs. We measure how digitally mature the organization are.
Aligned and empowered Workforce	• Targeted efforts will be implemented so that managers and employees will increase their knowledge regarding business development with the help of digitization and that more people will be involved in decisions regarding the digitization work. Increasing the innovative culture and digital maturity, both based on technology and understanding of developing and leading new ways of working will take time, but the work is ongoing to meet the growing need for new skills in the digital society.
City as a platform	• Completely new ways to focus on entire errand flows and to reuse data and code • Demand-driven innovation can be technically met on a platform that achieves a proactive and cross-sectoral service delivery
The safe and secure city	• Training and performance on information security classification. Development of policy and ability to provide support in the field. • Ongoing municipal-wide collaboration to plan and coordinate efforts to promote increased digital participation among residents.

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Assessment of solution maturity - discussion

Solution	Solution Maturity
Demand driven development	• 400 employees have been trained in service design. It gives the organization the competence to call in the right problem areas at the operational level and to design solutions based on prioritized needs experienced by residents/customers. We continue to train staff but are already experiencing a different maturity and improved culture of innovation.
Aligned and empowered Workforce	• Improved collaboration between HR and the unit for digitalization development to plan competence supply strategies • Strategy for competence, in progress • New competence plan, in progress
City as a platform	• The architecture for data objects and relations are scaling up after validation. • Implementation of two process platforms has been completed which also increases reuse and quality of data • A clearer picture of process-based ways of working, with a purpose-driven organization where technical platforms effectively deliver high-quality service that meets the needs of residents.
The safe and secure city	• Training and performance on information security classification. • Great interest and understanding that the organization should work on planning and coordinating efforts to promote increased digital participation among residents. No measurable results with the target group yet.

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Assessment of city ecosystem and activities - discussion

Solution	Ecosystem collaboration
Demand driven development	• We handle in-house training in service design. We use methodology developed by the Swedish Association of Local Authorities and Regions.
Aligned and empowered Workforce	• Collaboration with Blekinge Institute of Technology and Blue Science Park in the field of competence provision.
City as a platform	• Interesting partnerships with platform providers, e.g., Neo4J, Apendo-Camunda, HiQ-FRENDS, MS-Cosmos DB, ESRI and S-GROUP- ArcGIS • Conducted pilot study with local ICT company to evaluate technical architecture and strategy for development of future business relationships.
The safe and secure city	• Mainly cooperation with other municipalities. • Guidance from the Swedish Civil Contingencies Agency: MSB

5 key lessons

Lesson	Reflections
1	Encouragement to clarify overall governance
2	It is rewarding to take part in the successes and setbacks of other cities
3	Our project group, which prioritized the area of digital development, feels that the focus of ICC changed too much to pandemic management and green deals.
4	We feel that the ICC has taken a too broad focus, which has made it difficult to staff up with resources. It would have been positive for us with a slightly narrower mission.
5	We feel that the structure from the ICC expects a slightly larger staff involved than we have had the opportunity to appoint. We think that we have done a lot in the project but have adapted certain parts to our possibilities.

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Reflections on city collaborations

It is very interesting to learn about other cities' challenges and solutions. It often shows that we work with the same things, although of course in many cases we have less resources to deal with them than larger cities. The collaboration has been on a listening, discussing and learning level. We have not found deeper cooperation in the technical area that we have come to focus on the most during the project, e.g., process automation and data sharing.

3 Year plan - ambitions

Building on the ICC, what would will the city aim to achieve in 3 years time?	To implement a renewed way of working, a clearer culture of innovation, create structure and coordinated support to improve business development within the municipal group that is based on the needs of the residents.
	The development needs to be designed close to the residents and supported by competent modern platforms that can hold together process feeds that reuse basic data and data structures both within the municipality and against national authorities.
What steps will you take over the next 3 years to achieve these goals?	To achieve success, it is fundamental to have top management on board. They must understand and own why, what and how the work is to be carried out.
	Our assessment is that the four solutions, which are produced in the ICC, together create a structure for innovation and digitization to increase our ability to meet welfare challenges. The solutions are, Demand driven development, Aligned and empowered Workforce, City as a platform and The safe and secure city.

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Appendix

Karlskrona: Additional information

ICC Transformation

City Needs: State of the city – detailed analysis

Lower performance areas / higher performance areas (delete as appropriate)

Key insight

For success

In order to develop the municipality's ability to transform itself in innovation and digitalization, a wide range of measures need to be carried out simultaneously. It's not just about technology, but the organization's ability to see the same challenge and goal, to keep pace and to succeed in developing the right areas in the right way, and to achieve success in reaping benefits from the development work.

Data points

Baseline

We connect the development work to a national tool that measures digital maturity. Through the tool, we can measure ourselves against other municipalities and get an evidence-based basis for prioritizing and developing the right skills.

Collaboration

Together

Collaboration is necessary, both because the area is too complex to act on ourselves, but also because our organization does not have the opportunity to provide an efficient service to our residents on its own. it is through cooperation with other actors that we can create real benefit and good and efficient service.

Seamless Interactions

Innovative Services

Digitally enabled technology architecture

Experience-centricity by design

Insight-driven strategies and actions

Responsive Operations

Aligned and empowered workforce

Integrated partner and alliance ecosystem

Karlskrona 2.0

ICC-strategi

Riktlinjer för ansvar — **Digitalt först** — **Verksamt** — **Min sida** — **Kontaktcenter** — **Citizen Developer** — **Processorienterad** — **City Data Model** — **Digitala arbetsplatsen** — **Klassa** — **City as a platform** — **Informations-torget** — **Kommunernas arkitekturråd (Inera)** — **Digital tvilling** — **Global trend analysis** — **Once Only Principle** — **Hypergene** — **Verksamhets-planering** — **Ecosystems IOT** — **NSÖD**

Riktlinjer för ansvar — **Skapa** — **Uppföljning/Nyttokalkyl** — **Ringa in** — **Tjänstedesign** — **Ecosystems IOT** — **Global trend analysis** — **Citizen Developer** — **City Data Model** — **Lokala BRÅ*** — **Verksamt** — **EXPO** — **Min sida** — **Digital tvilling** — **Nöjdhetsmät-ningar (NKI)**

Global trend analysis — **Processorienterad** — **IT-riktlinjer vid upphandling** — **Smart City Forum** — **City Data Model** — **Citizen Developer** — **EXPO**

Jämställdhets-integrering — **Digitala arbetsplatsen** — **Hållbarhetsar-bete** — **Processorienterad** — **Tjänstedesign**

ICC Activities
eGovernment and digitizing public services

ICC Activities
Citizen participation, connectivity and community

Enablers
Peripheral ICC related activities

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The safe and secure city
Building trust in the real and digital society – **technical trust**

Seamless Interactions

Innovative Services

Digitally enabled technology architecture

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Karlskrona 2.0

ICC-strategi

Riktlinjer för ansvar
Verksamt
Digitalt först
Min sida
Kontaktcenter
Citizen Developer
Processorienterad
City Data Model
Digitala arbetsplatsen
Informationstorget
Klassa
City as a platform
Kommunernas arkitekturråd (Inera)
Digital tvilling
Global trend analysis
Once Only Principle
Hypergene
Verksamhetsplanering
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NSÖD

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Riktlinjer för ansvar
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IT-riktlinjer vid upphandling
Smart City Forum
City Data Model
Citizen Developer
EXPO

Jämställdhetsintegrering
Digitala arbetsplatsen
Hållbarhetsarbete
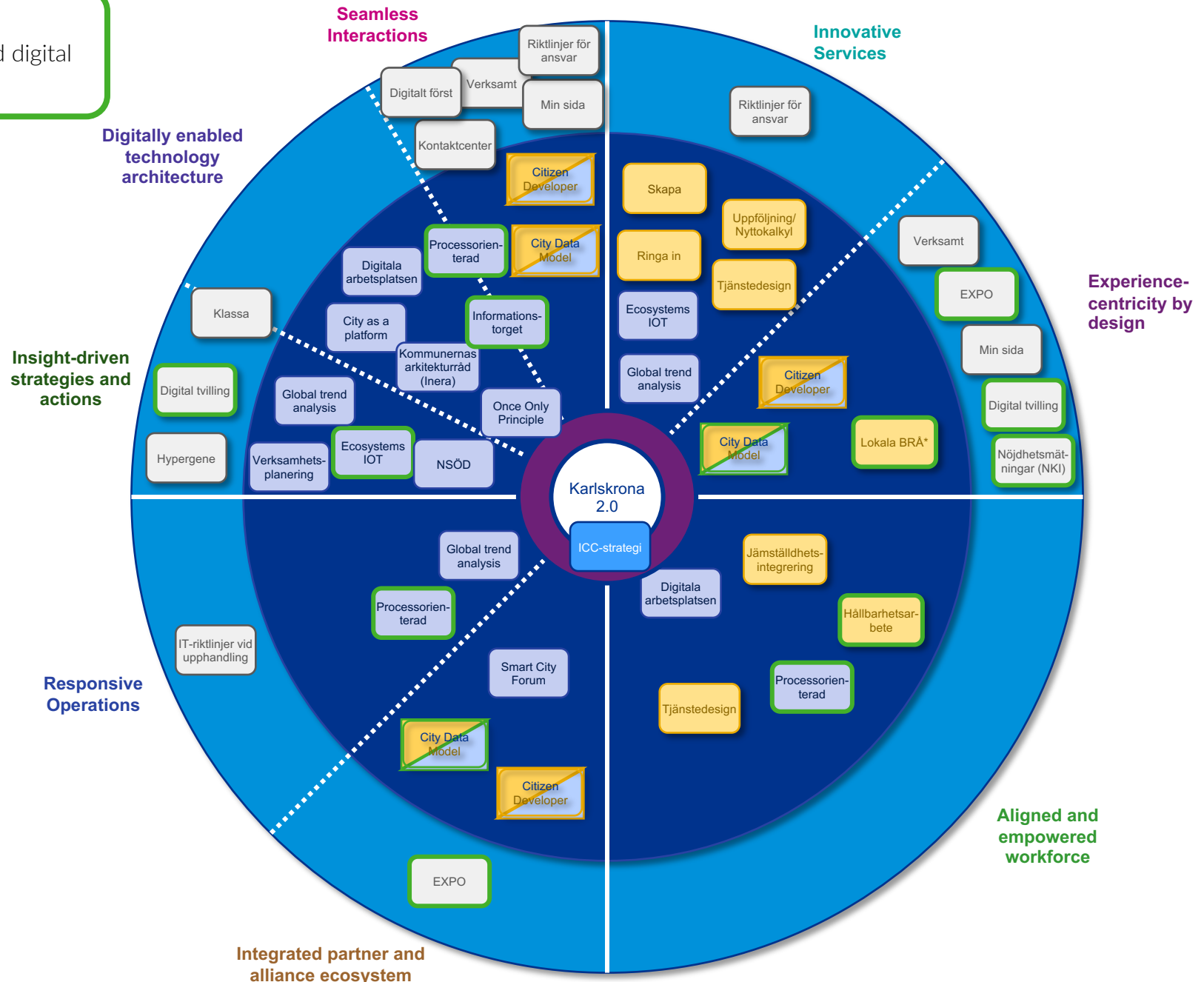Tjänstedesign
Processorienterad

ICC Activities
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ICC Activities
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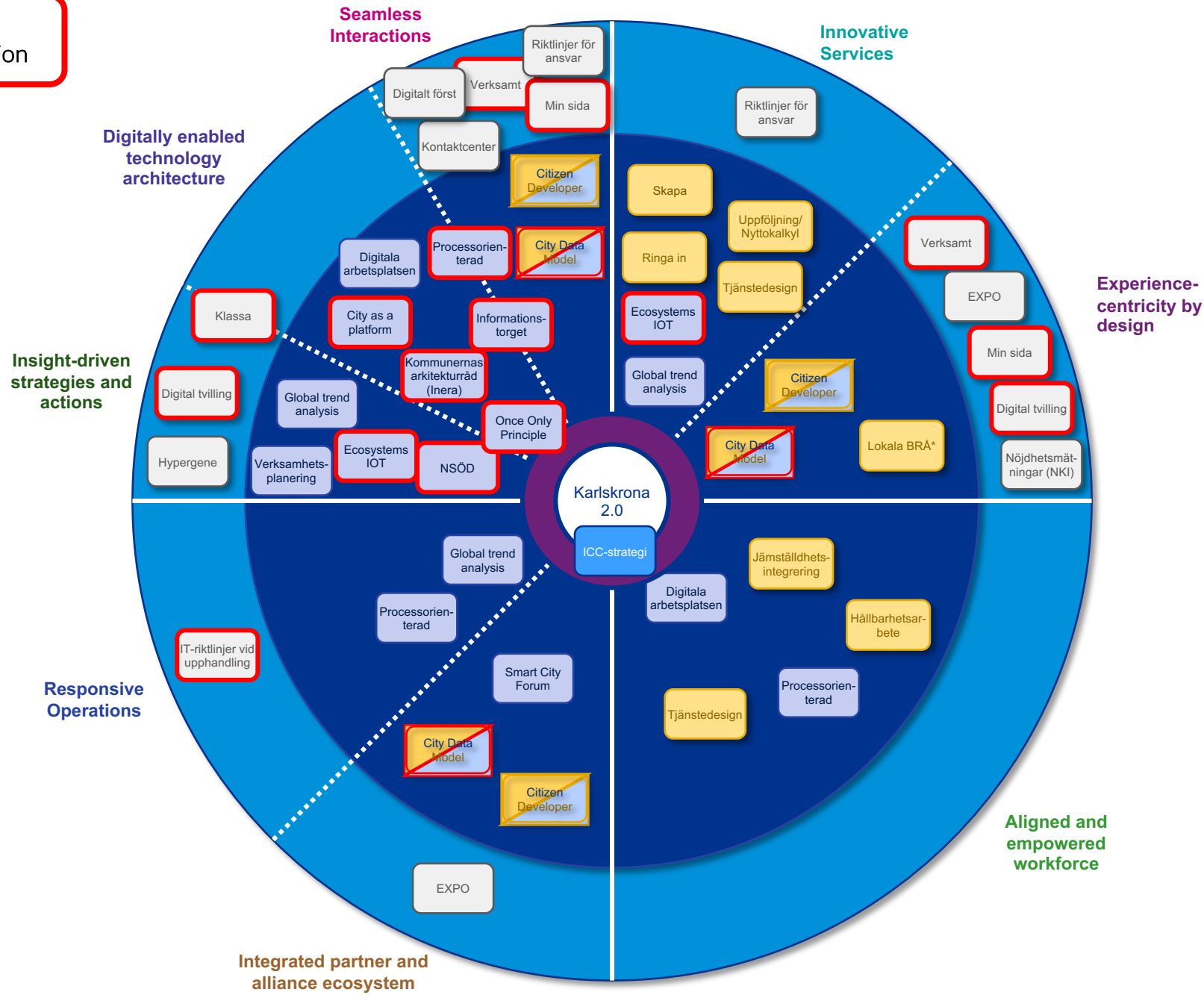Peripheral ICC related activities

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Demand driven development
The evolution of user driven approaches

Seamless Interactions

Innovative Services

Digitally enabled technology architecture

Experience-centricity by design

Insight-driven strategies and actions

Responsive Operations

Aligned and empowered workforce

Integrated partner and alliance ecosystem

Karlskrona 2.0

ICC-strategi

Wheel activities:

Riktlinjer för ansvar
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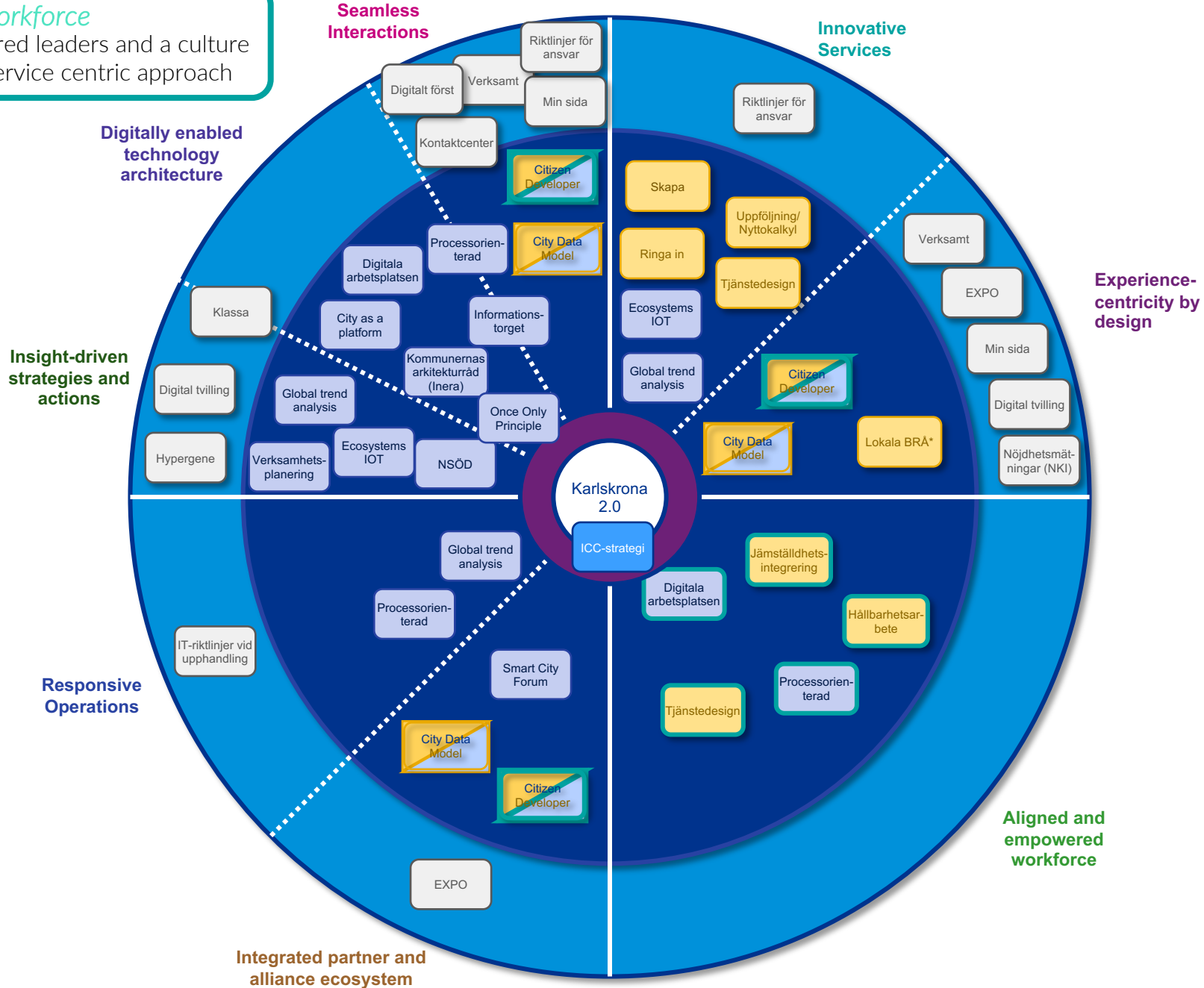Peripheral ICC related activities

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