Digitizing government services and citizen engagement

Thematic introduction
Welcome to the thematic workshop on digitizing government services and citizen engagement

Sebastian Troch
Head of ITS & Data Management
Ministry of Transport and Mobility Transition
City of Hamburg, Germany

Isabella Longo
Project Director, BIT Habitat
City of Barcelona

Thomas Weber
Associate Partner
McKinsey & Company
Berlin, Germany

Jonty Olliff-Cooper
Associate Partner
McKinsey & Company
London, United Kingdom
## Thematic workshop – Citizen engagement and digitization of public administration | Friday, December 3rd | Agenda

<table>
<thead>
<tr>
<th>Time</th>
<th>Agenda</th>
<th>Speaker</th>
</tr>
</thead>
<tbody>
<tr>
<td>10:30 – 10:35</td>
<td>Welcome</td>
<td>Thomas Weber</td>
</tr>
<tr>
<td>10:35 – 10:45</td>
<td>Challenge deep dive: Ensuring customer centricity</td>
<td>Jonty Olliff-Cooper - Associate Partner, McKinsey &amp; Company</td>
</tr>
<tr>
<td>10:45 – 10:55</td>
<td>Challenge deep dive: Lessons from successful digital initiatives</td>
<td>Isabella Longo - Project Director, BIT Habitat, City of Barcelona</td>
</tr>
<tr>
<td>10:55 – 11:15</td>
<td>Q&amp;A</td>
<td>Isabella Longo &amp; Jonty Olliff Cooper</td>
</tr>
<tr>
<td>11:25 – 11:35</td>
<td>Challenge deep dive: Digitising mobility services</td>
<td>Sebastian Troch - Head of ITS &amp; Data Management, Ministry of Transport and Mobility Transition, City of Hamburg</td>
</tr>
<tr>
<td>11:35 – 11:55</td>
<td>Q&amp;A</td>
<td>Sebastian Troch &amp; Thomas Weber</td>
</tr>
<tr>
<td>11:55 – 12:00</td>
<td>Closing remarks</td>
<td>Thomas Weber</td>
</tr>
</tbody>
</table>
Before we dive in, where is everyone from?

Citizen participation and digitization of public administration

**Mentor cities**
Aarhus, Amsterdam, Antwerp, Barcelona, Hamburg, Rijeka, Toronto

**Core Cities**
Objectives of this session

- Get inspired and motivated about the opportunities for impact
- Learn from mentor cities experiences with a focus on implementation
- Share and reflect on challenges in moving from strategy to implementation

Where we are at in the ICC

**Preparation & assessment**
- 1st City Lab
  - Mayor summit #1
  - Needs assessment workshop
  - Stakeholder workshop
  - Maturity assessment and strategy workshop
  - Local launch

**Ambition & roadmap**
- 2nd City Lab
  - Roadmap and monitoring workshop

**Implementation**
- 3rd City Lab
- 4th City Lab
- 5th City Lab

**Review & way forward**
- Mayors summit #2
- ICC Closing
- Local clothing
Major implementation challenges faced by core cities

1. Systems design and data strategy
   Designing systems, what data to collect, in what format, how to store & share data and ensure security

2. Ensuring customer centricity
   Services designed for customer centricity that are easy to use and widely available

3. Funding, implementation and execution
   Securing sufficient funding and managing for successful implementation on time, on budget, and of high quality

4. Digital upskilling
   Municipalities need to build and acquire relevant technical talent to drive digital service provision and new ways of engaging citizens

5. Synergies with national government digital policy and systems
   Identifying the overlap with the central government plan and resources to digitize services efficiently and create momentum

6. Stakeholder management
   Working with different teams within government and third-party vendors to ensure on-time and within-budget delivery
Pillars of customer centric government service

Jonty Olliff-Cooper
Associate Partner,
McKinsey & Company
4 pillars of customer centric government service

1. Create new avenues for participation
   New forms of participation allow organisations to be more engaged with their customer base e.g., Hyperlocal democracy and dragons' den type funding, wikis and prize funding

2. Use design thinking to solve with the customer, rather than for them
   Organisations who empathise with citizens through design thinking deliver impact

3. Create an organizational structure focused on customer experience
   Organisations must gather data and link it into governance, recruitment, and agile organisational structures

4. Use data science to make informed decisions
   Organisations must use data analytics in the front line as well as in the HQ to understand and tailor to segments, even down to the individual level

Source: McKinsey Analysis
1. Create new avenues for participation

New avenues for participation allow for citizens to feel connected and energised.

- **Charettes**
- **Street votes**
- **Participatory budgeting**
- **Personal budgets**

Source: McKinsey Analysis

Intelligent Cities Challenge
2. Use design thinking to solve with the customer, rather than for them

Organisations who empathise with citizens through design thinking deliver impact

### 5 key stages of the design thinking process

<table>
<thead>
<tr>
<th>Discovery</th>
<th>Define</th>
<th>Ideate</th>
<th>Prototype</th>
<th>Test</th>
</tr>
</thead>
<tbody>
<tr>
<td>Empathise</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Conduct research, data analysis, contextual observations etc. to gain deep insights into the citizen / customer</td>
<td>Workshop the problem statement, confirm the design challenge to be solving for</td>
<td>Using citizen / customer insight, technological opportunity areas and the broader organizational context, ideate solutions to address the design challenge</td>
<td>Create prototype services or solutions for the strongest ideas generated – use these to bring the ideas to life and demonstrate how they will work</td>
<td>Get the prototype services or products in front of citizens/ customers and gather feedback across key dimensions. Then iterate!</td>
</tr>
</tbody>
</table>

Source: McKinsey Analysis
3. Create an organizational structure focused on customer experience

The behind the frontline factors that build a customer centric culture

- Training
- Hiring
- Incentives and recognition
- Symbols
- Principles and values
- Success stories
- Org structure
- Agility
- Metrics
- Dashboards
- Inputs and listening
- Agendas and governance

Source: McKinsey Analysis
4. Use data science to make informed decisions

Virta used data science to deliver more impactful customer interactions with each individual customer

<table>
<thead>
<tr>
<th>Example</th>
<th>What they did</th>
<th>Impact</th>
<th>Lessons</th>
</tr>
</thead>
</table>
| Virta  | Founded in 2014 with the goal of reversing type 2 diabetes in 100 million people by 2025. Transformed interactions with customers from in-person and webinars to 100% online, underpinned by technology (including custom app) and data science. Strong focus on designing around customer insights - focused on providing support to patients when and where they need it, through continuous remote medical care, to drive changes in nutrition and behaviour. | Improvement in customer outcomes  
- Reversal of type 2 diabetes in 60% of completing patients  
- Reduced or eliminated insulin usage in 94% of participants and reduced risk of T2D | Deep insights into customers can enable sophisticated interventions to drive behavioural change and improve outcomes  
Lower cost / remote channels, designed properly, can be more effective and lower cost. |

Source: Company websites and press releases; expert interviews, McKinsey Analysis
Challenge deep dive: Lessons from successful digital initiatives
Isabella Longo,
Project Director, BIT Habitat
City of Barcelona, Spain
30/11/2021
Digital Transition Plan

Isabella Longo
0. Digital Divide

1. Digital Rights

2. Digital Inclusion

3. Transformation
0.

Digital Divide
- 91.9% of households has an internet connection.
- Only 1% of those surveyed do not have internet access for economic reasons.

- The narrowing of the digital divide has shed light on pre-existing factors that continue to condition the type of access and use of ICTs. These factors are age, gender, employment condition and level of education.

Compared with 2016, the internet uses that have seen the greatest increase are:
- training courses, which have tripled in popularity (from 13.5% to 48.8%),
- medical appointments and consultations, which have doubled (from 35.4% to 70.2%),
- e-Government procedures (from 42% to 75.6%), video and voice calls (from 50.2% to 77.9%)
- purchase and sale of goods and services (from 53.6% to 76.2%).

Use of ICTs has grown in recent months for 62% of those surveyed as a result of the COVID-19 health crisis.
Remote working, online education and e-Government procedures are at the heart of this increase, which is slightly more pronounced in mid- to high-income areas than in low- to mid-income areas.

Remote working became widespread during the lockdown. Some 58.3% of employed people were able to work remotely during this period.

Remote learning was made possible, to a great extent, by ICTs. With regard to children (under 16) at school, 73.2% were able to continue with their studies online during the lockdown.
1. Digital Rights

- Ethical use of technologies (IA, 5G, AR) > Government measure
- International Alliance > Cities Coalition for Digital Rights
- Divulgation, awareness and engagement > Barcelona Innova Week

2. Digital Inclusion

- Analysis (survey of the digital divide) > Actions:
  - Access // Internet4All > social deal with telecommunications companies
  - Devices // Pilot project with the low-income households > Connectem
  - Education // Agent TIC + Pilot project in education
- Bottom-up policies > Proactive City
- 4 helix approach for matching offer and demand > Multidisciplinary WG

3. Transformation

- Data driven policies and data as a public infrastructure > Urban Data Desk
- Fab Lab public network > Ateneus de Fabricació
1. Digital Rights
1. Digital Rights

Government measure for a municipal algorithm and data strategy for an ethical promotion of Artificial Intelligence.

Barcelona Innova Week, is an initiative to reflect and experiment on the relationship between people, technology and cities.

Cities Coalition for Digital Rights born in 2018 with the intention of proposing laws, tools and resources to protect both residents and visitors.

+ Digital Divide EXPO in Ca l’Alier
2. Digital Inclusion
2. Digital Inclusion

ICT Agents

Pilot project > Connectem Barcelona

Vincles

“[I've made new friends since I connected to VINCLESBCN.”]
Amèlia, 78 anys

Educational Open Platform
"The proactive city" seeks real solutions to the challenges that our city faces in the immediate future, especially oriented to urban sustainability, resilience and digital inclusion.

Subsidies of a maximum of € 80,000 to promote urban innovation projects.
Multidisciplinary PP Working Group

2. Digital Inclusion
3.
Transformation
3. Transformation

URBAN DATA DESK
Interactive city data viewer
3. Transformation

**DIVULGACIÓ - EDUCACIÓ**

Atles interactius (a temps real) de dades de la ciutat de Barcelona.
Informació, anàlisi i lectura de la ciutat.

**AGENDEA 2030 BCN**

Visualitzador de dades que representen els Objectius de Desenvolupament Sostenible (ODS).

**L'ESCRETS X DIGITAL**

Dades de la segona versió de l'informe sobre l'estat de població de la ciutat de Barcelona.

**ESCOLLES I CIUTATS INTEL·AGENTS**

Noues iniciatives que permeten aixecar el coneixement a generar unes gestions intel·ligents del territori interior de la ciutat de Barcelona.

**SMART CITY WEEK**

Moblificació de les infraestructures per aixecar el coneixement i transformar les infraestructures en intel·ligents.

**CIUTAT PROJECTES**

Una ona per a la creació del pla de desenvolupament urbà.

**VECTORS MEDIOAMBIENTALS**

Defens dels valors de la ciutat i la sostenibilitat a la ciutat de Barcelona.

**PLATAFORMA D'INNOVACIÓ URBANA**

Macrogabís de noves arquitectes i sociòlegs d'innovació.

**AGENDEA CULTURAL BCN**

Agenda cultural: iniciatives i projectes culturals.

**COCREACIÓ**

Elna per generar estratègies col·lectivament.
Marc per a la participació ciutadana i grups de discurs multidisciplinars.

**TRANSFORMACIÓ**

Ajuda a la presa de decisions i visibilització.
Instrument per facilitar la transformació sostenible de la ciutat.

L'UDD en mode TRANSFORMACIÓ ofereix una imatge interactiva de les dades enllaçades amb els continguts dels usuaris participants.
Aquestes dades són accessibles pels quatre principals actors que intervenen en la presa de decisions sobre la forma i recursos de la ciutat: administració, ciutadania, teixit empresarial i entitats.

L'UDD en mode COCREACIÓ permet afegeix noves dades generades pels usuaris, sigui mitjançant els tòtems o d'altres dispositius connectats remotament.

L'UDD vol esdevenir una plataforma que ajudi a visualitzar i agilitzar els processos participatius venals i a reforçar les tasques de divulgació i generació de coneixement.

L'UDD permet la visualització de prototips propostes urbanes així com la validació per part dels agents i usuaris implicats.

**Procesos participatius, Llicenciament de règims, Tributació d'espais, Divulgació de resultats, Modelació i simulació, Innovació en prouenca, Living Lab**

**Open Data BCN**

Visualització de dades actualitzades regularment a l'interacció.
Dades actualitzades amb la realitat de la ciutat de Barcelona: esdeveniments, accidentes, etc.

**Citat de l'intercanvi d'informació:**

"Cita la informació en una plataforma Open Source.

Aquest documenta el pla de desenvolupament urbà amb objectius de Desenvolupament Sostenible (ODS) de la ciutat de Barcelona.

**Ambit:**

Administració Pública, Ciutadania, Teixit Empresarial, Universitat i Acadèmia.

**Objectius:**

Aoportúnet de les dades enllaçades amb els continguts dels usuaris participants.
Aquestes dades són accessibles pels quatre principals actors que intervenen en la presa de decisions sobre la forma i recursos de la ciutat: administració, ciutadania, teixit empresarial i entitats.
3. Transformation

Ateneu de Fabricació
Public Fab Lab net
3. Transformation

Innovation Lab
Public Fab Lab net

The future Innovation Lab connects local companies with the City of Barcelona and local authorities to test new products and services in a real world environment for up to six months. In the program, startups and other entities are encouraged to test, gain valuable market feedback, and iterate. In turn, the program gives local government the opportunity to explore new ways to use technology and services to make government more efficient, transparent, sustainable, and inclusive.
Challenge deep dive: Effective data management

Thomas Weber
Associate Partner,
McKinsey & Company
Governments store huge amounts of data of various public areas

Government data is scattered across
registers, directories
and many other databases which are
managed in the context of the public administration and/or
whose content is of public interest.
Interoperable and connected register data offers significant benefits for citizens, companies and governments

**Improve user-friendliness of public services**

“Once-only” principle saves time and reduces manual inputs – data is submitted only one time and made available for later use

**Increase administrative efficiency**

Automated data transfers render governments more efficient and free up time for tasks such as better customer service

**Enable data driven policymaking**

High data quality and availability have a positive impact on policymaking decisions

**Deliver the value of open data**

Integrated registers would allow for the publication of more comprehensive and insightful datasets

**Enhance data protection and privacy**

A modern data landscape enables privacy by design (allows for more transparency and active consent management)

**Reduce fraud, waste, and abuse**

Interoperable and connected government data can help mitigate loss risk from error/fraud by enabling governments to leverage analytics

---

Source: McKinsey Analysis

*Privacy by Design, Article 25 General Data Protection Regulation (GDPR) of the European Union: „Data protection by technical design through user friendly default settings”*
Five obstacles to data interoperability

1. No uniform legal framework for using data
   - Legal interoperability would comprise a uniform legal framework to control when data can and cannot be accessed, exchanged, or combined.

2. No connected view of data
   - Substantial interoperability means that there would be a link between entries, typically through unique identifier numbers associated with a citizen, company, building, or entity.

3. No data provider mindset
   - Organizational interoperability means that agencies could view themselves as service providers that enable secure and reliable access to anyone who has the right.

4. No consistent logic across data
   - Semantic interoperability means that there would be a shared logic that ensures the precise meaning of exchanged information can be interpreted unambiguously by different systems.

5. No uniform technical format
   - Technical interoperability means that data shared between different databases could be accepted and processed without the need to change data format or other characteristics.

Source: McKinsey Analysis
Governments can deploy five hacks to deliver interoperable and connected government data to succeed in public data value creation.

1. Set a clear vision based on tangible use cases
2. Understand and navigate the relevant data landscape
3. Build a standardized central infrastructure for data exchange
4. Rapidly deliver end-to-end use cases via agile data labs
5. Establish a central data agency

Source: McKinsey Analysis
Challenge deep dive: Effective data management
Sebastian Troch, Head of ITS & Data Management
Ministry of Transport and Mobility Transition
City of Hamburg, Germany
CITY OF HAMBURG
MISSION ITS

From a strategy
… to the ITS-World Congress 2021
… to a model city for digital mobility

03rd December 2021
Sebastian Troch, Ministry of Transport and Mobility Transition
MAJOR CHALLENGES LIKE OTHER METROPOLISES

- INCREASING POPULATION
- DIGITISING TRANSPORT
- CLIMATE PROTECTION
- MODERN MOBILITY
- SHORTAGE OF PUBLIC SPACE
HAMBURG: ITS-STRATEGY
GOALS AND FIELDS OF ACTION

- Improving traffic safety
- Reduce impact on the environment
- Increase efficiency of the entire system
- Safe and effective distribution of information
- Boosting innovation
HAMBURG TODAY IS A MODEL CITY FOR DIGITAL MOBILITY

- Over 90 active **ITS-projects**
- Bitkom Smart City Index 2021 **1st place**
- 18 **funding projects** with funding volume over € 60 million by 2024, of which over € 22 million are already been implemented
- Hamburg is using digitization to implement the **mobility transition**
- Aim: leading role in Europe
- ITS World Congress in October 2021
ITS-STRATEGY - NUMBER OF PROJECTS
NUMBERS OF SUCCESS ITS WORLD CONGRESS

- 13,200 participants (with a record number of 15,000 registrations) from 66 different countries
- A total of 25,560 qm of exhibition space (plus the space for conferences)
- 470 exhibitors
- 21 industry and trade partners
- 210 Meetings, 27 demonstrations and 19 technical visits throughout the city
- Media reach of almost 280 million contacts
THE MOBILITY TRANSITION TOURS
SMART LOADING AND DELIVERY ZONES (SMALA)

- Goal: the establishment of smart loading zones and creating a platform (including app), with which delivery van driver can reserve a delivery zone in advance
  - reducing traffic looking for parking,
  - double parking
  - environmental pollution (NOx and CO2)
  - Increasing quality of stay and traffic safety
- Connection to the Urban Data Portal Hamburg (UDP-HH)
- You could visit it on the Mobility Transition Tour at the ITS World Congress or by yourself in “ABC-Straße”
FUTURE PROSPECTS

- Keep on focusing on "digitization of mobility"
  - On public transport prioritization
  - Autonomous shuttles for public transport
  - Increase safety & comfort for bicyclists
  - Bundling of mobility services in the hvv switch app
- Cooperation with strong industry partners
  - Strengthening the national / international position of Hamburg as a model city for digital mobility
THANK YOU!
FURTHER INFORMATION:
Behörde für Verkehr und Mobilitätswende Hamburg – YouTube Projekte - hamburg.de
Thank you!
Backup Slides
1: Tangible use cases help to focus on relevant initiatives to create visible benefits for citizens, companies and the administration

Clear use cases help governments to focus digitization efforts. They can offer a strong vision as to why interoperable and connected government data is worth pursuing.

Simple and digital administrative services following the Once-Only Principle

Once-Only Principle will allow public administrations to reuse, or share, data and documents that people have already supplied, in a transparent and secure way, reducing effort for citizens.

Efficient and secure exchange of data among public institutions

Automated exchange of data and 24/7 availability render manual checks redundant, making the administrative process faster and ensuring adequate authorization.

Cross-border interoperability with the European system

EU-citizens and companies are enabled to use cross-border administrative services online; ensuring interconnectivity among countries.

A register-based census

Data which would traditionally be collected via household surveys can be derived from public databases, saving costs and time for the administration.

High data security standards and increased transparency

Through a privacy-by-design approach, data protection measures are strengthened and citizens are gaining trust through increased transparency of data exchange practices.

Exemplary use cases - to be specified together with clients

3: There are 6 typical components to successfully build a standardized infrastructure for efficient and secure data exchange

**Function**

1. **Data consumer (data cons. gateway)**
   - Entity using data for a specific purpose, e.g., a citizen using a public service or a government entity needing register data to deliver a public service

2. **Unique identifiers**
   - Establishing of secure data streams
   - Helps to ensure confidentiality and integrity of data exchange
   - Enabling unambiguous and efficient connection of data stored in different sources
   - Builds the foundation for overarching cross-register identity management

3. **Harmonized technical standards**
   - Harmonization of data formats and communication protocols
   - Should be independent of existing standards, uniform and highly stable to allow smooth data requests of registers

4. **Service directory**
   - Provision of technical parameters for routing of data streams
   - Allows to identify which public service entity stores requested data in best quality and actuality

5. **Data tracker**
   - Creation of transparency on data streams
   - Logs meta data which offers control mechanism to ensure that legal data protection requirements are met

6. **Consent management**
   - Submission and withdrawal of consent
   - Can be used by citizens to allow public entities to process personal information in order to fulfill requested public services

7. **Intermediary (data cons. gateway)**
   - Establishing of secure data streams
   - Helps to ensure confidentiality and integrity of data exchange

8. **Intermediary (data provider gateway)**
   - Establishing of secure data streams
   - Helps to ensure confidentiality and integrity of data exchange

9. **Data provider**
   - Governmental body having the technical sovereignty over the data held and its access
   - The ideal understanding of its role is a focus on user orientation and the reuse of existing data

10. **Register**
    - Actual data set in the sovereignty of a data provider
    - Must be of high quality and actuality

**Typical components**

- **Data consumer**
  - European Union
  - Estonia
  - Switzerland
  - Germany

- **Unique identifiers**
  - European Union
  - Estonia
  - Switzerland
  - Germany

- **Harmonized technical standards**
  - European Union
  - Estonia
  - Switzerland
  - Germany

- **Service directory**
  - European Union
  - Estonia
  - Switzerland
  - Germany

- **Data tracker**
  - European Union
  - Estonia
  - Switzerland
  - Germany

- **Consent management**
  - European Union
  - Estonia
  - Switzerland
  - Germany

**Best practice examples**


Source: McKinsey Analysis
4: A successful agile data lab can be built via 5 steps in order to enable rapid end-to-end use case delivery

1. Selection of use case
   Selection of use case based on impact and available resources
   Use case needs to be concrete and specific (e.g. specific service to be enabled for once-only)

2. Evaluation of status quo
   Review of status quo of databases including technical sophistication, interfaces and standards
   Selection of components required to implement use case

3. Analysis of requirements
   Detailed functionality requirements and overview of required changes to databases (technical, organizational, legal)
   Identification of implications of use case for overarching reference architecture

4. Creation of Implementation roadmap
   Roadmap including timeline, milestones and required resources

5. Implementation
   Technical implementation in cooperation with IT service providers includes:
   Development of software solution
   Testing of functionalities
   Integration according to required adaptations
   Rapid prototyping and development, testing and iteration
   Rollout of the software solution

By deploying agile data labs, tech solutions are rapidly developed, tested, iterated and – once successful – rolled out at scale
5: A central data agency with capabilities to drive rapid transformation of data landscape needs to be established

The central data agency is the focal point of a central data governance with necessary expertise and the ability to foster cross-functional collaboration amongst public sector entities through large scale implementation projects.

<table>
<thead>
<tr>
<th>Talent management</th>
<th>Data quality management</th>
<th>IT-Infrastructure</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pooling of scarce data talent</td>
<td>Establishment of joint rules and best practices for data governance and data quality management</td>
<td>Ownership of the IT architecture for common data exchange</td>
</tr>
<tr>
<td>Deployment of talent to implement projects</td>
<td></td>
<td>Development and operation of critical components</td>
</tr>
</tbody>
</table>

Source: McKinsey Analysis
Thank you!