

**5** <sup>th</sup>

**DCC**  
**Academy**  
**Seminar**

**DIGITAL**  
Cities Challenge

**ROADMAP TO DIGITALLY TRANSFORM YOUR CITY**  
Crown Plaza Hotel, Brussels, Belgium

## Table of Contents

3	<i>Welcome and Vision</i>
5	<i>How to support incubators &amp; accelerators to scale-up your city's start-up ecosystem?</i>
8	<i>How to collaborate on digitalisation initiatives with other cities?</i>
9	<i>The role of cities in the revitalisation of retail: practical guide for digitalisation of the sector</i>
10	<i>Site visit –Ferme Abattoir (High-tech urban farming)</i>
11	<i>Sustainable growth enabled by advanced technologies</i>
12	<i>Workshops in peer groups to solve transversal challenges and identify collaboration opportunities</i>
17	<i>How to pitch your digital transformation strategy to the different stakeholders of your city?</i>
18	<i>What are the key opportunities and challenges of 5G technology?</i>
20	<i>What's next for the Digital Cities Challenge?</i>

# Welcome and Vision



Digitization and development of new urban areas are two top investment priorities for the European Commission today, as stated by Ulla Engelmann Head of Unit for Advanced Technologies, Clusters and Social Economy at the European Commission, as she inaugurated the 5th Academy Seminar.

The success of the **Digital Cities Challenge (DCC)**, therefore is the perfect embodiment of this focus. **Over 40 cities** embarked together

on a quest to develop their **digital strategies** and achieve **economic growth** within their cities. Throughout this journey, they learned a lot from the European Commission's coaching, but especially from each other, as best practices were exchanged.

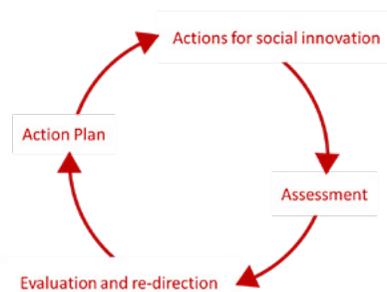
Due to the great results achieved by each of the cities and the large network of collaboration, which was created, the European Commission has decided to launch a **next step** in the digital journey

of European cities. **The Intelligent Cities challenge** will continue the journey of the DCC cities, which will be joined by over 50 new cities as the European Commission has decided to allocate over **three times the existing budget**. This continuation of the European Commission's commitment and the willingness of the cities to keep developing their digital strategies, will be key in achieving **sustainable economic growth** in Europe.

## The method: an Integrated Action Plan in permanent beta

STRATEGY IS NOT A LENGTHY ACTION PLAN.  
IT IS THE EVOLUTION OF A CENTRAL IDEA  
THROUGH CONTINUALLY CHANGING  
CIRCUMSTANCES.

Jack Welch



Starting from 2011, the Municipality of Milan has implemented a series of activities to **combine** the **development of INNOVATION and social INCLUSION** of the most fragile segments of the city.

This strategy is **constantly updated** to interpret new trends and seize new opportunities through past experiences and international exchanges

Such an approach is important to create quick results and keep stakeholders interested.

Therefore, the city developed a coherent plan across five pillars, based on **cocreation with all stakeholders**. This way, they ensure full buy-in throughout the implementation phase and continue to work together still today. Jointly, they continuously iterate their action plans based on intermediate **quantified results**. These results and their impact are also demonstrated and leveraged to get **financing**. In doing so, the city managed to tackle its big **social divide**, launching an industry 4.0 action plan towards local SME's and supporting start-ups and scale-ups through innovative support projects. The city of Milan provides a beautiful example of what the DCC is trying to achieve, economic growth through digital innovation and inclusion across the city.

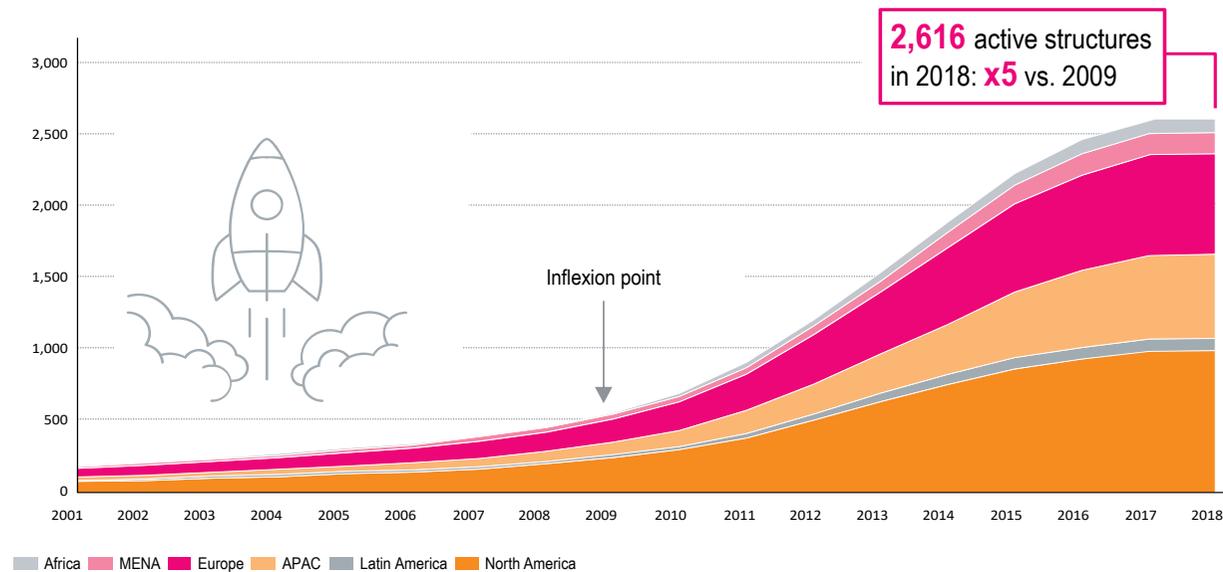
Following Ulla Engelmann's opening of the seminar, Clara Maddalena Callegaris, head of the Smart City Milan initiative, presented **Milan's digital strategy**. As a successful example of economic growth through advanced technology, Ms. Callegaris stressed that **digitization** is a way to **achieve economic growth** within a city, rather than a goal on its own.

The city of Milan uses a digital strategy in **permanent beta**, with a **fail fast approach**. Quoting **Jack Welch**

*it is the evolution of a central idea through continually changing circumstances.*

# How to support incubators & accelerators to scale-up your city's start-up ecosystem?

## Openings of accelerators and incubators have been surging since 2009...



Source: Roland Berger

Session 3\_20190402\_Pierre Bastien\_Study on accelerators incubators\_Presentation deck\_vf.pptx | 4

world. A first important finding, is that the **total number of incubators** has been **multiplied by 5** over the last 10 years. Combined with this explosive growth, a **commoditization of services** offered by those same incubators can be seen. The need for differentiation is strengthened by increasing competition from venture capital funds and other financing operators. As such, and to improve their added value, the challenge of incubators for the near future will be to distinguish themselves from the crowd, through **specialisation** in terms of **industry, technology or both**. Now, more than ever, incubators must strive to have a **tangible impact** on the entrepreneurs' **chance of success**.

As most DCC cities are planning to **support digital incubators and accelerators**, speakers from different sides of the ecosystem were invited to speak.

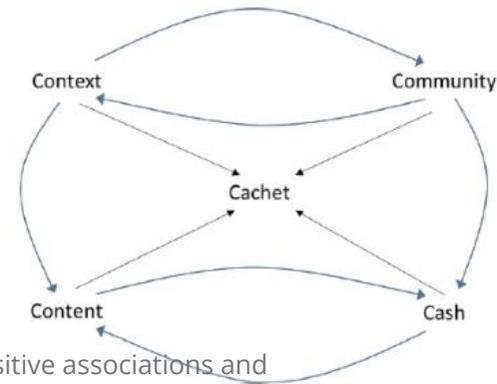
Pierre Bastien, Partner at Roland Berger, came to present the results of an **extensive market study** performed on the key trends in the incubator and accelerator



## Key Success factors



1. **Customers:** Be located close to the customers for its companies.
2. **Communities:** Focus on the cohort and group learning
3. **Network:** Create strong internal and external networks.
4. **Cash:** Offer funding as a reward, not a guarantee
5. **Cash:** Integrate with investor networks.
6. **Quality:** Have a high-quality programme with entrepreneurial coaches and time pressure to achieve goals.
7. **Reputation:** Build its brand through innovative features, positive associations and remarkable alumni stories.
8. **Select the best:** Be selective, choose the best and signal exclusivity



Inspired by the paper of Michael Fowle

2

of incubators and accelerators, close to all stakeholders (especially clients) and in the center of the community, cities can help bring together digital talents, financing, public administrators and clients.

Furthermore, **administrative and legislative hurdles** should be reduced to a minimum, as they hamper a proper functioning of the entrepreneurial ecosystem. All too often, digital and entrepreneurial leaders spend their time trying to navigate through administrative hurdles, rather than utilizing their core skills. Here the cities can play an important enabling role.

Finally, public private **cooperation** such as initiated through the DCC is key in creating a viable ecosystem. Such ties assure alignment of focus and priorities. In addition, relationships with universities should be secured to assure the training needed for sourcing of talent.

Philippe Van Impe, Founder and CEO of DigitYser Brussels, supported the vision of **specialisation** for incubators, as DigitYser is focusing on AI and Data analytics. He stressed that such specialization is **key in ensuring a high-quality program**. To convince private and public investment, such quality is vital.

To support incubators even further, Mr. Van Impe advises cities to help programs in **generating specialized communities and networks**. To break the divide between different stakeholder groups, communities and networks bring people together, with the necessary **skills and financing**.

By facilitating a **central localisation**



Manuela Krull-Mancinelli, Managing Director of v Amsterdam, presented her findings on the **main challenges for a digital city's ecosystem**. She identified three main challenges for a successful ecosystem:

**1.** The **long value chain**, making flow and cooperation difficult between actors, as a holistic view is often missing

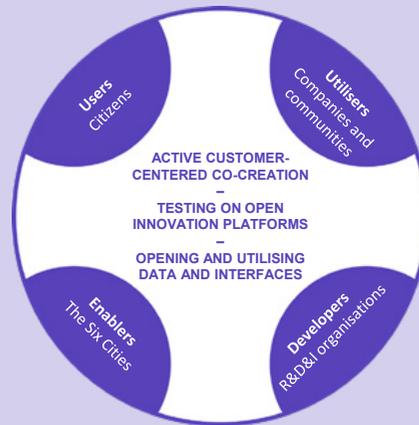
**2.** The trend to **invent solutions without starting from a business problem**, creating a mismatch between supply of technology and demand

**3.** The **matching challenge**, between public and private sector as they often fail to meet each other in relevant areas, and between start-ups and big organisations, due to difference in culture and means of communication

At the end of Ms. Krull-Mancinelli's presentation, she challenged the city representatives to think about **who carries the responsibility** to tackle the challenges of the digital transformation of the cities. As it often proves to be unclear, who is expected to take action.

An interesting discussion ensued with DCC representatives. They all agreed that the perception of responsibility differs between stakeholders. This often results in the city taking the end responsibility, as citizens look to their local government to defend their rights and interests. Based on this conclusion, Manuela pleaded to **transfer the collaborative approach from the DCC to the business world**. In doing so, DCC cities can cooperate with other stakeholders (companies, education bodies...) to avoid, carrying this responsibility alone.

# How to collaborate on digitalisation initiatives with other cities?



## Co-creation for smarter cities

Cities bring together companies, research & development organisations and citizens.

6Aika

- **Companies** are involved, by clearly communicating on the possibilities in using the cities as living labs

Execution is key throughout this project, as cities work together on a practical level, leveraging synergies on top of exchanging lessons learned. Showing that it is possible to move from best practices sharing, to shared execution.

### Key synergies:

- Central innovation platforms allow for economies of scale during testing (e.g. c.380 products or services tested)
- Co-creation with a cross city stakeholder pool (e.g. companies, citizens, developers, etc.) allows to better capture interests
- Creation of a cross-city developer network, countering the shortage of digital skills

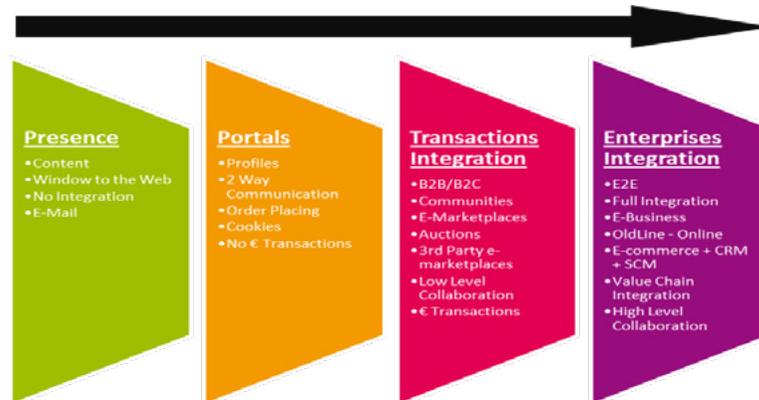
As **cooperation between cities has a central role in the DCC program**, Johanna Lyytikäinen, smart city representative from the mentor city of Espoo, was invited to speak about the **Six City strategy**. This initiative focuses on fostering collaboration on a national scale, as six cities from various sizes and regions across Finland work together on various projects. The initiative has a budget of over 100 million euros and covers **transversal topics** across

several themes, with over 30 projects in the portfolio. The focus of the strategy is on **generating new business, know-how and jobs** across cities. As such, cities bring together **companies, research & development organisations and citizen** to create smarter cities through **co-creation**. During this process:

- **Citizens** are involved in creating services and solutions rather than being passively requested for ideas

# The role of cities in the revitalisation of retail: practical guide for digitalisation of the sector

## Stages of E-commerce Development



During this session, Leena Whittaker from DG Internal Market, Industry, Entrepreneurship and SMEs of the European Commission gave the cities an elaborate introduction to the European Commission's **practical guide for digitalisation** of the retail sector. With this guide, the European Commission wants to support cities in helping their retail SME's navigate the different stages of e-commerce development. Moving from digital presence to

portals, transaction integration and lastly enterprise integration, is no easy task and proper guidance is needed.

As such, the practical guide **supports the cities** in developing **six solutions** which can aid SME's in **leveraging the digital potential** in their sector. It all starts with upgrading the digital and public infrastructure and sharing the right information with retailers. Only then can cities build a strong

retail community and support them in their adaptation of digital technologies. A continuous effort is needed to encourage the development of much needed digital skills, in order to fully leverage the marketing and promotion opportunities as a sector.

By introducing this guide to all participant cities, they can now leverage this centralised know-how in the further development of their digital strategies.

### Solutions pyramid



# Site visit – Ferme Abattoir (High-tech urban farming)



practice of farming fish.

### The farm produces up to:

-  120,000 units per year of microgreens
-  15 tons per year of tomatoes
-  35 tons per year of high-quality striped bass fish
-  2700 pots per week of herbs

All this from re-using the heat from the fridges from the markets of the Abattoir. The farm also aims at minimal reliance on mains water through filtered rainwater storage and well water top-up. And electricity consumption is partially compensated by the Abattoir's solar panels.

The project is a great demonstration of how urban farms will play a vital role in feeding urban populations of the future.

At the end of the first day all city representatives were invited to visit the largest high-tech urban farm in Europe, Ferme Abattoir. Sitting on the roof of the Foodmet market hall, the historical Abattoir site in the heart of Brussels, the farm features a fish farm, greenhouse and outdoor garden.

Created and managed by BIGH (Building Integrated GreenHouses), the farm uses aquaponics to produce fish, herbs, tomatoes and microgreens. Aquaponics is a mixture of hydroponics and aquaculture. Hydroponics is a method of growing plants without using soil, and aquaculture is the

# Sustainable growth enabled by advanced technologies



During this elaborated session on **growth, enabled by advanced technologies**, the DCC cities focused on **best practices and key lessons learned** from successful projects.

Five different speakers, representing interesting projects, across various sectors and cities

shared their key learnings and advice for successful economic growth through technology.

During the **plenary session** on **digital & urban mobility**, different concepts leveraging mobility as a service platform and traffic management system were presented. **Public private cooperation** turns out to be key when developing mobility projects, as stakeholders across both segments are key in creating an efficient and seamless customer experience. **Public perception** also plays a vital role in the success of mobility projects, as buy-in from the userbase is key to develop the needed critical mass. Finally, mobility projects often serve as an **insurance for citizens** to ensure that freedom of mobility and protection of the environment are safeguarded.

During the **panel session**, project leaders from different projects

across energy, mobility and water management segments came together to share their lessons learned. These lessons proved to be **transversely applicable** and of great importance for a broad range of segments.

- **Cocreation** by all stakeholders is key to ensure buy-in from critical players and to prioritize the right actions
- Clear **ownership** and **responsibility** are crucial to ensure a **result driven approach** and follow-through on the **iterative process**
- **Interim results**, are needed to ensure all stakeholders remain engaged and interested
- **Skills gaps**, can be filled by leveraging public private cooperation and ensuring sufficient stakeholders are involved to cover all areas of expertise.

# Workshops in peer groups to solve transversal challenges and identify collaboration opportunities

During these workshops, the city representatives got to work on one of **three topics of interest**:

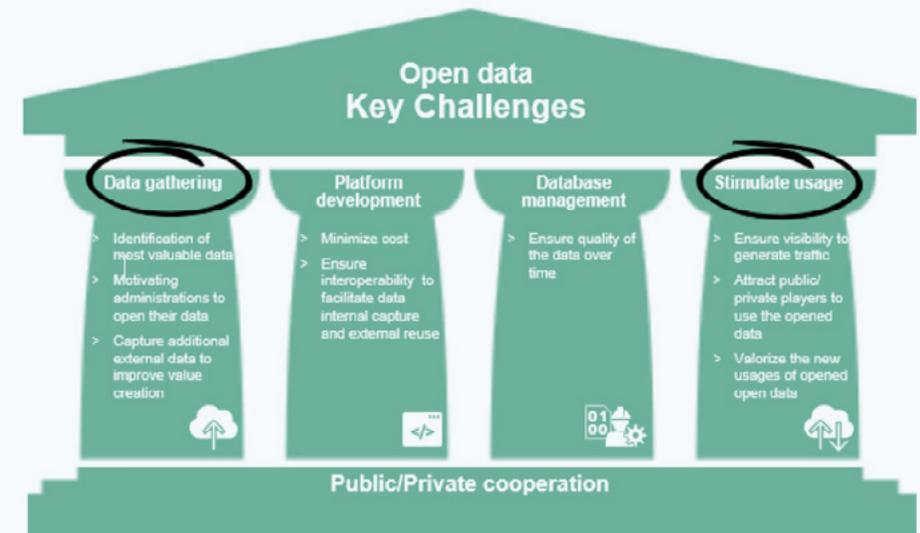
- How to develop an open data ecosystem in your city?
- How to foster entrepreneurship in your city?
- How to attract and develop digital skills in your city?

The **goal** of each workshop was:

- To identify the most pressing, transversal **challenges** the cities faced
- To subsequently find **opportunities for cooperation** to resolve these challenges

During a mapping session, each of the cities got a chance to express their most pressing challenges and to exchange thoughts with their fellow representatives.

After selecting the most pressing challenges, the cities went to work,



in an **ideation session**. Jointly, they tried to identify potential collaboration models to resolve some of these issues. This resulted in the ambitious and tangible initiatives listed below.

## ***How to develop an open data ecosystem?***

During an interesting exchange of challenges, it became clear that

the most **challenging aspects** of open data are related to the **data itself** rather than to the creation and management of the open data infrastructure.

The challenges of most cities are focused around the **gathering of data**:

- Identification of useful datasets
- Consistently capturing high quality datasets

## Workshops in peer groups to solve transversal challenges and identify collaboration opportunities

Additionally, cities are experiencing difficulties in generating **sufficient visibility** and **interest** from the local digital solutions providers.

As such, ideas of cooperation were created around these topics:

### 1. Best practices exchange regarding local administrations

**Description:** General best practices should be exchanged with regards to convincing and motivating local administrations to set-up an open data platform as well as on the most effective ways to ensure data quality

**Participating cities:** Nice, Guimarães; Regio Emilia; Rijeka, Karlskrona and Patras

**Expected synergies:** Increased efficiency throughout the process of setting-up and managing open-data platform

**Identified leaders:** Alain.Chateau, Responsible for Centre of Excellence, Unit Numeric Systems and Smart City, Metropole Nice Cote d'Azur and Ricardo Machado Chef of the Unit Development of

Intelligent Systems, Municipality of Guimaraes

### 2. Joint data identification

**Description:** Cooperation should be initiated to jointly identify the 10 most important and useful data sets for the cities and their local digital solution providers. Through consultations with local administration and organisations, cities can each contribute to the long list of datasets. This joint list can then be refined and serve as a focus point for the city's open data initiatives. As a result, this list could be shared between all other DCC cities.

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Chef of the Unit Development of Intelligent Systems, Municipality of Guimaraes

### 3. Lessons learned from early adapters

**Description:** Participating cities leverage the experience of an early adapter city, in a collaborative project with sister cities. This collaboration will provide support and access to successful approaches, methods and tools.

#### Proposed project steps:

- a. Study the open data ecosystem created by Lyon
- b. Adapt the Lyon model and open source software for five other cities.
- c. Each city to pilot the adapted model using 3 data topics

**Participating cities:** Gelsenkirchen, Derry, Sofia, Alcoy

**Identified leaders:** Lyon

## Workshops in peer groups to solve transversal challenges and identify collaboration opportunities

### How to foster entrepreneurship in your city?

To foster entrepreneurship, the main difficulties for cities lie in the generation of sufficient **financing** and **business opportunities** for start-ups and scale ups.

- **Financing:** Regional, private financing turns-out to often be insufficient, as start-ups and scale-ups fail to reach international investors
- **Business development:** On the client side, public procurement does not seem to be adapted to SME's, who therefore miss out on a large share of business opportunities

As such, ideas of **cooperation** where created around these topics:

#### 1. Inter-city start-up partnerships

**Description:** Partner-up to create business development and financing events to boost local start-up ecosystems. The idea is for start-ups and scale-ups to meet in one of the partnership cities, annually, to take part in investment and networking events. This way, they can expand their client and financing scope.

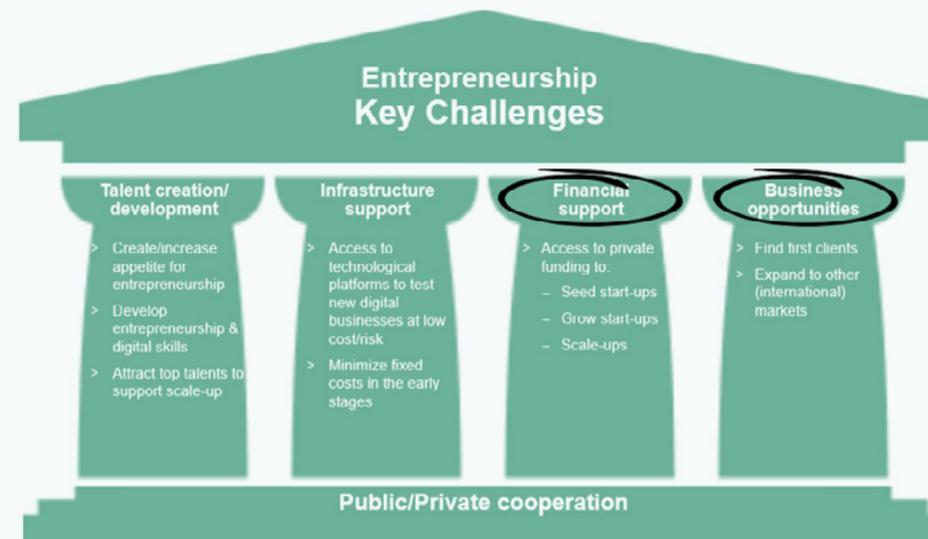
**Participant cities:** Derry, Pori, Sofia, Padova

**Expected synergies:** Most small

business in the cities are lacking international opportunities to expand their client and financing base. Creation of an international network could benefit all of them.

#### 2. Renewed public procurement

**Description:** Public procurement opportunities are generally not adapted to small enterprises and entrepreneurs. As small businesses could greatly benefit from public procurement opportunities, to consolidate their activities, this is considered a blocking factor for growth. As such, different cities will join forces in investigating an innovative framework for public procurement, that allows access to this market for SMEs, start-ups and scale-ups. A joint study will be launched to identify best practices of cities having adapted parts of their public procurement opportunities to entrepreneurs and SMEs.



## Workshops in peer groups to solve transversal challenges and identify collaboration opportunities

**Expected synergies:** A centralized study would allow to extend the scope of the study to include multiple countries and legal systems

**Participant cities:** Derry, Pori, Sofia, Padova

### 3. Lessons learned from large city ecosystems

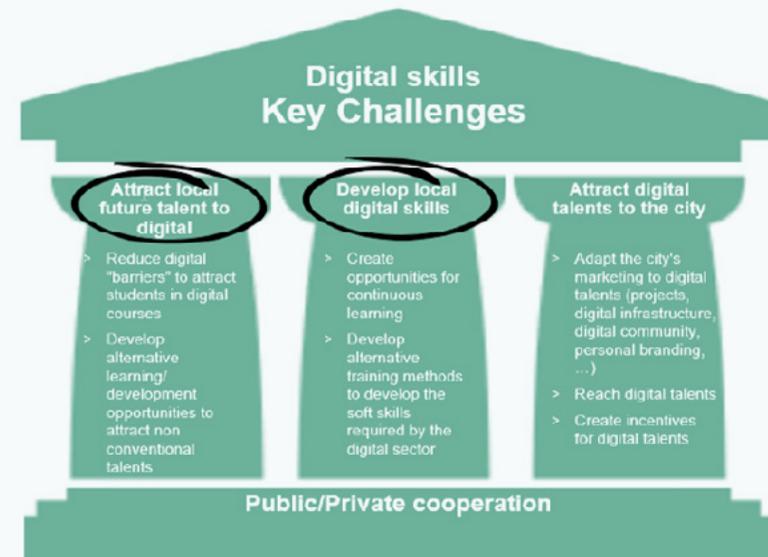
**Description:** Sophisticated digital start-up ecosystems are not evolving in smaller cities to the same degree as in capital cities. Exposure to these evolving ecosystems, allied with intercity learning and experimentation, can help stimulate the next -generation of start-ups in these smaller cities.

**Proposed project steps:**

- Describe (“model”) the essential characteristics of the new digital ecosystem by studying six cities
- Six cities compare their digital ecosystem against the “ideal” model
- Six cities introduce corrective pilot action(s)

**Participating cities:** Padua, Pori, Sofia

**Identified leaders:** Derry



### How to attract and develop digital skills in your city?

To attract and develop digital skills, the cities have most difficulties with attracting future talents to digital and to develop their digital skills.

- Attract talent: A clear gender gap exists when looking at the talent entering the digital segment, furthermore it is considered a black box to many talented profiles
- Develop skills: A focus on scientific approaches to digital education is leading to missed opportunities in the creative subsegments

As such, ideas of cooperation where created. The initiatives focus mainly on attracting digital talent, as the potential for cooperation is perceived to be the highest

### 1. Event based on the festival organised by Nuremberg

Jointly create European events across cities, to introduce citizens to digital. A real-life example, is the festival in Nuremberg where digital and non-digital people of all ages are brought together for a broad range of activities. The event can take place in multiple areas at the same time, which then can be connected through web streaming to increase the amount of interesting insights.

## Workshops in peer groups to solve transversal challenges and identify collaboration opportunities

### 2. Hackathon initiatives:

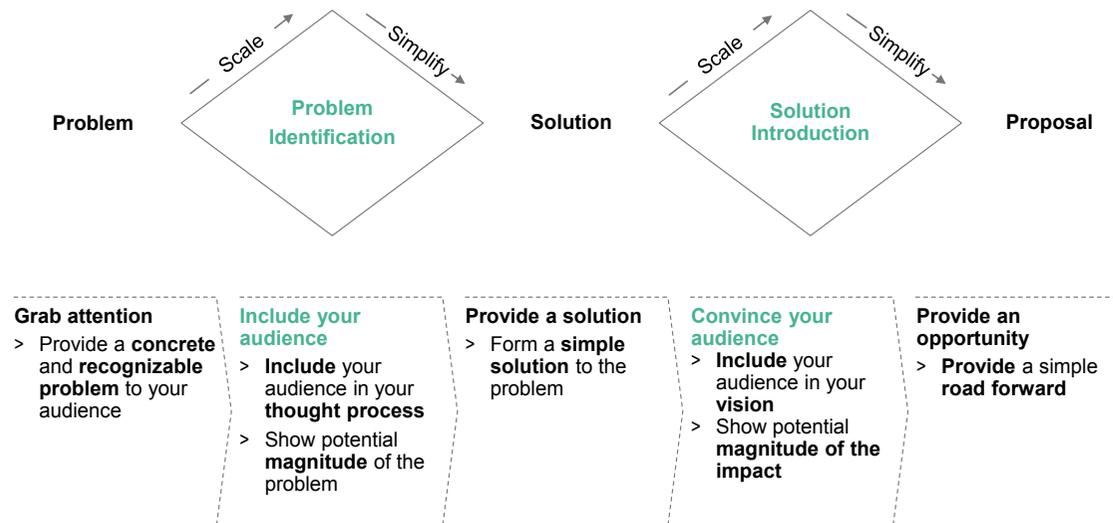
Joint organization of hackathons, leveraging a foreign exchange dynamic. It would be important to include local academic institutions as well. Concretely, cities will create competitions between schools of different countries/cities (e.g. hackathons). To boost participation of students, attractive companies will be involved in the program and teachers will be involved to include the competitions in their academic programs.

### 3. Marketing campaign for women in digital

Launch a joint marketing campaign to enhance the visibility of existing women role models in digital. By making the event international, the scope of the network can be increased. The format of the campaign could be a web-conference or a series of events

# How to pitch your digital transformation strategy to the different stakeholders of your city?

## D. How to pitch your digital transformation strategy to the different stakeholders of your city?



Academy #5: Roadmap Seminar; Brussels, April 8<sup>th</sup> – 9<sup>th</sup> 2019

During this session, city representatives were prepared to **pitch their digital transformation strategy to important stakeholders**, a key step in the success of their projects.

After jointly studying **best in class examples** and identifying strong points, the representatives got an introduction to the **double diamond pitching framework**. This framework

provided them with a blue print for the flow of their own future pitches. The key ingredients of a successful pitch, according to the framework, are:

- **Problem introduction:** To capture an audience, they need to be addressed with a concrete problem
- **Problem identification:** To keep an audience's interest, they need

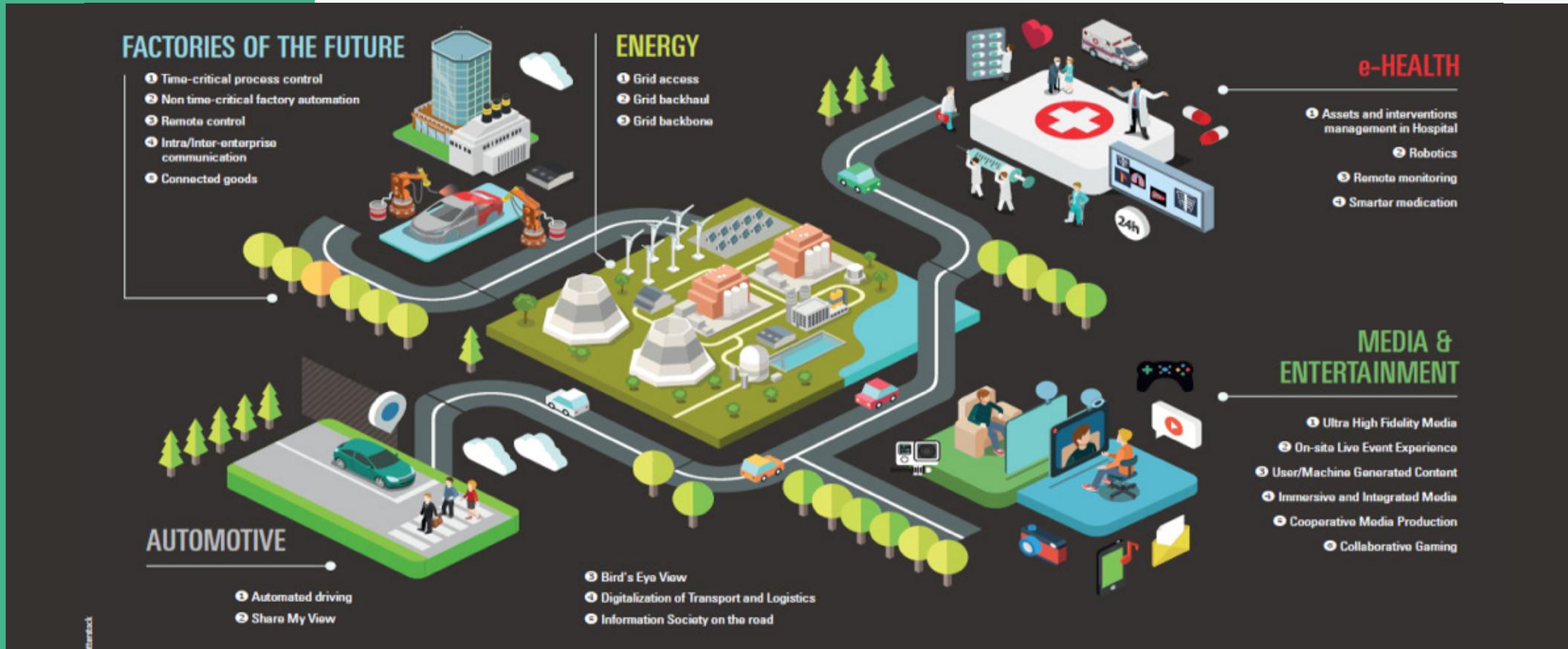
to be included in the reasoning behind the potential magnitude of the problem

- **Potential solution:** To inform the audience of a potential way forward, they must be offered a simple solution
- **Solution introduction:** To convince them of the usefulness of this solution, they must be included in the reasoning behind the potential impact of that solution
- **Proposal:** To engage the audience in the concrete solution proposed, a simple and concrete road forward has to be offered at the end of the presentation

Each of these steps is crucial in convincing an audience. However, knowing your audience is key and determines the weight of each step.

After their introduction to the double diamond framework, the representatives were **put to the test** and got to present their own digital strategies to a panel of peers and experts. They passed the test with flying colors. An impressive result after a challenging DCC trajectory.

# What are the key opportunities and challenges of 5G technology?



During this session Philippe Lefebvre, Head of Sector, 5G Deployment Strategy at the European Commission, explained the ambitions of the European

Commission in the field of 5G and the current initiatives which are underway.

With a maximum potential impact of 550 billion euros across

5 domains, 5G is high on the European Commission's agenda.

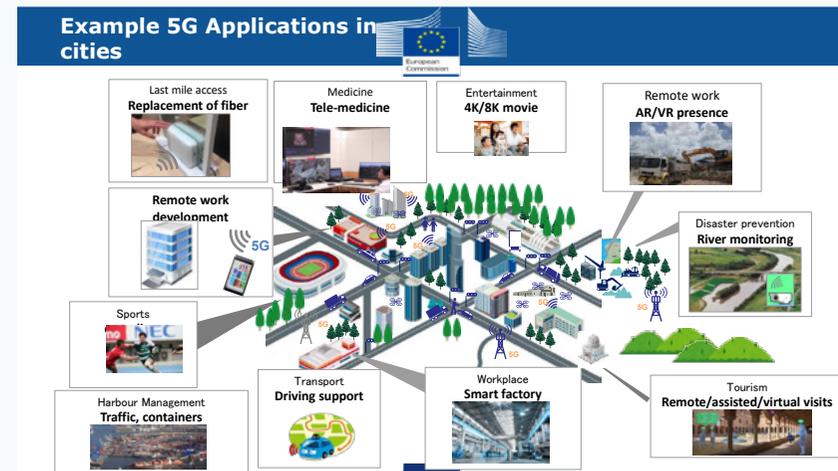
As a result, the Commission has developed an ambitious action plan. Setting a target for commercial

# What are the key opportunities and challenges of 5G technology?

launch of 5G services in at least one major city of each member state by 2020. A comprehensive roll-out should then follow for the next five years, to assure 5G coverage in all urban areas and along all main transport paths of Europe by 2025.

To support this ambitious plan, the Commission has launched an elaborate support scheme for its member states. This has resulted in a lot of trial projects across Europe, indicating the first success of the pan-European push for 5G.

There are many applications for 5G in cities and it is difficult to predict in which areas the technology will have the biggest impact. Mobility will definitely benefit massively from the enhanced network capabilities, but infrastructure investments will probably also be the highest in this area. Cities should therefore not focus on trying to bet on killer apps, but should try to develop a well-rounded 5G network to ensure useful access across industries.





*Getting close to the end of this journey, we have to say, from the side of the European Commission, that what our 41 Digital Cities have put throughout this initiative to achieve digital transformation and smart growth has been an inspiration for all of us.*

*The Commission works with local governments in many initiatives, but the uniqueness of the Digital Cities Challenge lies to the fact that European cities are our partners and enablers in harnessing the benefits of advanced technologies and achieve smart and sustainable economic growth, and a better life for our citizens*

During the closing statements of the seminar, **Ilektra Papadaki**, Policy Officer dealing with the Digital and Intelligent Cities Challenge at the European Commission, thanked the cities for making the project a success and reaffirmed the Commission's ambitions to continue with the project and to expand its reach to an even larger group of cities.

As such, a next step in the digital journey will be launched: The Intelligent Cities Challenge. DCC cities will get a chance to continue their journey, as they will be joined by an additional 50 cities. A budget three times the size of the current DCC budget, will be allocated to ensure elaborate coaching and guidance by digital leaders from across the world.

First however, the High Level Conference Digital Cities Challenge: A strategy for EU cities in the 21<sup>st</sup> century, taking place in Brussels on 5 June, will serve as a bridge between the two initiatives that will take stock of the lessons learnt of the DCC and pave the way towards the Intelligent Cities Challenge.