SPOTLIGHT ON URBAN TECH IN EUROPE

The ultimate smart investment opportunities guide

for navigating Europe's urban tech development

EXPERT INSIGHTS - SEPTEMBER 2020

URBAN
TECH

BARCELONA, SPAIN

TALLINN, ESTONIA

EXPERT INSIGHTS

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GENERAL INTRODUCTION

See Intelligence and Forglobal have joined forces to uncover Europe's Urban Tech with support from our independent advisors: Creatives Loop, AMENA Trade and Investment and Emerging Europe.

We explore opportunities for smart investment in 30 European cities, when navigating Urban Tech developments. It is not a ranking, but a selection of the most promising European cities and an understanding of the businesses involved.

The impact of covid19 is on everyone's mind, but we will discuss how to overcome the obstacles, adapt and successfully approach the opportunities in terms of Smart Cities and Urban Tech in order to create value and develop a sustainable disruptive business model.

In this twelve-month online programme, you will explore what developments and solutions are in both Western and Eastern Europe and how to navigate them with monthly webinar discussions and expert insights.

You will have the opportunity to engage with potential clients, partners, experts and cities to strengthen your international network. Get direct access to company representatives, industry experts, senior city officials, academics, respondents, interviewees and sponsors.

HOW COLLABORATION BETWEEN CITIES DRIVES URBAN TECH DEVELOPMENT

To understand the smart city and urban tech ecosystem and the impact of the relationships to retain business, drive investment growth and innovation we based our discussions on the triple helix of city governments, businesses and academics. For this reason we operate a fixed format where we introduce the experience of city governments from Western and Eastern Europe, practical expertise from commercial businesses and the theoretical viewpoint of academics.

In September we discussed: How can shared city initiatives work on a local level? Which urban technologies are driving collaboration and which collaborations are driving tech innovations and developments? What role can think-tanks play?

The webinar is available to view on the website www.urbantech.world and this *Expert Insights* document is designed to offer additional information and advice from our expert panel in order to expand on the original discussion.

You can learn from the experts' key takeaways and find more detailed answers to some of the questions discussed within the session.

KEY TAKEAWAYS

1

Can we be sure that we won't experience something similar to COVID-19 in 10 years from now? No. Then, should we run for solutions about the COVID-19 of today, or should we be thinking about it like a situation which is independent from the illness itself? How much should a city invest in solving the illness and how much it should invest in resolving the issues coming with the illness? In our opinion about this specific case, a vaccine won't help. The city needs to think in a structured holistic way to adapt and prepare for all the other issues related to mobility, food supply, citizen protection, etc.

The basic point in Cities Building Futures methodology is the city identity expressed under the Smart City Brand. We advocate that this identity is the key to ensure there is a safeguarded future for the generations to come. Identity which makes the citizens proud of their city. Identity which inspires the people to build a legacy for the next generations, a city to stay for ever. This motivation helps to put the daily needs in long term perspective and work for sustainable solutions which embody in themselves the change as an intrinsic characteristic.

2

Impact depends on setting common goals; whether there is a joint strategy or vision which is important for all stakeholders. When each and every party is moving towards a different set of goals, there can be no ultimate success.

One concrete example is data-sharing. Private (transport) sector companies have a lot of crucial data to share on urban development which the local governments can and should take into account in city planning – whether it's public transport planning or city infrastructure creation. At Bolt we have a lot of valuable data that cities could use to complement their public transport routes; or e-scooter data that could be used to create better infrastructure for most used micro-mobility routes. Of course, this requires competence on behalf of the city to be able to process and utilise such data & willingness on behalf of the private companies to share such data. It cannot be made mandatory, though, as the usefulness of data is limited / data shared should be proportional to means intended and not include personal data.

3

There are great opportunities for testing: Introduction of new initiatives that otherwise would have needed a much longer time to be implemented. Never before, and hopefully never again, will we have the chance to test and compare with our city completely empty, and introduce innovations from scratch and see how they work progressively with a paced return of activity to the city.

4

We need to be more responsible in what we offer to our cities and citizens and we need to teach our citizens to make more responsible choices.

5

Technology can be the answer to every question, but we need to remember what is the question and focus on how we can make the best of the opportunities we have. That is important to consider before thinking further into the future and working out how we can apply technology to the challenges we face.

INTERVIEW with Toomas Türk
Chief of Innovation, Tallinn City Enterprise Department

Questions from the main discussion:

Q1 – What has been your experience of the impact of the Covid-19 pandemic on Urban Tech initiatives?
Covid-19 has obviously been a great shock to everybody and it has kicked us out of our comfort zone. We have had to adapt and migrate, learn how to react and become agile in our thinking. We have had to ensure that civil services have kept running with as little disruption as possible and this has meant strong co-operation was necessary on a local and national as well as international level.

The demand for data has greatly increased and understanding how to provide it and bring it into action effectively. It has become part of the dashboard for everyday running to ensure even internal information as well as external communications work and helps make the right decisions. The city had 30 days to come up with a solution for online voting in order to maintain democracy. They had to learn quickly how to rely on the benefits of a digital society and how to use the date effectively.

Q3 – For many years' cities work together to make better cities. Innovation, inspiration and exchange of best practices and people are promoted by the European Union.
3.1   What are the benefits of shared city initiatives at local and regional levels?
3.2   What challenges have you experienced or can you foresee in relation to shared city initiatives?

Cooperation and collaboration is vital for the future, now more than ever before. Tallinn looks to work with other cities, businesses and academics to learn from best practice gain inspiration, offer innovation and solutions. There is particular cooperation with Helsinki with a future model dubbed the 'Talsinki Bay Area'.

Working with national constraints using solutions at a local level with e-residency programme has been useful, but a downside can be that there are so many data sources, it is a huge task to gather, collate and validate all of the information in order to use it effectively. Tallinnovation is a dedicated platform was started to encourage working with companies and open the door to the academics to ensure a more connected ecosystem and create a city of excellence.

One of the main challenges is a question of resources and where to focus. 500,000 people to service means you need a strong list of reliable partners and you need to know what your message is. Are you ready to make changes and follow ideas through to implementation. It is a question of trust and how you gain that trust from the people in order to make the technologies worthwhile to implement. It doesn't matter how great the tech is if people don't trust it.

Q4 – "Looking forward, there is a recognition that amid the human and economic tragedy that is the covid-19 pandemic, there are silver linings. One of which is that cities and businesses alike have been forced into making quick decisions, experimenting and adapting. This break from the traditional long-term planning approach has brought agility and adaptivity. Looking into the future, which urban initiatives are driving collaboration in the urban tech ecosystem?

The green agenda is a top priority at the moment as well as climate and energy efficiency. We must also consider unemployment, education and segregation. It is important that there is education in the cities. Adults should study more and learn new things. It is a question for the cities not in 10 or 15 years, but we need to make action in the short term. We are lucky that Tallinn has been put as a finalist for green capital for 2022 positioned Tallinn as a lighthouse city and it is not just the politicians, but the whole city that is behind the project.

INTERVIEW with Toomas Türk
Chief of Innovation, Tallinn City Enterprise Department

Questions from Q&A:

1) What do city authorities think about a universal micro-mobility infrastructure solution? If possible, considering to regulate their cities while becoming a real stakeholder and create new income?
Answer: As a city we think in a positive way. For micro-mobility infrastructure solution the free market approach is the first important milestone. This might limit us in becoming a real stakeholder in every revenue growing activity.

2) Most (mega-) cities struggle to find solutions for pollution and overpriced housing. Did Barcelona and/or Tallinn find technical solutions that work for them and might work for others as well
Answer: Segregation and environmental issues are important for every city to solve. To consider these topics in a deeper way you need to build awareness first. For example for Tallinn these topics are covered in the new city strategy 2035+ and in Green Capital of Europe 2022 agenda.

3) What are the innovative new green solutions we should create?
Answer: according to the Sustainable Energy and Climate Action Plan for European cities, the most important solutions should come from/for energy and transport sector

4) I read Estonia has launched multi programs to motivate start-ups to innovate to solve COVID-19 challenges. Could you share some of the innovative results?
Answer: Please, review the following links as my response to this question: https://theglobalhack.com/results and here https://garage48.org/blog/fighting-the-covid-19-pandemic-with-the-power-of-community

5) You mentioned the e-residency program. In this period, people have limited opportunity to travel around the World. Have you observed an increase in e-businesses?
Answer: Yes, there has been a slight increase in Q1, see: https://e-resident.gov.ee/dashboard/ . There are also new plans to provide more developed services under e-residency programme in the future, more information to follow soon here: https://e-resident.gov.ee/

INTERVIEW with Marc Unió
International Promotion Advisor, City of Barcelona

Questions from the main discussion:

Q1 – **What has been your experience of the impact of the Covid-19 pandemic on Urban Tech initiatives?**

Spain is one of the most affected countries in Europe and this gives us the first idea of the huge impact it is having on our societies. The city of Barcelona in particular is suffering greatly: the popularity of our city as a tourist destination and thus the weight of this sector in the economy adds up to all the other effects the pandemic has. We are facing an unprecedented economic and social crisis. Amid this situation, we can differentiate three levels of impact in Urban Tech initiatives:

a) The diagnosis & first response

One of the main points is the role of the open data systems played during the outbreak of the crisis and its first and hardest months. Not only the tracking of data about the health crisis, but also its effects in many other areas such as mobility, pollution, social attention,…gave a real-time picture of what was going on in the city during that period. This helped not only the local government modulate a quick short and mid-term response, but also gave the local tech environment a huge amount of data to think and support innovations to help facing the crisis.

Open Data BCN is the website of the open data initiative of Barcelona: https://opendata-ajuntament.barcelona.cat/

On the following link you can find the portal focused only on Covid-19 related data: https://dades.ajuntament.barcelona.cat/seguiment-covid19-bcn/

b) The opportunity for testing:

Introduction of new initiatives that otherwise would have needed a much longer time to be introduced. Never before, and hopefully never again, will we have the chance to test and compare with our city completely empty, and introduce innovations from scratch and see how they work progressively with a paced return of activity to the city.

c) The change of paradigm, or how city's uses will evolve from now on

Coivd-19 has brought a huge change of habits due to restrictions. We now live in a different way. But what will remain when the crisis ends? Will the role of the city change?

Even if only a slight part of these new habits remain, in a city with high density of population such Barcelona it will mean a change to the way people work, how we understand the use of our business districts, how we understand offices and which technologies appear to solve new challenges as a consequence of this process.

Q2 – **A lot of technologies invented to make better, attractive and more liveable cities are driven by collaboration between cities, business communities and academics. Working collaboratively means solutions have a greater chance of success, sustainability, and scale-up. Thinking about the dynamics within the urban tech eco systems, what has the most impact on collaboration between cities, business communities and academics?**

As it has been pointed out by the other panellists, the ability to build trust between partners is fundamental. And this trust comes from knowing and understanding other's perspective, from where parts can generate consensus. Cities are complex ecosystems, and even though technologies are scalable across the world, the particularities of each city make this dialogue and understanding indispensable.

INTERVIEW with Marc Unió
International Promotion Advisor, City of Barcelona

Q3 – **For many years' cities work together to make better cities. Innovation, inspiration and exchange of best practices and people are promoted by the European Union.**

1. **What are the benefits of shared city initiatives at local and regional levels?**
2. **What challenges have you experienced or can you foresee in relation to shared city initiatives?**

From our perspective the role of initiatives in the line of shared economy are key in articulating the relationship between the city centre and its metropolitan region. I think here we need to rethink mobility or living, and ways of shared mobility and co-living experiences can be very enriching to align our cities with new forms of lives.

For example, thinking about mobility is key to reduce the number of commutes happening by car. Initiatives that optimize rides, fostering car sharing, may play a big role. And we can think here on platforms that allow users to share cars, or also technologies that allow them to optimize the e-commerce delivering, another trend that has increased a great deal lately and it will have a big impact in the centre of the city.

In order to tackle these kind of issues, and also as an example of collaboration between cities, the city of Barcelona has launched DATA CITY LAB, an initiative promoted with Berlin and Paris. The aim is to invite companies and corporations to face challenges proposed by the cities using solutions based on data and technology, and using the cities themselves as open labs for testing these disruptive initiatives, helping in the process of creating trust we mentioned before, given that they help align interests and sensibilities between cities and innovations.

 https://www.datacitylab.com/

Talking about challenges, one of the biggest is normative fragmentation. For example, a single metropolitan in reality has 36 different municipalities ruling, a fact that poses a real challenge when it comes to introducing solutions that are innovative. The solution may come from above-city regulations, either regional or national, or be enforced by metropolitan administrations. The implications of that are extremely complex.

Questions from Q&A:

What do city authorities think about a universal micro-mobility infrastructure solution?

If possible, considering to regulate their cities while becoming a real stakeholder and create new income?

The approach of Barcelona has been to set the rules in order to properly adopt new ways of mobility within the city. Just this year, there was a public tender by which a certain number of licenses where given to companies of electric motorcycles sharing services.

When it comes to micro mobility, the normative is quite clear. Either they are for personal use, or if they are for commercial use, they can't be rented under a scheme of shared mobility. And here, it is again important to understand the particularities of the city: Barcelona is a very dense city and public space is very limited, therefore, the introduction of a new means of transport is a delicate manner. My guess is that universal micro-mobility infrastructure solutions are a way to put some order in the way micro mobility is deployed in the cities, but for now Barcelona has its own approach on this.

INTERVIEW with Marc Unió
International Promotion Advisor, City of Barcelona

Most (mega-) cities struggle to find solutions for pollution and overpriced housing. Did Barcelona and/or Tallinn find technical solutions that work for them and might work for others as well?

When it comes to pollution, the main goal is to reduce polluting traffic and thus, promote green mobility. The main measures are Low Emissions Zone, active promotion of electric vehicles, promoting electric vehicles, investment in the public service of bike sharing "biking".

In relation to overpriced housing, the main measures are investment in public housing, regulation of rents recently approved by the regional government, and finally, investment in public transport in order to reduce commuting times, in turn reducing pressure on Barcelona centre by making it easier to live on the outskirts of the city.

Barcelona was branded 'Smart Barcelona' and now it is 'Digital Barcelona'. Could you help us understand this change please?

The Barcelona brand related to smart city has evolved during the years. My perception is that initially the focus of "smart city" was the introduction of new technology, while leaving the word "smart" behind is probably a way to emphasise that the final goal is to improve how people live, and technology is a means (and not the only one).

However, "Digital Barcelona" is not an expression meant to replace "Smart Barcelona". Barcelona is working to attract and promote itself as Digital Hub, in terms of economic activity, but also as a place to lead what we call the "Digital Humanism". This is why many different organizations use the idea of "Digital Barcelona", although it is not a formal brand.

INTERVIEW with Sandra Särav
Head of Sustainability, BOLT

Questions from the main discussion:

Q1 – **What has been your experience of the impact of the Covid-19 pandemic on Urban Tech initiatives?**

Many cities are seeing "greening" options and are creating pedestrianisation zones in the urban environment. Cities are also possibly looking for alternatives to cramped public transport solution, such as micro mobility (e-scooters, e-bikes). A great example here is the city of Vilnius that called for earlier launch of the e-scooters season to offer safer alternatives to public transport. Hopefully the pandemic and incidental lockdowns showed what impact less motorisation can have on cities (during the pandemic "peak" when most cities were in lockdown, there was 8% of GHG emissions).

Q2 - **A lot of technologies invented to make better, attractive and more liveable cities are driven by collaboration between cities, business communities and academics. Working collaboratively means solutions have a greater chance of success, sustainability, and scale-up. Thinking about the dynamics within the urban tech eco systems, what has the most impact on collaboration between cities, business communities and academics?**

Impact depends on setting common goals; whether there is a joint strategy or vision which is important for all stakeholders. When each and every party is moving towards a different set of goals, there can be no ultimate success.

One concrete example is data-sharing. Private (transport) sector companies have a lot of crucial data to share on urban development which the local governments can and should take into account in city planning – whether it's public transport planning or city infrastructure creation. At Bolt we have a lot of valuable data that cities could use to complement their public transport routes; or e-scooter data that could be used to create better infrastructure for most used micro-mobility routes. Of course, this requires competence on behalf of the city to be able to process and utilise such data & willingness on behalf of the private companies to share such data. It cannot be made mandatory, though, as the usefulness of data is limited / data shared should be proportional to means intended and not include personal data.

Q3 – **For many years' cities work together to make better cities. Innovation, inspiration and exchange of best practices and people are promoted by the European Union.**

    1. **What are the benefits of shared city initiatives at local and regional levels?**

Greater chance of success; moving faster; succeeding; learning from each other's experience. In terms of having different stakeholders:

- The regulator needs to understand the business and its impact before regulating new technologies.
- Companies need to understand the city space and its specificities.
- Academics give neutral honest feedback

    1. **What challenges have you experienced or can you foresee in relation to shared city initiatives?**

Lack of initiative; lack of funding; promises only during the time of elections to appeal to voters – no actual follow-up on the promises. If one party fails to commit to their part, the whole project can go down the drain. Lack of resources (and/or competences).

Not understanding each other's vision and purposes, and not defining roles is a key problem .

INTERVIEW with Sandra Särav
Head of Sustainability, BOLT

Q4 – **"Looking forward, there is a recognition that amid the human and economic tragedy that is the covid-19 pandemic, there are silver linings. One of which is that cities and businesses alike have been forced into making quick decisions, experimenting and adapting. This break from the traditional long-term planning approach has brought agility and adaptivity. Looking into the future, which urban initiatives are driving collaboration in the urban tech ecosystem?**

- Creating more sustainable communities. The vision of so-called 15-minute cities. Better city planning & creation of proper infrastructure.
- There needs to be a common vision for the city that defines key stakeholders and what their role is. In terms of urban mobility, the key initiative will be MaaS – or mobility as a service, where stakeholders are both the local government as well as private service providers that have the ultimate joint goal of servicing the citizen better.

INTERVIEW with Dr. Katerina Zalamova
Smart City Expert & Advisor & CEO of CREA IDEA LAB SL

Questions from the main discussion:

Q1 – **What has been your experience of the impact of the Covid-19 pandemic on Urban Tech initiatives?**
There has been an explosion of initiatives for co-creation and collaboration in the search for and design of solutions to the challenges created by the COVID-19 pandemic. EU programs were reshaped to highlight technologies that can accelerate the digital adoption of private and public institutions up to city level. I've participated in the private initiative of the ExO community about the Future-Of-Work in Spain. There was a call for sustainable green solutions from City of Barcelona where we also present a project. Lastly, CREA IDEA LAB participates in the DIGI-B-CUBE call with an AI project about early detection for respiratory diseases.
From our perspective, the impact of the COVID-19 pandemic on Urban Tech initiatives is positive, accelerating the transition from understanding about the need of smart cities to the implementation of smart cities strategies. And, we understand smart cities strategies in its wider definition, which includes not only digital transformation and technological adoption, but new social and communities structures and new economic models.

Q2 – **A lot of technologies invented to make better, attractive and more liveable cities are driven by collaboration between cities, business communities and academics. Working collaboratively means solutions have a greater chance of success, sustainability, and scale-up. Thinking about the dynamics within the urban tech eco systems, what has the most impact on collaboration between cities, business communities and academics?**
Cities are faster to boost policies and today their political power starts to become recognised. This power is coming from the fact that in many places the national political structure grows further from the real daily life of the people and therefore brings distrust and inefficiencies. Collaborative dynamics building local ecosystems and networks of them is becoming more and more efficient.
Cities become drivers for the transformation at local and global levels because of their position of being in direct involvement with the social, environmental and economic challenges. They are able to push to understand the innovative solutions, technologies and to test new ideas. Today, the municipalities understand and foster open-mindedness as key for successful collaboration in their own ecosystems and between different cities.
We can conclude that there are two key properties for achieving the most impact on collaboration between cities, business communities and academics: an open-minded stakeholder's ecosystem and the political power of cities to execute the needed transformation through testing and implementing ideas and solutions.

Q3 – **For many years' cities work together to make better cities. Innovation, inspiration and exchange of best practices and people are promoted by the European Union.**
1.   **What are the benefits of shared city initiatives at local and regional levels?**
2.   **What challenges have you experienced or can you foresee in relation to shared city initiatives?**
In our studies about the key characteristics for the success in implementing smart cities strategies and replicating solutions on a large-scale, we observed an important need for an integrated view at the stage of the conception of strategies. Today, the CREA IDEA LAB methodology, Cities Building Futures, provides the municipality with a conceptual process for this integration. We advocated not only for technological integration and interoperability, but also for a unified stakeholder's framework which regulates the role of each stakeholder, its ownerships and the access to its properties such as sensors, services, data, etc.
We envision important challenges to arise from lack of deep understanding about the inter-relationships between cities in shared cities initiatives. CREA IDEA LAB has participated in two EU projects about replicating smart cities solutions between cities. In both cases, there were a significant number of issues to be solved related to citizen engagement and social organisation around the solutions. In some cases, these issues became a significant obstacle for the implementation.

INTERVIEW with Dr. Katerina Zalamova
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We define the benefits of shared cities initiatives to be mainly:
- in building local economies in common markets which can create a stable ROI model for the required investment
- aligning relationships between different cultures to improve innovation and build new knowledge
- improved chances for deploying large scale infrastructures at lower costs because of a scale-economy.

Q4 – "Looking forward, there is a recognition that amid the human and economic tragedy that is the covid-19 pandemic, there are silver linings. One of which is that cities and businesses alike have been forced into making quick decisions, experimenting and adapting. This break from the traditional long-term planning approach has brought agility and adaptivity. Looking into the future, which urban initiatives are driving collaboration in the urban tech ecosystem?

We can say that urban technologies that are driving collaboration are related to the Data Economy, Circular-Doughnut Economy and lastly, the Virtual Economy. We have been speaking a lot about the importance of Data in the decision-making around the response to the COVID-19 pandemic. Also, we evidenced the human impact on nature during the Lockdown. Lastly, we have been totally absorbed in the Virtual Space for keeping employment and cultural interaction. For example, many museums opened virtual tours and adopted virtual visiting strategies.

Then, the collaborations on a city level which drive innovation and developments, in our opinion, are related to the basic public services such as transportation, health, public security and covering basic needs like connectivity, electricity, food supply, etc.

Q5 - Responding to the crisis has entailed taking radical policy decisions at an unprecedent speed, in order to ensure the safety of populations worldwide. Nevertheless, the current health crisis is by no means the only crisis threatening our urban societies. Other "slower" emergencies equally pose our cities at risk, such as the climate & pollution emergency and the global housing crisis. Consequently, learning how to address these will be determinant to ensure there is a safeguarded future for the generations to come.

Cities are built to stay. They are not a project just for a few months. Then, we need to use their long- term perspective in defining their real problems and the solutions for what seem to be the issues of the moment.

In our methodology for city development, we advocate building on top of diversity: recognising and exploiting the uniqueness as similarities have been exponentially amplified creating new challenges. Uniqueness has an internal limiting condition which we suggest should be used as a control mechanism for long-term negative impact. Why this is important? In our accelerated reality there is not enough time to estimate and foresee the negative impact related to the exponential behaviour. So, we need an intrinsic mechanism which can condition this phenomenon. For example, if we think about tourism, we need to foresee the exponential impact of the touristic fame. Can an attractive place, built to manage 500 visits, support an exponential growth to 5M visits? At first glance, the answer should be no. But, if we are interested in understanding the impact of this touristic phenomenon from positive and negative perspectives, maybe we can make it work.

If examine what the global challenges of today are from a real and objective point of view, we find that all of them relate to us and the survival of our society and culture. We can see for example that the UN Agenda 2030 is a useful starting point for the cities to choose their identity as the leaders of tomorrow.

Thanks to the shift from physical events to online events because of the COVID-19 Lockdown, we can see an acceleration in building and adopting new culture, social knowledge and economic models. These processes of change running in this current moment as we speak are redefining the "slower emergencies" and the roles of the organisations and us as citizens.

One of the most relevant results from the COVID-19 pandemic is the wide acceptance of our reality as changing. We have all known about it, but now we have accepted it and start to treat it as a norm. Then, the conditions, in which we will position a given challenge and search for solutions, change. More by intuition, we understand that there will no longer be a definite solution, but we should search instead for processes.

INTERVIEW with Dr. Katerina Zalamova
Smart City Expert & Advisor & CEO of CREA IDEA LAB SL

For example, Cities Building Future methodology doesn't give an explicit solution or design for a city development. It offers a framework for defining these processes, their interrelationships and the general lines of their future impact. We help municipality's teams to imagine and examine different future designs for their cities. Can I find a solution to health emergencies and become a healthier City? If my city becomes futuristic, how will it look? Will it have the same issues, or less, or more?

Although, cities need to respond to the current daily challenges, it is risky to adopt solutions just for this exact problem. We advocate for decisions and solutions which address the challenges in a long term perspective. This offers additional guarantees against the reappearance of the same issues in the future.

Why is this important?

Someone can believe that because we are living in a changing reality, the issues won't reappear once they have been solved because the conditions are changed. We don't support this idea. Based on physical laws, we suggest to expect that the issues also change over time. Then, a solution made to resolve an issue in a given moment may not adapt well to its evolved form in the near future. For that reason, we suggest examining challenges and solutions from a long-term perspective (a minimum of 10 years).

Can we be sure that we won't experience something similar to COVID-19 in 10 years from now? No. Then, should we run for solutions about the COVID-19 of today or should we thinking about it like a situation which is independent from the illness itself? How much should a city invest in solving the illness and how much it should invest in resolving the issues coming with the illness? In our opinion about this specific case, a vaccine won't help. The city needs to think in a structured holistic way to adapt and prepare about all the other issues related to mobility, food supply, citizen protection, etc.

The basic point in our Cities Building Futures methodology is the city identity expressed under the Smart City Brand. We advocate that this identity is the key to ensure there is a safeguarded future for the generations to come. Identity which makes the citizens proud of their city. Identity which inspires the people to build a legacy for the next generations, a city to stay for ever. This motivation helps to put the daily needs in long term perspective and work for sustainable solutions which embody in themselves the change as an intrinsic characteristic.

Questions from Q&A:

What are the innovative new green solutions we should create?

Adopt the nature as a city infrastructure will be the best way for green transformation of cities. This vision requires a specific classification of the green solutions. For example, is the Sun part of the nature and so part of the natural infrastructure or it is a renewable source of electricity and should be part of the utilities infrastructure.

It is a trend to speak about prosumers. We'd like to bring this term also in the debate about food supply infrastructures at a city level. It is fundamental urban design if your food is locally produced or not.

More than technologies, we suggest there is an important need for innovative social-cultural green solutions such as community's structures and business marketing models.

You have mentioned integration of data and systems. Is there a technical limit to integration?

There is no technical limit for system integration if a purpose model is applied. In our opinion, there is a misunderstanding of the term *system integration* envisioning one unique technological solution. We apply the term *system integration* in a discrete manner. In our way of integration, we are integrating the results not the actual elements which can operate autonomously or semi-autonomously. For the success of this way of integration, a holistic data model is crucial. For this reason, we talk about the technological integration as a data-and-systems one. The data model and final integrated system becomes one where the data flows interrelate to the specific systems and technologies.

UPCOMING WEBINARS

[Register now](#) and don't miss out on our next webinar in the series. Each expert panel will include a representative from an Eastern and Western European City as well as a business and academic in order to better understand the full picture of opportunities for urban tech solutions. The next cities in the series will be Lisbon and Cluj-Napoca.

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Contact us today to discuss your business goals and identify together a partnership format tailored around your needs.

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ABOUT US

See Intelligence and Forglobal have joined forces to uncover Europe's Urban Tech with support from our independent advisors. To view more information visit our website www.urbantech.world

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Toomas Türk is the first ever Chief of Innovation at the City of Tallinn and has been in office since November 2018. His main responsibility is to lead the Innovation and Smart City programme, including novel technology projects, tech community engagement and internal innovation capacity initiatives. He has have worked on country senior level positions at Top Global/National Tech companies including Oracle, Tallinn Science Park Tehnopol, Telia, Omniva/E-invoicing Center and has great knowledge about e-Estonia, Start-ups and Smart City activities.

Toomas has actively served Cluster organisations such as Estonian Smart City Cluster, ITL (national ICT Cluster), PostEurop (Brussels based) and has been CES (US) partner representative in the Baltics. His competences are from Sales and Marketing, Strategy development to Change and Project management in wider ICT area. He has graduated from TalTech (BA studies) and has taken part of several International long-term trainings (Canada, UK, Sweden).

Tallinn, as the capital of Estonia, has an 800-year history as a developing and modernising city. For more than 20 years, Tallinn has been a leader in providing digital services globally and using them in everyday life. Its intelligent gov-tech solutions are widely recognised as a part of the e-Estonia concept. The vibrant start-up scene has experienced the birth of unicorns and continuous innovation. The City of Tallinn is a testing ground for new innovative solutions: several intelligent city solutions have already gone live, and self-driving buses and delivery robots are already on the streets. The city supports start-up ecosystems and works closely with universities, incubators, clusters etc.

The approach of Think global, Test in Tallinn is being used in the Tallinnovation concept to develop Tallinn into a Smart City. The city can provide dedicated business support for Smart City initiatives and actively share the experience it gains from actual case studies with other cities. Tallinn is looking for companies/organizations, ideas and great people to innovate for the future – share your ideas with Tallinnovation!

Marc Unió, International Promotion Advisor, City of Barcelona– He is focused on projects related to technology, innovation and Real Estate and he has previously worked as Economic Development Secretary of a municipality of Barcelona, consultant for international development projects and for a private firm in the DR Congo. He holds a Master's in International Relations and Public Diplomacy, and has a degree in IT.

Barcelona is governed by a city council formed by 41 city councillors, elected for a four-year term by universal suffrage. As one of the two biggest cities in Spain, Barcelona is subject to a special law articulated through the Carta Municipal (Municipal Law). A first version of this law was passed in 1960 and amended later, but the current version was approved in March 2006. According to this law, Barcelona's city council is organized in two levels: a political one, with elected city councillors, and one executive, which administrates the programs and executes the decisions taken on the political level. This law also gives the local government a special relationship with the Spanish government and it also gives the mayor wider prerogatives by the means of municipal executive commissions. It expands the powers of the city council in areas like telecommunications, city traffic, road safety and public safety. It also gives a special economic regime to the city's treasury and it gives the council a veto in matters that will be decided by the central government, but that will need a favourable report from the council.

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Sandra is the first and brand new Head of Sustainability at Bolt, one of the fastest-growing transportation platforms in Europe and Africa with more than 30 million passengers in over 35 countries. Her task is to make sure Bolt offers the most sustainable modes of urban transport. Prior to Bolt, Sandra served as the Global Affairs Director in the Government CIO Office of Estonia, leading Estonia's global ICT relations, and was part of Estonia's EU Presidency team in 2017. Sandra is currently also a junior researcher at TalTech where she lectures on the topics of Legal Framework of e-Governance as well as EU law.

Bolt is the leading European mobility platform that's focused on making urban travel more affordable, convenient and responsible.

The company has more than 30 million users in over 35 countries across Europe and Africa. Its services range from ride-hailing to micro mobility with e-scooters and electric bikes to food and package delivery.

As of 2019, all Bolt rides in Europe are 100% carbon-neutral as part of Bolt's Green Plan, a long-term commitment to reduce the ecological footprint of the company.

Dr. Katerina Zalamova is a recognised Smart Cities expert with a special interest in zero waste infrastructures and the circular economy along with the adoption of digital infrastructures focused on economic development and social change. With a masters in applied physics and a doctorate materials science Dr. Zalamova, has developed various renowned Smart City Concepts, including, the concepts "smart & social" and "micro-city building" which have been applied in projects such as the EU project Triangulum in Sabadell. She also held the position of academic director for a brief period at the Barcalona Blockchain Institute & Technology.
Along with her Smart City consultancy, Dr. Zalamova runs the think-tank for advanced cities, CREA IDEA LAB. She has a keen research interest in optimisation of data processing, knowledge extraction, Blockchain and AI application in smart city development and Zero Waste logistics, analytics and infrastructure.

Headquartered in Barcelona Spain, with offices in Dublin, Ireland and Dubai UEA, **CREA IDEA LAB** is a consultancy and think tank for advanced smart cities. The company has its own R&D department and start-up incubator where innovative companies are developing solutions for the Smart City market. It has participated in the EU projects Triangulum (HORIZON2020-No 656478) and UrbanWins (HORIZON2020-No 690047) in Sabadell, Spain since 2016. CREA IDEA LAB is a member of the European Innovation Partnership on Smart Cities and Communities (EIP-SCC), EU AI Alliance, the IoT Catalan Alliance of the Catalonian Government and the Chamber of Commerce Brasil- Catalonia. The organisation advocates for purposed-centred design of the city's infrastructures deployed through an integration of its vision and understanding at all levels. It has promoted a unique city design methodology through its work in CREA IDEA LAB since 2014. It consists of the best global practices and also learning from past projects. CREA IDEA LAB has its roots in Europe and as a result works closely with such great cities as Barcelona, Milan, Amsterdam and Eindhoven.