Artificial intelligence, Data and Robotics ecosystem

https://adra-e.eu/

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[1] **PU:** Public**; CO:** Confidential, only for members of the consortium (including the Commission Services)

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[2] **R**: Report, **DEC:** Websites, patent filling, videos; **DEM:** Demonstrator, pilot, prototype; **OTHER:** Software Tools
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Document summary

This document presents the second edition of the procurement workshops, as part of the Task 4.3 activities of the Adra-e project.

This report reflects in detail the depth of the discussions that took place in the different sessions, and also summarises the main takeaway messages of this workshop.

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1. Introduction

Within the **WP4 "Boosting the adoption of AI technology"**, the **Task 4.3** activities of the Adra-e project include to support the innovation-friendly procurement outlined by the SME strategy, increase awareness of the benefits of ADR in procurement processes, and ensure the cultivation of fairness between SMEs and the procurement process.

The second edition of the procurement workshops, **"Facilitating the access of innovative start-ups and SMEs to the public procurement market"**, took place in Amsterdam on the 4th February 2025, and aimed to address the main challenges that AI, Data and Robotics small companies face in procurement processes.

As highlighted by the **Adra Secretary-General**, **Philip Piatkiewicz**, during the opening remarks, the acquisition of innovation by public administrations does not only improve the services offered to citizens, but also provides business opportunities to local entrepreneurs. However, small companies face overcoming challenges trying to access the public procurement market. Several barriers make it difficult for them to participate in and win tenders. Easier access to public procurement markets can help start-ups and SMEs find new opportunities and grow.

By bringing together experts from local administrations, networks of cities and communities, Testing and Experimentation Facilities and specialists in Pre-commercial Procurement, the workshop aimed to:

- Promote demand-driven co-creation of innovative solutions for the benefit of local public services, start-ups, SMEs and citizens
- Raise awareness on the advantages of the collaboration between public organisations and local innovators to accelerate the adoption of innovation by the public sector
- Explore the potential of the instruments supported by the European Commission to attract innovative start-ups and SMEs to the procurement market
- Analyse the processes required at the local level to facilitate interoperability
- Stimulate knowledge sharing, collaboration and emergence of new ideas among participants

2. Keynote and panelists

The keynote and panelists of the programme included:

Valentina Schippers-Opejko is the Coordinator of the Urban Agenda Partnership on Innovative and Responsible Public Procurement in the City of Haarlem and Chair of the Eurocities Working Group on Public Procurement and expert on public procurement. In 2021, she served as the Coordinator of the Circular Procurement working group in the Metropolis Region of Amsterdam. With 23 years of experience, she continues to work for a public authority. She is motivated to share her experience and to promote public procurement as a strategic tool for accelerating innovation, circular economy, sustainability, economic recovery, energy transition, and addressing other challenges faced by public authorities. For Valentina it is important that people understand how socially responsible and sustainable public procurement can be used for exchanging information, experience, and knowledge to overcome obstacles in the public sphere. Valentina is also is also Ambassador for Socially Responsible Public Procurement (WeBuySocialEU).

Renske Martijnse-Hartikka is a senior project manager on sustainable urban mobility who has worked on many EU-funded projects and is now in the stellar Smart Mobility team of Forum Virium Helsinki, the non-profit innovation organisation of the City of Helsinki. Renske's work currently focuses on two different themes: the use of satellite data for city planning and on building the Urban Air Mobility ecosystem. Renske is currently coordinating the Pre-Commercial Procurement project SPACE4Cities, on the use of satellite data for city planning, and she also coordinated a previous Pre-Commercial Procurement, FABULOS, about self-driving shuttle buses.

Ricardo Herranz is the Chief Executive Officer of Nommon Solutions and Technologies. He has more than 20 years of experience as an engineer, researcher and entrepreneur and a broad understanding of the transportation sector. His company was one the most successful tenderers of the AI4Cities Pre-Commercial Procurement project. His experience is very valuable to showcase the long-term impact that the participation in Pre-Commercial Procurement procedures might have on the SMEs research and development strategies, as well as on their business opportunities.

Niels Wiersma is a Digital Consultant on Integrated Spatial Policies in the Municipality of Eindhoven. He is also responsible for the Central Supernode in the Netherlands for the CitCom.ai project. Niels connects the mobility ambitions in the City of Eindhoven with the opportunities of data and digital. His ambition is to create maximum value from both future and readily available mobility related data sources in the Eindhoven region. To achieve this, empowerment of data analytics and AI, the pursuit of common data models, data governance, open data and interoperability are his key focus areas.

Thimo Thoeye is a technology advisor for Open & Agile Smart Cities (OASC). He brings in years of experience in interoperability and linked data. He is a driving force behind Open Knowledge Belgium and works for the Information and communication technology agency of the city of Ghent in Belgium.

Giovanni Sileno is assistant professor at the University of Amsterdam, member of the recently formed SIAS (socially intelligent artificial systems) research group at the Informatics Institute, part of the Civic AI Lab, and, since November 2023, director of the Bachelor in Information Studies at UvA. He has been working in various fields related to AI and Computer Science research, contributing to diverse tracks as: computational legal theory, agent-based programming, cognitive modelling, (computational) policy design and policy operationalization. More recently, he has started contributing to lines of inquiry on human and societal aspects of socio-technical systems. He is representing the UvA as partner of the CommuniCity Horizon project

3. Agenda

Agenda		
9:00 – 9:30	**Registration & Welcome coffee**	
9:30 – 9:45	**Welcome & opening remarks**	**Philip Piatkiewicz** Adra Secretary-General
9:45 – 10:45	**Keynote speaker** **How to accelerate the adoption of innovation by the public sector**	**Valentina Schippers-Opejko** Coordinator Urban Agenda Partnership on Innovative and Responsible Public Procurement, City of Haarlem Chair Eurocities Working Group on Public Procurement
10:45 – 11:00	**Coffee break**	
11:00 – 12:00	**Pre-commercial procurement implemented by cities: a more dynamic management of public spaces by deploying innovative solutions**	**Renske Martijnse-Hartikka** Coordinator Pre-Commercial Procurement projects SPACE4Cities and FABULOS, Forum Virium Helsinki **Ricardo Herranz** AI4Cities PCP project Nommon Solutions and Technologies Chief Executive Officer
12:00 – 13:00	**Lunch break**	
13:00 – 14:00	**How CitCom.AI offers support to AI innovators** (Testing and Experimentation Facility for Smart Cities and Communities)	**Niels Wiersma** Digital Consultant Integrated Spatial Policies Municipality of Eindhoven Central Supernode in The Netherlands for the CitCom.ai project

14:00 – 15:00	**Scaling digital solutions with Minimal Interoperability Mechanisms (MIMs)**	**Thimo Thoeye** Tech Lead Open & Agile Smart Cities - OASC
15:00 – 15:30	**Coffee break**	
15:30 – 16:45	**Panel discussion:** **How to overcome challenges that innovative start-ups and SMEs face trying to access the public procurement market**	Moderator: **Philip Piatkiewicz** Adra Secretary-General **Renske Martijnse-Hartikka** Coordinator Pre-Commercial Procurement projects SPACE4Cities and FABULOS Forum Virium Helsinki **Giovanni Sileno** Assistant professor at UvA, member of the socially intelligent artificial systems (SIAS) research group Partner of the CommuniCity Horizon project
16:45 - 17:00	**Closing Remarks and Key Takeaways**	**Philip Piatkiewicz** Adra Secretary-General
17:00 – 17:30	**Networking reception & snack**	

4. Venue Amsterdam Science Park

Amsterdam Science Park is located just minutes away from the historic centre of Amsterdam.

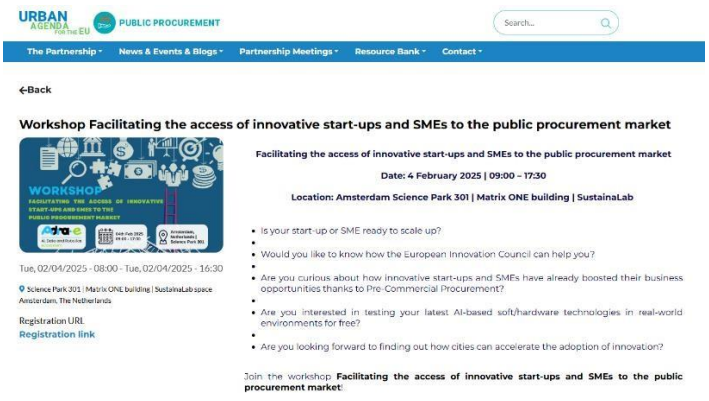
It is easily accessible by public transport from Amsterdam Central Station. Amsterdam Science Park is also less than 30 minutes from Amsterdam Schiphol Airport.

The sessions took place in the SustainaLab room of the Matrix One building (40 seats).

5. Communication and marketing

The information regarding the event was first posted on the 11th November 2024 on the Adra-e website. It was regularly updated with new information about the speakers and the venue until the day of the event. The registration page was also accessible through the Adra-e website.

Information regarding the workshop was also posted on the following websites: Amsterdam AI, Amsterdam Science Park, Data Science Community, Urban Agenda for the EU and OASC.

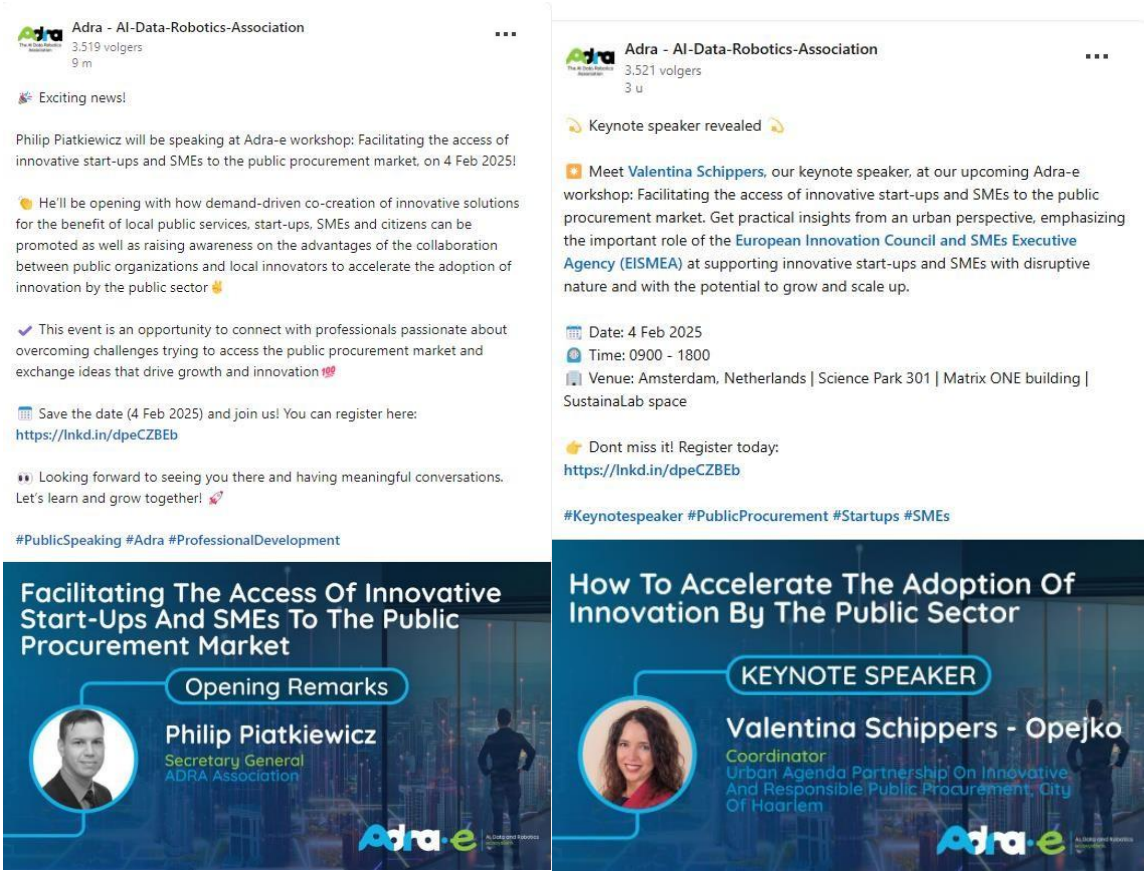


The event was promoted as well in the newsletters of Adra, Amsterdam Science Park and Informatics Institute.

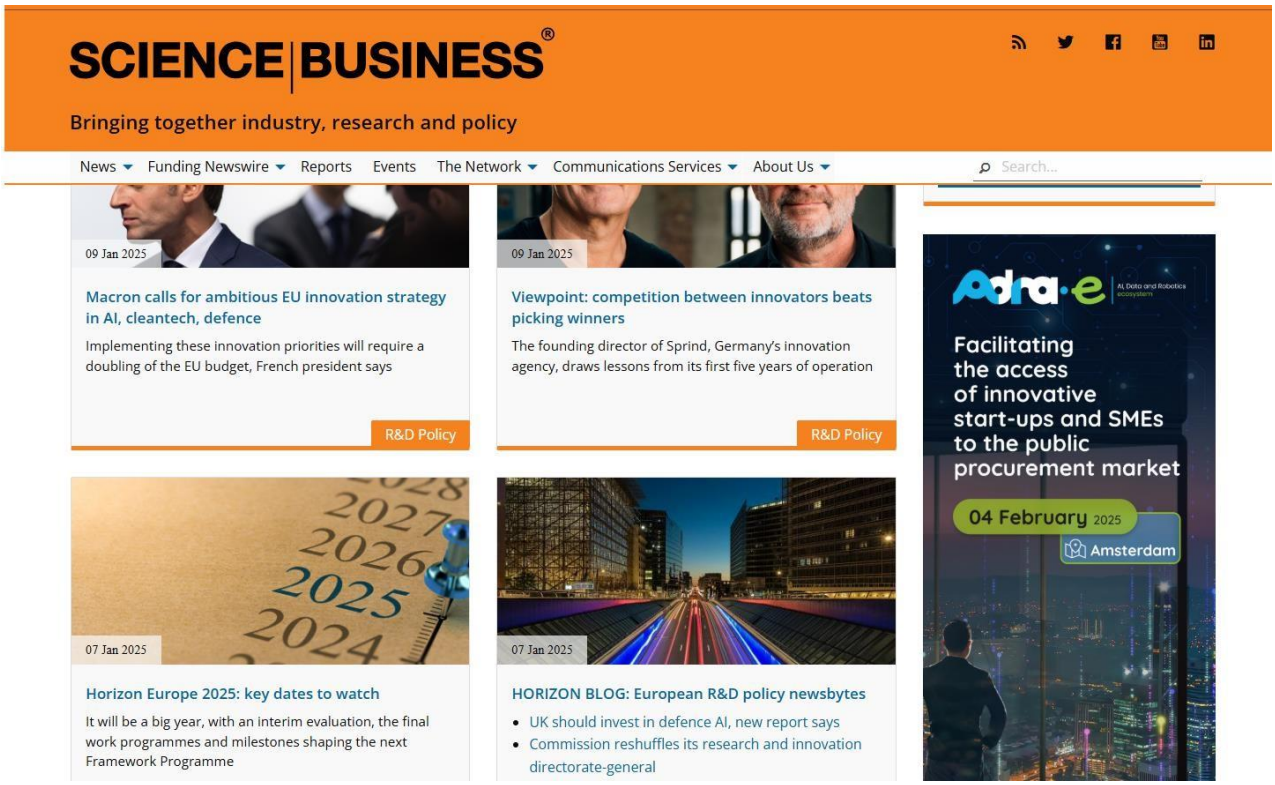
Our Social Media campaign ran since the beginning of January 2025, promoting the event and the speakers on the Adra's LinkedIn account, the UvA's LinkedIn account, the Amsterdam AI's LinkedIn account, the SPACE4Cities LinkedIn account and the Lab42 Slack channel.

During the days leading up to the event, Adra posted on the event's social networks one post per speaker's card.

Some of the posts on LinkedIn can be found here below:



The workshop was also advertised during one week on the Science Business website. Adra had four weeks of online banner advertising credits after the ADRF event of November 2024, and this procurement workshop could make use of one of these weeks:



6. Panels and workshops

6.1 Keynote speaker - How to accelerate the adoption of innovation by the public sector

Valentina Schippers-Opejko presented the European Innovation Council Strategic Technologies for Europe Platform (STEP) Scale Up calls.

This scheme provides a powerful combination of financial and strategic support designed to fuel **groundbreaking innovation in strategic technologies**, propelling Europe's economic, industrial, and technological competitiveness. This has been introduced as a **pilot action** to address an important market gap in financing deep tech scale-up companies in Europe and to inform decisions on future support.

STEP focuses on projects in the development and manufacturing stages in three priority areas:

- **Digital technologies and deep technology innovations**. This includes: advanced semiconductor technologies; artificial intelligence technologies; quantum technologies; advanced connectivity, navigation and digital technologies; advanced sensing technologies; robotics and autonomous systems; Deep tech innovations are understood to be those that have the potential to deliver transformative solutions, rooted in cutting-edge science, technology and engineering, including innovation that combines advances in the physical, biological and digital spheres.
- Clean and resource efficient technologies
- Biotechnologies

These technologies are deemed critical where they meet either of the following conditions:

- they bring to the internal market an innovative, emerging and cutting-edge element with significant economic potential;
- they **contribute to reducing or preventing strategic dependencies of the European Union**.

Applicants to STEP Scale Up calls will not receive a grant component. STEP Scale Up calls offer **financial support in the form of investments to startups, SMEs, and small mid-caps, between EUR 10 to 30 million.** This investment can significantly accelerate the development and market launch of a technology, product, or service. With this funding, applicants might gain the power to disrupt established markets and forge new ones across Europe, potentially achieving significant global impact. Crucially, this investment is designed to **catalyse major funding rounds**, e.g. in the range of EUR 50 to 150 million, and at least 3-5 times the EIC investment.

EIC STEP Scale Up is, thus, designed to fill the funding gap for companies to invest in the scale up of high-risk innovations and where the amount needed for the scale up cannot be fully financed by other investors.

When implementing investments, the EIC Fund ensures that supported companies keep most of their value, including their IP, in the EU or in the Associated Countries in order to contribute to their economic growth and job creation.

Who can apply?

- **A single SME or small mid-cap** (up to 499 employees) established within a Member State or an Associated Country.
- **An investor** may submit a proposal on behalf of an eligible SME or small mid-cap as defined above

How to apply?

Applications to the EIC STEP Scale Up call can be submitted at any time via the EU Funding and Tenders Portal. The evaluations of applications submitted will be organised at regular intervals depending on the number of applications, with at least one per quarter.

The proposal consists of:

- a full business plan, including information on the company's ownership and financial structure and a justification on the STEP related objectives
- a pitch-deck
- a pre-commitment from a qualified investor
- An ownership control declaration

How long does it take?

If the application meets the eligibility requirements, applicants are invited to attend a jury interview. Applicants will be informed about the interview within approximately 4-6 weeks from the start of the evaluation process.

At the interview, applicants will be assessed by a jury of maximum six members. Applicants will be informed about the result of the interview within approximately 2 weeks from the date of the interview.

Innovation pilot projects implemented by the City of Haarlem with the support of the European Innovation Council

The City of Haarlem launched a procurement need about reducing food waste in the restaurants' kitchens of the municipality. They asked 5 restaurants to participate in the pilot project. They were already frontrunners in **food waste reduction** and, thus, they were a bit skeptical.

The challenge was published on the website of the European Innovation Council and the municipality also went through their database to select one company which could provide an innovative solution.

Before throwing the remains of food of every customer in their restaurants, special containers holding a camera took a picture of them.

With their AI-driven food waste monitor 'the Orbi', the company Orbisk automatically recognized what kind of food was thrown away, in what quantity, and at what time of the day. Afterwards, the collected data was clearly presented in a dashboard, which could be used to prevent food waste in a way that suited both the kitchens of the restaurants and the process.

After a certain time, this company provided the owners of the restaurants with their advice on how to further reduce food waste through process optimisation, and they could reduce their food waste by 20%.

The municipality shared the results of this pilot, which ran between September 2022 and November 2023, and later on the company could develop different versions of these containers adjusted to the needs of the different size of kitchens.

The scaleup Orbisk is currently active in over 40 different countries and helps chefs on five continents optimize kitchen processes. According to the company, customers typically save three to ten times on food waste compared to monthly costs, while contributing to one of the largest climate opportunities. A major milestone in this is the collaboration with Accor. The most recent addition to Orbisk's portfolio is the American Carnival Cruise Lines.

Another pilot project was linked to the **circularity of used sport shoes**. They are normally thrown away and do not have a second life as other kind of clothes. A start-up developed an innovative solution to make use of the small particles coming from the sport shoes to make city promotional boards, with the related waste reduction, CO2 emissions reduction and creation of new jobs.

A similar showcase of **circularity** was linked to the **waste containers** once they cannot be longer used. Their material is being reused to create small plastic particles that are being used by the 3D printers to produce street furniture, such as huge flower pots or basements for the parks.

Ms. Schippers-Opejko indicated that **this innovative way of presenting the procurement needs is, unfortunately, only used in around 5% of the public procurements of the Dutch cities**. The perception is that these challenges might be more expensive for the public buyers, however, this is not always true, especially if the innovative solution can contribute to the sustainability of the cities.

6.2 Pre-commercial procurement implemented by cities: a more dynamic management of public spaces by deploying innovative solutions

The objective of this session was to present the Pre-commercial Procurement as an innovation tool, as well as to illustrate with examples the growing evidence of its value for the uptake of innovation by cities.

During this session, we were joined by the following speakers:

- Renske Martijnse-Hartikka, Coordinator of the Pre-Commercial Procurement projects SPACE4Cities and FABULOS within the Forum Virium Helsinki organisation
- Ricardo Herranz, CEO of Nommon Solutions and Technologies, one the most successful tenderers of the AI4Cities Pre-Commercial Procurement project

Pre-commercial procurement (PCP) is an approach to public procurement of research and development services, where a **group of public procurers** jointly purchase R&D for various **competing and highly innovative services or tools that are not yet commercially available**.

It is an important tool to stimulate innovation, as it enables the public sector to buy R&D to:

- steer development to meet its needs
- collect info about pros / cons of alternative solutions
- create a future competitive supply base
- make specs for a possible follow-up Public Procurement of Innovation (PPI)

The key features of PCP include:

- It is focused on driving innovation and going beyond the current state-of-the-art
- It involves a competitive process with multiple suppliers developing solutions over several phases
- The procurers work closely with the suppliers during the development process
- The suppliers retain the IP rights and are expected to commercialize the solutions after the project

In the case of the Pre-Commercial Procurements supported by the European Commission, **Horizon Europe funds 100% for the procurers, but it is also very attractive for the suppliers, as they also get a lump sum from the Lead procurers to develop their solutions**, although they are expected to also co-finance with their own R&D budgets.

Companies need thus a much lower investment to generate new market opportunities, and the risk is shared between procurers and suppliers. Additionally, the suppliers will be able to actually do field testing and piloting of their solution and have a reference for when they want to scale.

PCP requires a significant upfront investment in defining needs, but **the main challenge is how to evaluate the level of innovation**, as the procurers need to evaluate hundreds of offers from start-ups and SMEs all around Europe which are going to ensure that their solution does not exist yet.

PCP versus traditionnel Public Procurement

PCP	Traditional procurement
Exemption for R&D services under EU Directives and WTO rules: special legal framework	Tendering procedures and legal framework: national procurement rules apply
High risk: high degree of innovation and R&D effort required; processes are longer	Low risk: Low degree of innovation, focused on solutions on (or close to) the market
Functional specifications focused on long-term needs	Technical specifications addressing shorter-term needs
Competitive development: several parallel contracts to several suppliers	1 contract to 1 supplier awarded
Competitive development in at least 3 phases	Development in 1 phase
IPR retained by Supplier / risk-benefit sharing	IPR generated

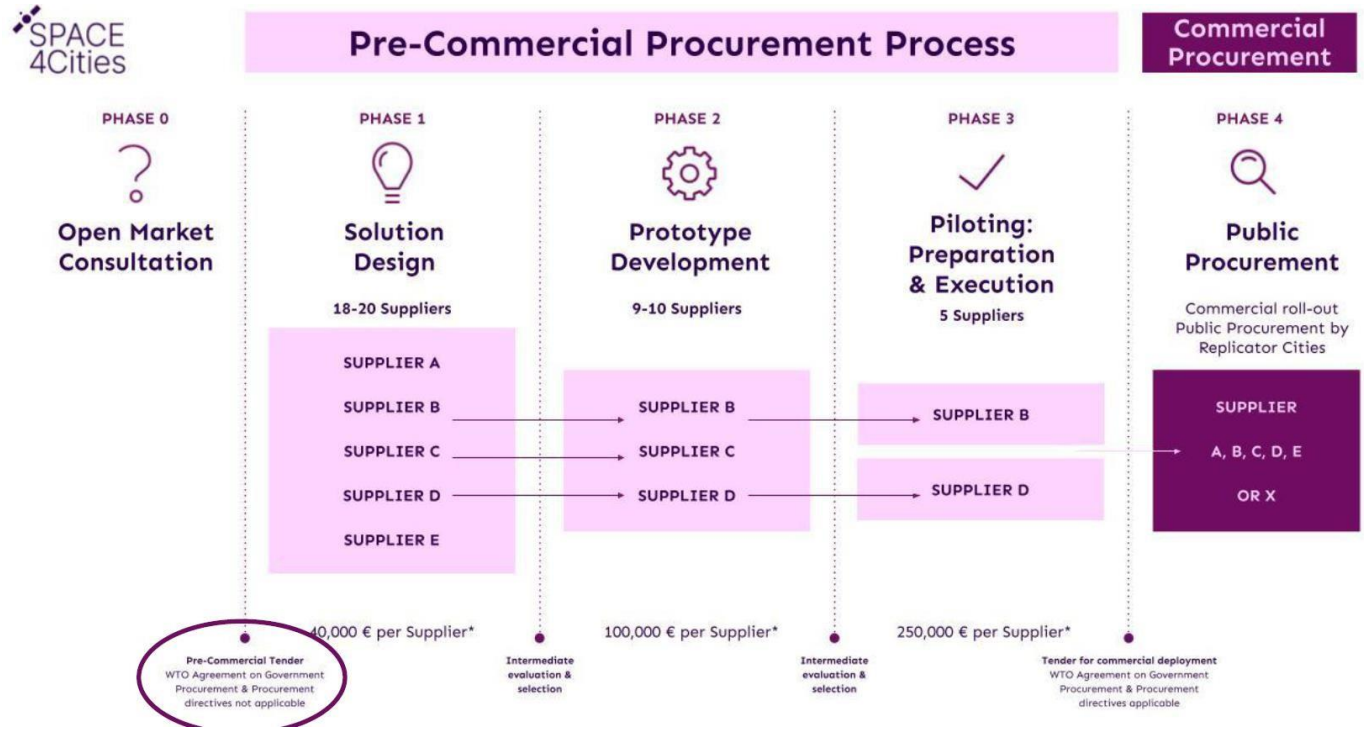
Renske Martijnse-Hartikka provided details on the **FABULOS PCP project** on self-driving shuttle buses for public transport. Within this project, which ran between 2018 and 2021, three different robot bus solutions were successfully tested in Finland, Norway, Estonia, Greece and the Netherlands.

The overall aim of the FABULOS PCP was to accelerate the introduction of new types of automated last-mile solutions entering the market. The procuring cities have now taken steps within the field of autonomous public transportation building on the lessons learned in the project. In fact, concrete plans for follow-up projects have taken place in the cities of Helmond (Netherlands), Lamia (Greece) and Helsinki (Finland).

Renske Martijnse-Hartikka also provided details about the **SPACE4Cities PCP project**, whose call for tenders is currently open until the 9th April 2025. The buyers' group (Helsinki, Amsterdam, Ghent, Athens and Guimarães) will go through the PCP process to procure replicable solutions using European satellite data for better and more dynamic management of public spaces.

Challenge themes in SPACE4Cities include sustainable mobility, climate resilience & adaptation, and city planning & management.

The PCP process in SPACE4Cities consists of three clearly defined main phases: **solution design, prototype development and pilot preparation & execution.** Significant budgets are available for suppliers to support their work in each of these phases:



At the end of SPACE4Cities PCP process, suppliers are expected to continue the refinement of the tested prototypes to make them into market-ready solutions that can be procured by additional public procurers.

Ricardo Herranz, co-founder and CEO of the technology company Nommon, shared the experience of their participation in the **AI4Cities PCP project** from the supplier perspective. In consortium with Populus, they developed an AI-powered decision support tool that allows cities to measure and monitor the reduction of the carbon footprint derived from different shared mobility regulatory frameworks and policy strategies.

The initiative sought to respond to the pressing need of city leaders and policymakers of a data-driven solution that can help them take measurable and up-to-date decisions related to the implementation of smart mobility systems from a climate change mitigation perspective.

Their participation allowed them to contrast their ideas with the market, to evolve to higher TRLs, to collaborate with end users and to get funding in the process. They found the call was very rigorously managed with a high-quality evaluation process. They also found that the level of reporting was adequate, with no unnecessary bureaucracy.

The speaker highlighted that sometimes **the impact of a PCP does not take place during the PCP lifetime, or might not be immediately visible**: even though no follow-up procurements took place right after the PCP, and that was somewhat disappointing, Nommon found that their participation in the AI4Cities PCP project was extremely positive, as they used many of the building blocks developed for the project as the seed for Nommon's WiseRide solution, currently being deployed in operation in the cities of Valladolid and Zaragoza (Spain).

6.3 How CitCom.ai offers support to AI innovators

The objective of this session was to present the support and services offered by **CitCom.ai, the Testing and Experimentation Facility in Smart Cities and Communities**.

Testing and Experimentation Facilities (TEFs) are specialised large-scale reference sites to test state-of-the art AI and robotics solutions. They are open to all European technology providers wanting to test both software and hardware AI products and services in real-world environments. TEFs serve technology providers who want to develop their AI/Robotic solution from Technological Readiness Level (TRL) six to eight.

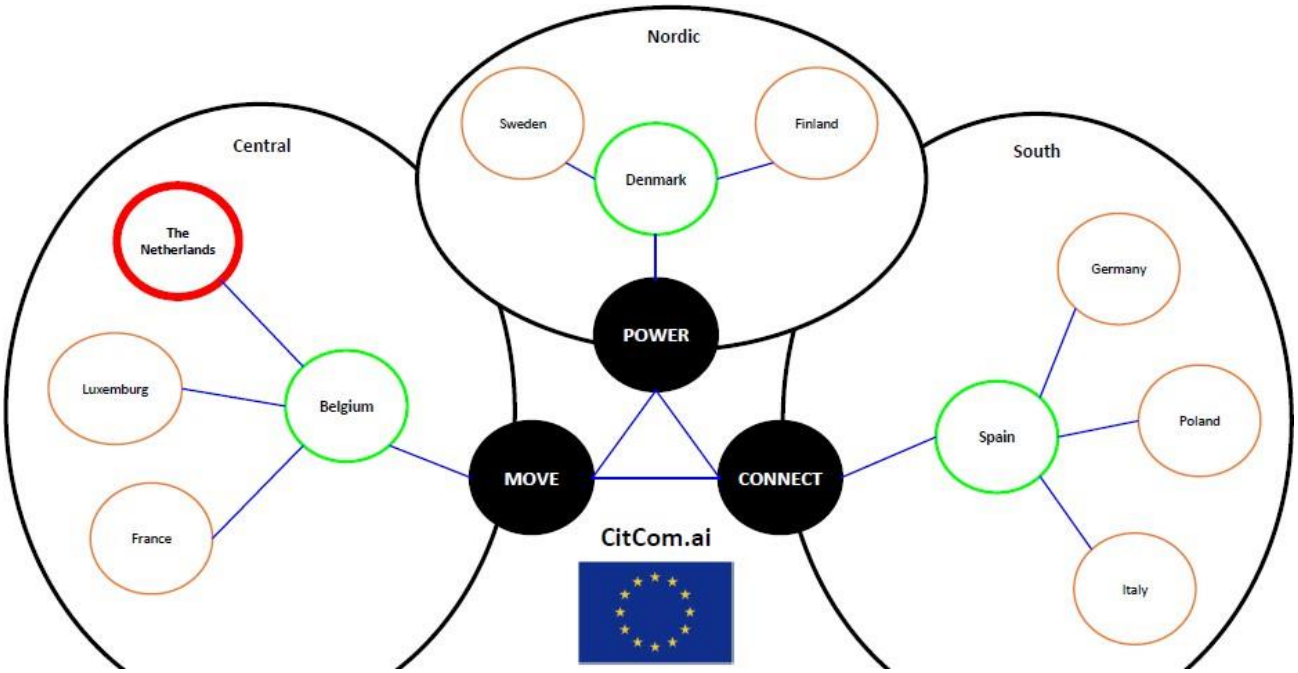
Niels Wiersma, representative of the Central Supernode in the Netherlands for the CitCom.ai project**,** explained that they provide a cutting-edge European AI Testing and Experimentation Facility **to accelerate the development and deployment of AI-driven solutions** for Smart and Sustainable Cities and Communities (SSCC).

The establishment of the TEF shall aim to contribute to the following objectives:

- establish a controlled experimentation and testing environment;
- facilitate regulatory learning and learning about the impact of technology on society for the municipalities and companies;
- improve certainty to achieve compliance with applicable legislation and ethical principles;
- support the sharing of best practices through cooperation with the municipalities and the AI ecosystem;
- foster innovation and facilitate the development of an AI ecosystem;
- contribute to evidence-based regulatory and ethical learning;

- facilitate and accelerate access to the European Union market for AI systems, in particular when provided by small and medium-sized enterprises (SMEs), including start-ups.

By uniting top-tier expertise and infrastructure across **power, mobility and connectivity themes**, they create a collaborative ecosystem spanning 11 EU countries. Their mission is to enable cities, businesses, and researchers to test, validate, and scale AI and IoT solutions in real-world urban environments.



Building on established EU initiatives like Living-in.EU, OrganiCity, and SynchroniCity, CitCom.ai ensures interoperability, sustainability, and long-term impact. With strong public-private partnerships and a strategic roadmap, CitCom.ai paves the way for the future of AI-powered, people-centric cities.

The services offered by CitCom.AI are the following:

- Virtual Facility Access
- Physical Facility Access
- Compliance and ethics assessment
- Scope definition: requirement mapping and business modelling
- Community engagement
- Regulatory sandbox
- Real world validation / Evaluation

The project is organized into three main nodes, each one of them corresponding to one of the three power, move and connect themes. The Central Supernode revolves around the mobility theme. The node focuses more specifically on challenges related to mobility and logistics in cities and communities in Belgium, The Netherlands, Luxembourg and France.

The cities involved in CitCom.ai, as it is the case of Eindhoven, have a **dual role as potential end-users and as test sites**.

Process

1) Eligibility criteria: the AI Innovator submits a testing proposal to the Municipality setting out the new solution and how it meets the eligibility criteria.
2) Review Municipality: the municipality reviews the proposal. The proposal is accepted if eligibility criteria are met. A case officer is allocated as a contact person.
3) Test plan: If the proposal is accepted, the Municipality works with the AI Innovator to establish a test plan addressing regulatory and ethical guidance, testing parameters, measures for outcomes, reporting requirements and safeguards.
4) Start test: the Municipality allows the AI Innovator to start.
5) Testing and monitoring: The AI Innovator starts testing and engages with the Municipality according to what was agreed in step 3.
6) Final report: The AI Innovator submits a final report about the outcomes of testing and the Municipality reviews the report.
7) Scaling: The AI Innovator decides whether it will scale the new solution outside the TEF.

Access to the AI TEF is free of charge for SMEs and start-ups, without prejudice to external costs that the Municipality of Eindhoven may incur in a market-based, fair and proportionate manner.

Advantages of participating

1) **Access to advanced infrastructure and expertise**
   - SOTA testing facilities, some in public space
   - Expert advice and guidance
2) **Validation and certification**
   - Reliability and compliance
   - Increased market thrust
3) **Minimized development risks**
   - Regulatory Sandbox
4) **Faster market entry**
5) **Networking opportunities**
   - Connection with policy / customers
   - European visibility
6) **Increase scalability**
   - Building on EU data architecture
   - XTEF testing opportunities

Currently the cities are focusing on two **challenges**:

1) **Identifying common needs that they can use as a strong asset in CitCom.ai** (to recruit tests and experimentations):
   - Using AI for citizen engagement?
   - AI for mobility solutions?
   - AI to handle requirement in the new EU building directives?

2) **List practical and legal challenges for cities as test site operators in CitCom.ai**:
   - Legal difficulties in charging for services
   - Disadvantages in demanding that companies sign a “de minimis” when they could potentially engage with our cities without going through CitCom.ai
   - Battling procurement restrictions when covering company expenses in relation to a testing scenario
   - What to do when the ownership of test zones in a city is shared between different partners.

Since the actual number of experiments in CitCom.ai is still limited, Mr. Wiersma presented the experience of the city of Eindhoven with a living lab called *Inzicht Verlicht* (Insight enlightens), in which the overall traffic management and air quality were monitored at one of the city's intersection.

This living lab provided a testbed for various sensors and technologies related to traffic management, air quality, decibel-detection and electric vehicle detection. With this project, the goal was to achieve new insights on the traffic management and air quality data and to get more knowledge on how these data could be implemented into a data space.

The **strategic goal** was to use sensors to develop state of the art solutions for city needs: **mobility and sustainability.** The challenge was to speed up the development of innovative solutions, with AI and ML, for instance, zero emission vehicle detection or near incident detection and analysis.

Although the tests at the intersection level were local, they will be presumably scaled up and replicated within the Belgian cities on the Central Supernode of the CitCom.ai project.

6.4 Scaling digital solutions with Minimal Interoperability Mechanisms (MIMs)

The objective of this session was to explore the different layers of interoperability, and scrutinize what is needed for local authorities to take steps in the field of data and knowledge sharing and communicating systems.

Thimo Thoeye first presented a case study of practical procurement of innovation in the public sector, which took place at the municipality of Ghent, Belgium, where he acts as Business Liaison at District 09.

Since Chat GPT, the city of Ghent received hundreds of questions from internal civil servants regarding the convenience of using generative AI at work. The city also faced a large number of requests from start-ups to meet about new AI solutions, but lacked internal knowledge on how to evaluate these proposals.

The city, thus, set up an internal AI board, gathered use cases from different services and departments, contracted a consultancy to identify potential use cases that might be applicable for an AI solution, and turned them into a complete business case.

They ended up with more than one hundred cases, but the management selected only three of them in order to actually run some proof-of-concept projects: a chatbot, predictive maintenance, and proactive outreach services.

The municipality organised workshops with businesses to try and channel all the requests for meetings into these three categories, funded a few proof-of-concept projects and tried to integrate as much as possible the learnings to their internal staff.

This initiative attracted many IT and engineering students, who participated in an open-source coding project to develop a transparent chatbot using a knowledge base.

The city is implementing some procurement practices to make it easier for start-ups to work with the municipality, such as having a fast-track process for small contracts.

Mr. Thoeye is also the Tech Lead at Open & Agile Smart Cities (OASC), where he promotes the use of Minimal Interoperability Mechanisms (MIMs) as the sufficient ground for interoperability for cities and companies when procuring and using digital tools and systems.

MIMs are the mechanisms that allow to establish a minimal yet sufficient interoperability between systems in order to create value.

The speaker presented the use case of a person traveling abroad to another city and downloading the local app to get around and purchase the public transport tickets. The traveller already had downloaded that app, but it only works in his local area because the apps cannot exchange information. The traveller then downloads the app again, but his usual payment method is not accepted, as the two applications do not know how to exchange information. The interoperability would allow these services to work together and share information seamlessly, without any extra effort for the end-user.

MIMs aim to define a common language and standards for achieving interoperability between different IT systems and services used by cities and public authorities, **without the need for full integration and with a considerable reduction of costs.**

Why is interoperability not happening?

- Service providers have an **incentive to inhibit** interoperability
- Public sector actors are bound to **procurement regulations**
- Public sector workers lack the **know-how** to assess interoperability requirements
- This naturally leads to a **scattered ICT** landscape
- Integration (IT services) costs amount to **almost half** of the total IT budget
- This stops interoperable projects in its tracks

The speaker highlighted that only minimal data need to be exchanged. The public sector does have sufficient leverage to introduce interoperability clauses into procurement contracts. **Many procurers face the same issues, and know-how can be pooled.**

The MIMs framework includes defining objectives, capabilities, and technical requirements for different domains of interoperability, like context information management, as well as identifying specific standards and mechanisms that can be used to achieve these goals. The MIMs are developed through a community-driven governance process involving public sector participants.

MIMs governance levels

Nobody owns the MIMs.

The MIMs propose objectives for interoperability globally, while the MIMs Plus do this in a European context. Hence, the individual MIM working groups call on these communities to develop the respective MIMs together. This means that both OASC members and Living-in.EU technical working group members are eligible to be part of the MIMs working groups.

The results of these working groups are brought to the OASC Tech Council/Living-in.EU technical working group for input/validated.

Each MIMs/MIMs Plus version has to be approved by the communities' governing bodies (OASC Council of Cities/Living-in.EU Steering board) for publishing.

Code of conduct

- All work is done in **public** (e.g. reports, request for change and memberships are visible for anyone at anytime)
- **Cities and communities** are the driving force, and thus hold the final right to sign off on the final MIM spec. Major and minor releases are ratified by the council of cities.
- Every member of the working group have **equal rights** and voting rights.
- OASC only has a purely **supportive** role. The technology council and tech leads of the working groups do not take decisions.
- OASC Members and Living-in.EU technical working group members can request joining a working group by contacting OASC. They may be asked to express their relevance to the MIM working group. A request to be removed from a working group is done by contacting the working group lead.

Each MIM identifies an area where we should strive for interoperable mechanisms. The community has so far defined 10 different MIMs that can fit into 3 overarching categories. MIM2 is, though, an overarching MIM that governs the use of data models and is applicable for each category.

Interaction

MIM1 - Context Information Management

MIM3 – Contracts – Ecosystem Transaction Management

MIM7 – Places – Geospatial Information Management

Integrity

MIM4 - Trust – Personal Data Management

MIM5 – Transparency – Fair Artificial Intelligence

MIM6 – Security – Security Management

Impact

MIM8 – Indicators – Ecosystem Indicator Management

MIM9 – Analytics – Data Analytics Management

MIM10 – Resources – Resource Impact Assessment

6.5 Panel discussion: How to overcome challenges that innovative start-ups and SMEs face trying to access the public procurement market

The objective of this panel was to discuss the importance of engaging with and bringing tangible benefits to the citizens with the adoption of innovation by the public sector.

During this session, we were joined by representatives from different Horizon Europe-funded projects:

- **Philip Piatkiewicz**, Adra Secretary-General, moderated the discussion
- **Renske Martijnse-Hartikka**, Coordinator Pre-Commercial Procurement projects SPACE4Cities and FABULOS (Forum Virium Helsinki)
- **Giovanni Sileno**, Assistant professor at UvA, member of the socially intelligent artificial systems (SIAS) research group Partner of the CommuniCity Horizon project

In the original agenda of this panel discussion, we could also find **Sophie Meszaros**, Project Manager and Research Advisor at Open and Agile Smart Cities (OASC) and **Niels Wiersma**, representative of the Central Supernode in the Netherlands for the CitCom.ai project (Digital Europe-funded). Unfortunately, they could not finally attend this session due to unforeseen personal circumstances.

It was thus decided, together with the moderator and the remaining panelists, to organise an open discussion with all the attendees, with a focus on how to define and then overcome the digital, urban and social challenges by developing innovative technical solutions.

Giovanni Sileno presented insights from the CommuniCity Horizon Europe project, which involves 100 pilots across European cities aimed at innovation with marginalized communities. He emphasized the importance of distinguishing between different levels of co-design:

- **Co-design for**: Service improvement. The communities are just the end users, so at max they can assist in order to finetune some existing product. The co-design in this level is relative because they are truly just helping the tech company into the adaptation component. The problem has been set, the solution has been set: the tech company is only fine tuning.
- **Co-design with**: The problem has been set, but there is a certain level of participation of the community in the design of the solution.
- **Co-design by**: Community-defined problems. This is the most complicated level and it usually generates a lot of tension: whenever there is a public procurement, it means that any level of government is involved and this automatically generates mistrust within the marginalized communities. The tenderer would like to be sure that something is going to be delivered eventually, but the marginalized communities sometimes are not aware of the actual problem that they have.

In general, cities are targeting first the tech provider and are putting all the effort on the last phase of the pipeline, on the production level. However, if tenderers deliver a service or a product that nobody is using, then there is a reflection to be done on a more effective way of using the funds.

Strategically, Mr. Sileno considers that **the "co-design by" might become more frequent in the future for societal sustainability reasons**, as most answers still need to be given on the local level.

The CommuniCity project is currently facing the third phase of the pilots, after having been running for a couple of years, and it has been already understood that the piloting is only working well so far for the lowest level of participation, the “co-design for”. The discussion within the project is whether the piloting should be used to fund the problem definition (co-design by) rather than funding only the final production of the solution to a problem that might not be the real issue of the marginalized group.

From Mr. Sileno’s point of view, the resources that are needed to discuss with the marginalized communities are being overlooked and are not being considered as part of the public procurement process. The costs that need to be put into this initial phase of working with the communities also require funding.

Tech providers should differentiate themselves not looking at the technology only as a commodity, but as something that requires interacting with people. This is an expertise which needs to be built up also by companies in order to understand how to work in this interface part as, without this phase, the tech provider might not get the real need of the marginalized community.

Participants shared experiences in which the “co-design by” cannot be implemented for security reasons or because there are no civil society associations to act as intermediaries of the communities. Ricardo Herranz, CEO of Nommon Solutions and Technologies, explained that his SME tried other passive observation mechanisms when deploying transportation solutions in some areas of Brazil and Colombia, as performing travel surveys would have been too dangerous. From Mr. Herranz’s viewpoint, it is more a matter of natural experimentation: tech companies deploy solutions without the participation of end users at a small scale, and then they monitor the people’s response.

The conversation also shifted to the fact that certain centralised technologies are less flexible and generate more suspicious moments among the population. Centralisation might be more efficient, but then there might be other problems returning from the solution. **Flexibility and adaptability of the technical solution is to be maintained during the whole process**, particularly if there are fairness issues to be rapidly adjusted. If some technical solutions go systematically against a certain population, the level of social acceptance will decrease and the tech companies might face legal issues.

Finally, participants agreed that **other ways to better analyse and document EU-funded projects failures shall be explored for future learning**, especially to inform the development of the new programmes. The projects’ reports contain a huge amount of valuable information, but if the failures were analysed into detail, the policy-makers would be able to extract some useful insights.

The meeting concluded with a discussion about potential next steps, including the **possibility of continuing the conversation within the existing Adra Mobility and Smart Urban Places topic group**, chaired by Margriet Schijndel, Program director Responsible Mobility at the Technische Universiteit Eindhoven.

7. Participation

The venue had a maximum capacity of 40 people. The registration opened on the 11th November 2024 and closed on the 3rd February 2025. Registration was free of charge, but it was mandatory.

Registrations were closely monitored from the early stages. All registrants were contacted regularly to keep them engaged with more specific information about the agenda details, speakers, and practical information, so that they could easily plan their trips to the workshop's location.

The final number of registered participants was 44: 20 SMEs, 10 universities and research institutes, 8 NGOs and professional associations, 5 governmental and 1 incubator. However, only 20 participants finally made it to the venue: 9 SMEs, 4 universities and research institutes, 4 governmental, 3 NGOs and professional associations.

Some of them communicated the previous days that they were unable to attend, and thus we could adjust the catering accordingly.

To end on a positive note regarding the participation, the small number of attendees allowed a very meaningful audience engagement, and there were also ample networking opportunities for them throughout the event.

The attendees have received the presentations of the speakers and the pictures of the workshop, and many of them have come back spontaneously with very positive feedback and asking to keep them posted on the possible upcoming events.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8. Key takeaways from the workshop

How to accelerate the adoption of innovation by the public sector

Local governments can use the lever of their purchasing power to promote innovation, sustainability or other strategic policy goals in their cities.

The City of Haarlem (Netherlands) coordinates the EU Urban Agenda Partnership on Innovative and Responsible Public Procurement, which has implemented a guidance toolkit to implement public procurement strategy and provides, free of charge, e-Learning modules on innovative procurement and procurement of innovation for other European cities and organisations.

To accelerate the growth of highly innovative start-ups and SMEs and in order to create an environment that stimulates resources and talents, the City of Haarlem created an Innovation Procurement Brokerage platform, driving innovation demand through innovation public procurement.

Innovation-oriented procurement stimulates the market to develop and deliver innovative solutions. With the support of the European Innovation Council, start-ups helped to address local challenges such as prevention of the food waste, or circularity of the waste containers.

Pre-Commercial Procurement implemented by cities

The main **benefits** of the Pre-Commercial Procurement are the following:

- Early close collaboration between public authorities and suppliers:
  - ✓ Address future European markets and needs of European cities
  - ✓ Development of solutions towards concrete public sector needs

- ✓ The procuring partners are in the driver's seat
- ✓ In the end you have several different solutions to your challenge

- New opportunities for suppliers through collaboration/competition with other suppliers
- New opportunities for procurers through collaboration with other public sector organisations
- Supported field testing opportunities which can be referenced for further commercialization
- The IPRs generated in the project are retained by supplier, such as solution, data & results IPRs
- The buyers' group has the right to access and exploit the results on a royalty-free basis after the end of the PCP (case-by-case agreements)

The main **challenges** of the Pre-Commercial Procurement are the following:

- Need to be radically innovative and difficulty to evaluate innovativeness
- Rigidity: changing criteria during the process only possible to very limited extent
- PCP has great potential but it is still quite an unknown tool for many: lack of knowledge at authorities, companies and even EC
- Follow-up is hard: difficult to pressure companies to commercialise quickly after end project

How CitCom.AI offers support to AI innovators

Artificial Intelligence opens doors to a promising future in addressing societal challenges. However, the key to success lies on the right design, one that complies both with legal and ethical frameworks.

The CitCom.ai project and the other Testing and Experimentation Facilities (TEFs) can contribute to find the right balance between regulation and the encouragement of cutting-edge innovation. TEFs can contribute to comply with regulation and also act as catalysts for a future of groundbreaking possibilities.

The successful deployment of the CitCom.ai project and the solutions developed through it could have a significant impact on the optimization of urban mobility and the use of public space in cities across Europe.

Scaling digital solutions with Minimal Interoperability Mechanisms (MIMs)

The MIMs approach can help reduce the high costs associated with integrating disparate IT systems, and enable easier sharing and reuse of data and services across different organizations and technologies.

The OASC has a governance model to develop these MIMs in a community-driven way, involving public sector organizations and technical experts.

The latest MIMs framework focuses on collecting interoperability guidance and solutions and can identify foundational data management capabilities and application-specific interoperability challenges.

How to overcome challenges that innovative start-ups and SMEs face trying to access the public procurement market

There are tensions between streamlined procurement processes and the need for deeper community engagement, particularly with marginalized groups.

The community for whom the solution is developed should be involved from the very beginning and at each stage, including the implementation and evaluation stages. If there is no contact with the

community for whom the solution is developed, there should be collaboration with intermediaries, such as civil society associations working with the community.

It is important to maintain flexibility in project implementation, correcting systemic inequities, and overcoming systematic discrimination in a given community.

The current EU-funded projects reporting is not really acknowledging the projects' failures for future learning.

9. Conclusions

Task 4.3 has a main goal which is to support the innovation-friendly procurement outlined by the European Commission's SME strategy.

The second edition of the procurement workshops showed how local authorities are extremely well-suited to procure innovation friendly, however, there are still ample opportunities to incorporate innovation friendliness into their procurement practices, allowing demand and supply side to interact, while promoting demand-driven co-creation for the benefit of local public services, innovative start-ups and SMEs, and citizens.

The workshop explored the territory of EC instruments like the Pre-Commercial Procurement and the Testing and Experimentation Facilities, and how they can foster collaboration between public procurers and innovative companies and create a strong ecosystem to navigate AI innovators past technical, business and legal barriers.

The need to rethink conventional approaches to procurement and to place negotiation at the centre was emphasized as the most effective way to overcome the remaining barriers and incentivise the public sector to become a more innovation friendly buyer.

The main takeaways of this workshop might be discussed by the experts of the Adra Mobility and Smart Urban Places topic group and could have a far-reaching impact within the ADR community.