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Co-chair European “Local Digital Twins” Task Group
Chair, Danish Standards Committee on SSCC (ISO/TC 268, ITU/SG 20)

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OPEN & AGILE SMART CITIES

DTU

What is Fair AI MIM?

MIM 5 will provide the technical capabilities required to check that the algorithmic systems offered by suppliers comply with the requirements for fairness, trustworthiness and transparency identified by Amsterdam and by other checklists and standards.

The Standard Clauses define the term "Algorithmic System" as follows:

"software that automatically makes predictions, makes decisions and/or gives advice by using data analysis, statistics and/or self-learning logic."

In short …

MIM5 is aimed at providing technical tools to support procurement of **fair and transparent AI** based on work done by Amsterdam

The new structure for MIMs

Objective: The first section of any MIM should be a short description of the desired outcome of the implementation of a particular MIM, typically two or three sentences in length.

Capabilities; The Capabilities section should provide a short description of what the MIM needs to deliver to enable the objective to be achieved.

Requirements; This is the key section of the MIM, where the requirements needed to comply with that MIM are listed. It should provide a description of the set of processes needed to enable the capabilities required in a MIM to be achieved. These should be clear and specific enough to enable compliance with the MIM to be tested.

Mechanism; The Mechanisms section should provide a description of how each of one or more alternate sets of tried and tested technical solutions can deliver the requirements covered in the MIM. These may be taken from technical specifications, formal standards documentation or may be drawn from emerging or de facto standards.

Interoperability mechanisms; This section should provide a description of mechanisms that can enable a level of interoperability between different sets of specifications. This may well also include requirements that need to be complied with as part of the MIM to ensure that whatever set of specifications are used, there is at least a basic level of interoperability with systems that use a different set of specifications to comply with the MIM.

Conformance and Compliance testing: Here information will be provided to help cities and communities check and industry that their implementations and products and services conform to the MIM.

Key points

- The Capabilities can be seen as “Business” Requirements ie they are the requirements to ensure that the “business” of the city or community can be carried out
- The Requirements cover the Functional and Quality Requirements, ie what are the functions and quality levels that are needed to deliver the business requirements
- The Capabilities should be derived from the Objectives, the Requirements should be derived from the Capabilities, and the Mechanism should show how the requirements are being met

Let’s consider MIM5

Current Objective

MIM 5 will provide the technical capabilities required to check that the algorithmic systems offered by suppliers comply with the requirements for fairness, trustworthiness and transparency identified by Amsterdam and by other checklists and standards.

Current Capabilities

Technical resources to enable cities to check the set of six minimal requirements from Amsterdam for suppliers of algorithmic systems to ensure that these are fair, trustworthy and transparent.

- **Procedural Transparency**
- **Technical Transparency**
- **Technical Explainability**
- **Fairness**
- **Context**
- **Accountability**

Procedural Transparency

Full disclosure of the type of choices made, parties involved, risks and mitigation actions in the process of creating an algorithmic model.

Technical Transparency

- Full disclosure to allow the buyer of the source code and model to explain the model to citizens or other stakeholders.
- Access to the learnings of the model, ideally structured using MIM2, to prevent vendor lock-ins.
- Clarity about the process by which an algorithmic system makes decisions in an overall system, i.e. the optimisation goals and outcomes of an algorithm.

Technical Explainability

- Ability to explain on an individual level how a model creates certain outcomes.
- Ability to address any restrictions as to whom the information will be classified: public servants, other experts, etc

Fairness

Ensuring that the algorithmic systems does not systematically disadvantage, show bias against, or even discriminate against, different social groups and demographics.

Context

The assessment of fairness depends on facts, events, and goals, and therefore has to be understood as situation or task-specific and necessarily addressed within the scope of practice.

For instance, there may be an explicit goal to address an historic imbalance, where positive discrimination is considered appropriate. Here the aspect of “fairness” needs to be seen in the wider context.

Accountability

- Accountability for the supplier to create algorithms that respect human digital rights, and that are compliant with national and local anti-discrimination laws and regulations.
- Agencies should not procure algorithms that are shielded from an independent validation and public review because of trade-secret or confidentiality claims.

Notes

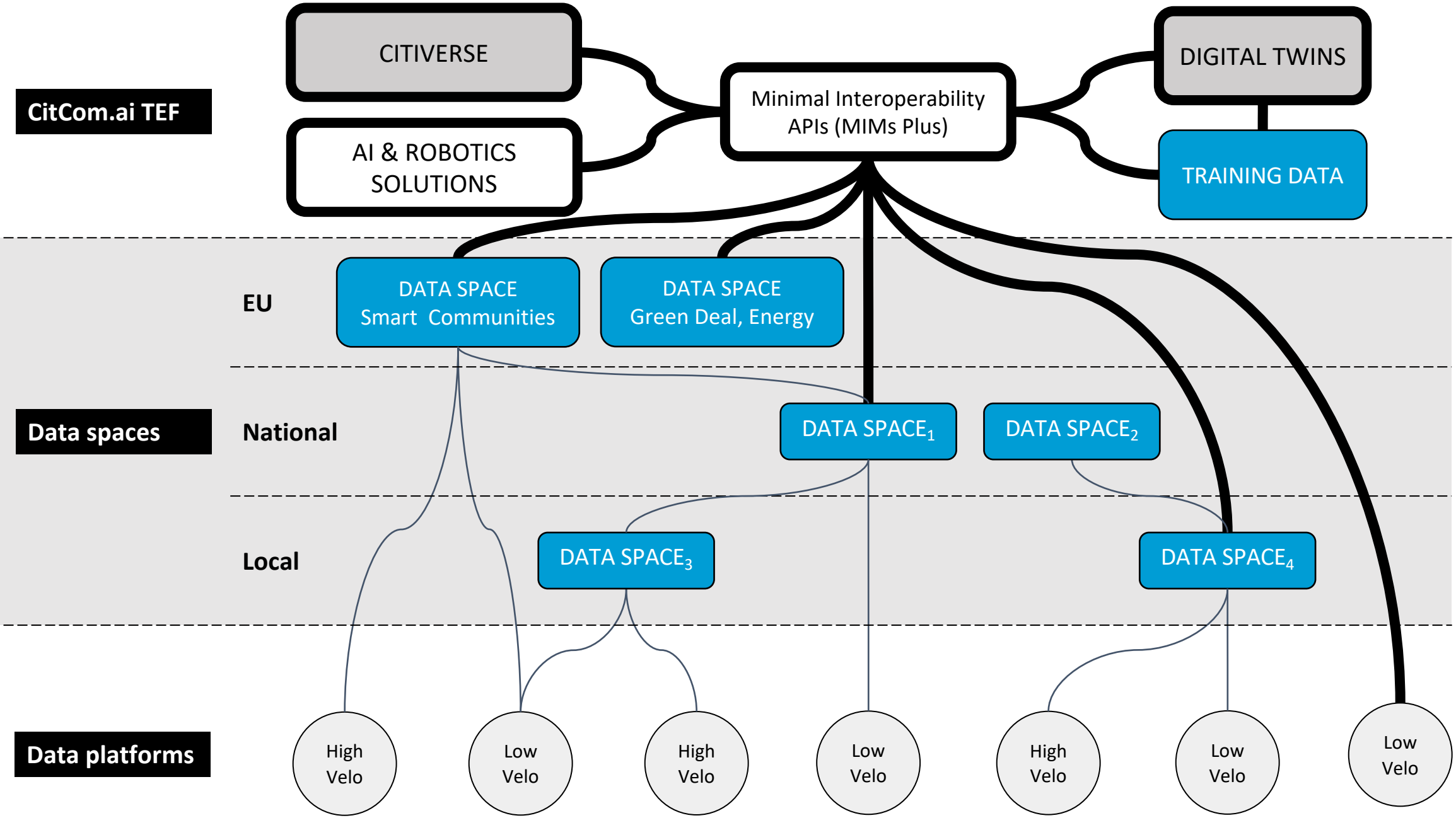
- It should be noted that these capabilities should be applied differently to different systems depending on the nature, context and goals of the algorithmic system.
- Technically, these capabilities can be translated into a metadata API that every vendor would provide, when supplying high impact algorithms to cities, and the buyers could put in their requirements when procuring.

Current scope

Identify/ develop a set of APIs that enable any potential algorithmic decision-making system to be queried as to:

1. Does the system use AI/ automated decision making?
    a. Yes/no,
    b. Which level?
    c. What schema is being used
2. What does the algorithms do?
    a. List of algorithms
    b. What schema is being used
3. Who certified this claim?
    a. Link to the certification based on a Registry of certified algorithms

And to enable the claim to be checked by comparing the results from the use of the system with the results from a known system (for instance with human decision making) to ensure the results are accurate. Here the APIs need to check both the data sets being used and the algorithms.


CitCom.ai TEF
CITIVERSE
AI & ROBOTICS SOLUTIONS
Minimal Interoperability APIs (MIMs Plus)
DIGITAL TWINS
TRAINING DATA
Data spaces
EU
National
Local
DATA SPACE Smart Communities
DATA SPACE Green Deal, Energy
DATA SPACE1
DATA SPACE2
DATA SPACE3
DATA SPACE4
Data platforms
High Velo
Low Velo
High Velo
Low Velo
High Velo
Low Velo
Low Velo

Digital Europe – Living-in.EU

Interoperable Europe Act

SMART & SUSTAINABLE CITIES

Phase 1 (22 Feb 2022) | Phase 2 (Q2 2022) | Phase 3 (Q1 2023) | Phase 4 (Q2 2023)

Go Li.EU
Living-in.EU Governance
CSA (2m€)

Citiverse (15 + 15m€)

#1 LDT Toolbox Tech Specs (2m€/3 mo)

#2 LDT conformance 7,5m€

#3 Connected Local Digital Twins in the EU

DS4SSCC – Data Space for Smart Communities (prep)
CSA (1m€)

DS4SSCC DEP – Data Space for Smart Communities
Deployment action (3 + 15 + 15m€)

EDIH
European Digital Innovation Hubs
CSA (2-4x 5m€)

CitCom.ai
AI Testing & Experimentation Facility for SCC
Deployment action (20m€ + 20m€)

CommuniCity – 100 AI and tech pilots > XR (Citiverse)
Horizon CSA (5m€)

Desire – An Irresistible Circular Society (New European Bauhaus Lighthouse)
Horizon IA (5m€) – linked to **DigiNEB CSA**

NET ZERO CITIES
EU MISSION PLATFORM
CLIMATE NEUTRAL AND SMART CITIES

CommuniCity

Innovative Solutions Responding to the Needs of Cities & Communities

This project has received funding from the European Union's Horizon Europe research and innovation action HORIZON-CSA under the grant agreement No 101070325 (Communicity).

CommuniCity Consortium

OPEN & AGILE SMART CITIES

UNIVERSITEIT VAN AMSTERDAM

Gemeente Amsterdam

Hogeschool van Amsterdam

DEMOS HELSINKI

FORUM VIRIUM HELSINKI

PORTO DIGITAL

Porto. Domus Social

European Network of Living Labs

CVC Centre de Visió per Computador

spi Sociedade Portuguesa de Inovação

ENGINEERING

CommuniCity

Funded by the European Union

1

CommuniCity increases the effectiveness of engagement of marginalised communities.

2

Through co-creation processes, citizens from **Amsterdam, Helsinki and Porto** take part in pilots for digital solutions that meet their needs.

CommuniCity has 3 Open Calls for Applications to support the innovation process of selected third parties through **Living-in.EU**

3

CommuniCity

Funded by the European Union

CommuniCity in a nutshell

- Start date: September 2022
- End date: September 2025
- Call type: Horizon Europe (CSA)
- Project number: 101070325
- Partners: 12 organisations from NL, BE, FI, PT, ES, IT
- Coordinators: Open Agile Smart Cities - OASC

Funded by
the European Union

Shared technical components and tools

- Prepare EU for emerging technologies, especially **AI and XR** (Virtual and Augmented Reality)
- Minimal Interoperability Mechanisms (MIMs Plus), a set of practical capabilities based on open technical specifications that allow cities and communities to replicate and scale solutions globally. Focus on AI (**Fair AI MIM**).
- Virtual **learning labs**

Funded by the European Union

Open Calls

CommuniCity

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the European Union

CommuniCity Open Calls for Applications

- Contribute to accomplishing CommuniCity's goals
- 3 rounds of Open Calls
- In total 100 pilots
- Grants (Approx. 12,500–15,000 Euros)
- Emphasis on co-creation together with citizens
- Technology innovation (AI, XR)
- EU Green Deal targets
- Matchmaking
- Contribute to the societal, urban, technological, cultural, and economic development of Europe.

Funded by the European Union

CommuniCity Open Calls in brief

CommuniCity

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First round of Open Calls

- Amsterdam, Helsinki, and Porto
- Based on needs identified in these cities
- Each city hosts 5–6 pilots
- Each city identifies 2-4 challenges
- 12.500 euro per pilot
- Timing: 28 February–31 March 2023
- Evaluation in April
- Pilots May-September

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the European Union

Second round of Open Calls

- Amsterdam, Helsinki, and Porto + 4 extra cities
- Each city hosts 5 pilots
- Each city identifies 2-4 challenges
- Approx. 12,500 euro per pilot
- To be published on September 2023
- Challenges chosen by June 2023
- Training workshop for the cities in June 2023 in Porto
- Pilots Dec 2023–May 2024

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Third round of Open Calls

- Organized by Open and Agile Smart Cities
- Number of cities to be decided
- Around 48 pilots
- Number of challenges to be decided
- Approx. 12.500–15.000 euro per pilot
- To be published on September 2024
- Challenges chosen by June 2024
- Training workshop for the cities in June 2024
- Pilots December 2024–May 2025

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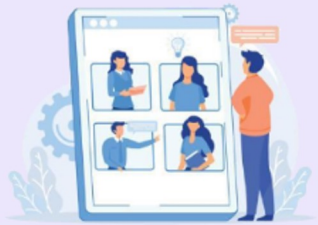
The First Open Call



The First CommuniCity Open Call has started!
Submit your application now!

February 28-March 31

CHECK THE GUIDELINES

Amsterdam

Helsinki

Porto

CommuniCity

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City Challenges - Amsterdam

- Solutions for non-Dutch speakers
- Accessible healthcare information
- Opportunities for young citizens who have been in contact with the law
- “Wildcard”

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City Challenges - Helsinki

- Solutions to support learning of digital and societal skills through means that do not require (Finnish) language skills.
- Solutions to support long-term unemployed citizens with little digital abilities to integrate into Finnish society.
- Virtual technologies to enhance social interactions and to develop digital skills of intellectually disabled citizens.
- Technologies offering a reliable and scalable solution that increases safety and wellbeing of the homecare clients.

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City Challenges – Porto

- Solutions to decrease social isolation of the elderly, promoting interaction, social stimulation and emotional support.

- Solutions to enable overcoming the reduced physical and mental capabilities of the elderly, increasing autonomy.

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Join!

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Why should cities join?

- To gain knowledge and experience on co-creation with marginalised groups.
- Boost engagement of marginalised groups and associations in your city.
- Promote tech development for the benefit of marginalised groups in your city.
- Possibility to use CommuniCity technical components and tools.
- Receive guidelines for successful Open Call and piloting process.
- Possibility to replicate solutions developed in other cities.

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Next Steps

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Next Steps

If you are interested in participating:

- Stay at the end of the webinar and plan a meeting with one of us right away
- Send an e-mail to josephine@oasc.org

If you are interested in following the project:

- Sign up for the newsletter
- Follow the project on social media

Further information is available at:

Website:
https://communicity-project.eu

Instagram:
www.instagram.com/communi_city/

Twitter:
twitter.com/communi_city

LinkedIn
www.linkedin.com/communicity

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Q&A

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Thank you!

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