

Deep Dive Session 'Engaging Stakeholders in the CitiVerse'

Four EU co-funded CitiVerse projects

Introduction 4 CitiVerse projects

Arnaud Verstraete, OASC

CitiVerse definitions

European Commission:

“The Citiverse is a series of interconnected and distributed hybrid and virtual worlds representing, and synchronized with, their physical counterparts. It offers new (administrative, economic, social, policy-making, and cultural) virtual goods, services, and capabilities to city and community actors (e.g., citizens) represented as digital avatars.”

International Telecommunication Union (ITU):

“A living digital ecosystem merging physical and virtual spaces, powered by AI, digital twins, blockchain, and virtual reality. Designed to be inclusive, accessible, and sustainable, facilitating innovation, civic participation, and the integration of urban systems.”

4 CitiVerse projects

What is the CitiVerse?

- LDT
- immersive
- interactive
- interconnected

4 projects, co-funded by EU (Digital Europe)

- Similar timing and budget
- Collaboration on communication and technical solutions



Speakers 4 CitiVerse projects



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Engaging stakeholders in 3DxVERSE

Harm Jan Arendshorst
iLabs



3DxVERSE

3DxVERSE harnesses the power of Digital Twins to promote sustainable communities.

By integrating interoperable Digital Twins with advanced technologies like AI and XR/VR, the project aims to build an inclusive, environmentally conscious digital economy and society, in collaboration with global partners and in support of the 2030 Sustainable Development Goals.



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3DxVERSE and nLDT Use Case driven Testbeds

Jointly developing components of an interoperable Digital Twin

3DxVERSE & NL Testbed 2 Stakeholders Engagement



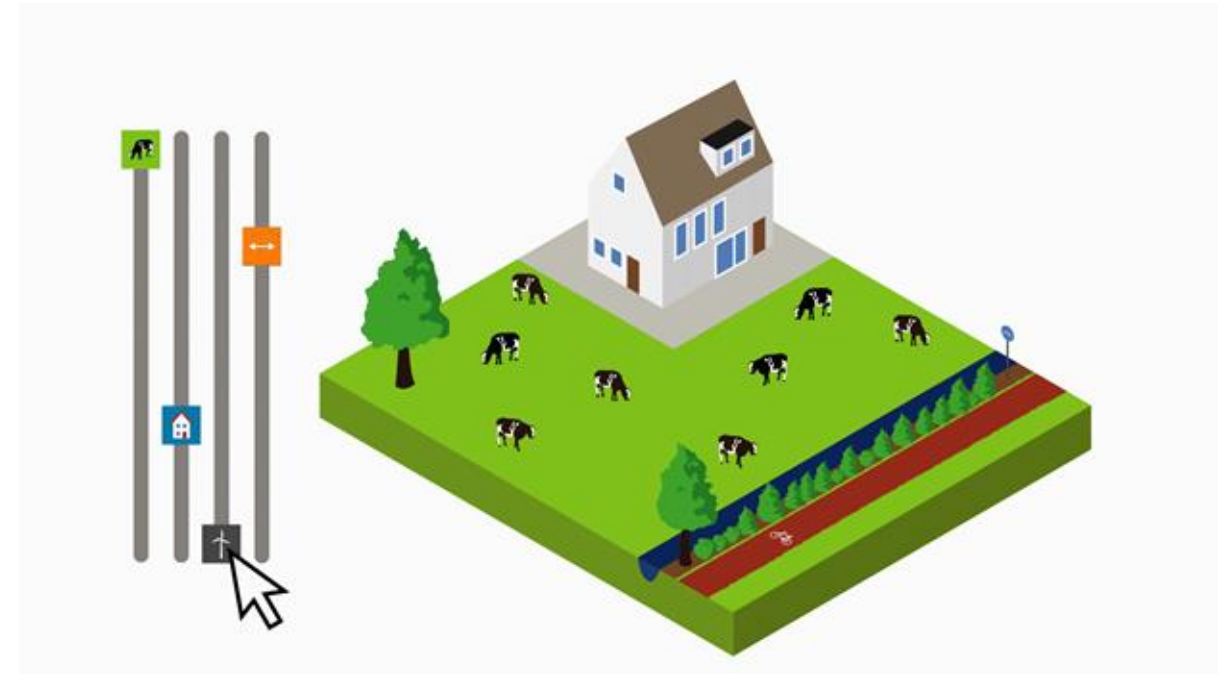
3DxVERSE Stakeholder Engagement to develop Local Digital Twins

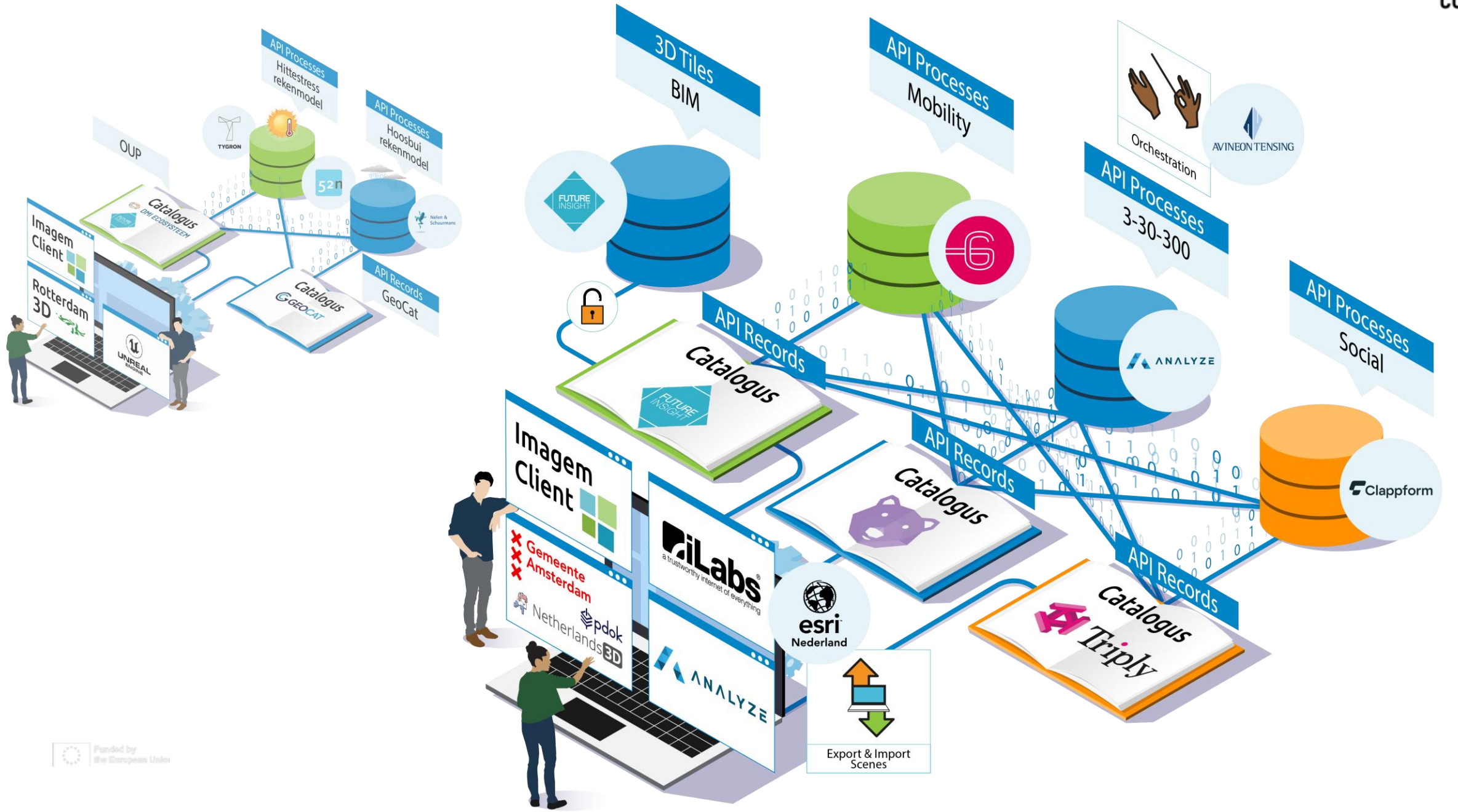
3DxVERSE has an Impact based development framework to develop sustainable cities for all!

Prevent silo'd LDT's, encourage collaboration!

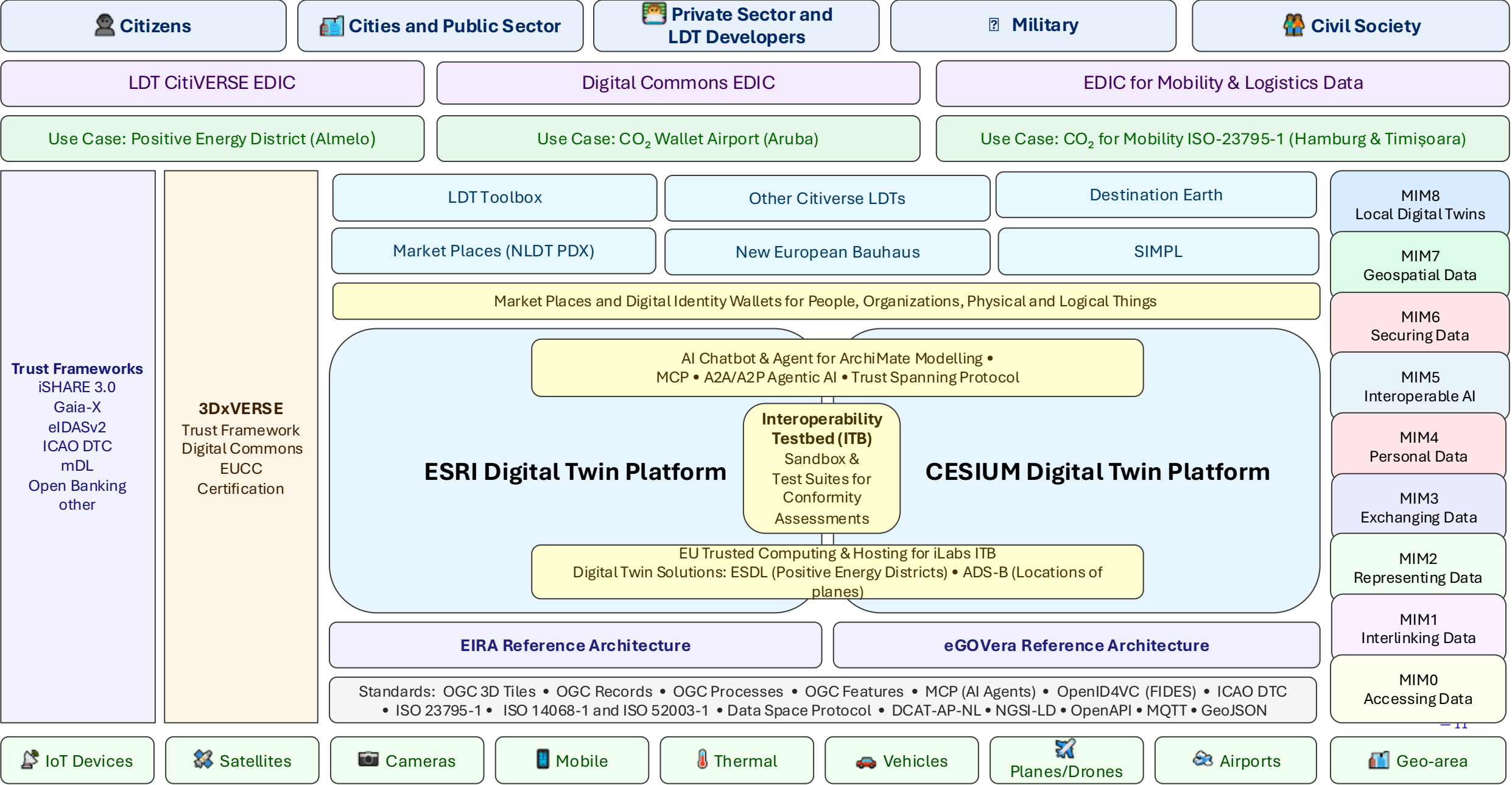


Create Future Sustainable Travel and Living Digital Twins





3DxVERSE Stakeholder Engagement — Dual-Stack Reference Architecture Local Digital Twins



Engaging stakeholders in x-CITE

Arnaud Verstraete
OASC



Communication & Stakeholder Engagement



x-CITE communication guidelines?

- **Keep it Simple!**
 - 10-year-old
- **Relevant**
 - What's in it for me (the audience)
 - Visual
 - Human
 - Interactive
- **Use storytelling**



Compare...

The Flanders use case focuses on environment effects reporting. Flanders will allow for new ways of engaging government, experts and citizens in the current fixed procedure through the use of extended digital twins with virtual world technologies. Road intensity, noise impact, air quality and visual aspects will be combined to allow citizens to visualise the alternatives and gain a better understanding of why a specific decision was made. This case will also build trust by allowing experts to view for which the algorithms and data alternatives were used. The Flemish pilot will be based on an extensive set of traffic sensors, which will lead to a better estimation of the mobility effects (by a dense geographical spread and an increased geographical scope) and a more refined analysis of the air quality effects. This will allow the necessary policy measures to be simulated, implemented, and visualised not only...

***"Leen was lost in complex environmental reports.
Now she sees how different planning options affect air quality and
noise in her street – and shares her views directly. She now feels
empowered and connected to her city."***

Information

VS

Storytelling

Stakeholder engagement

User / enabler / influencer model

Stakeholder Category	Engagement Objective	Communication Channels & Formats	Planned Engagement Activities	Feedback Mechanisms
Users (Citizens, Businesses, NGOs, Cultural Organisations)	Awareness & Participation	- Social media (LinkedIn, YouTube) and website posts - Community events & workshops - Online co-creation platforms - use of 3D videos and images	- Interactive workshops - try-outs - Innovation challenges or brainstorm - Public engagement campaigns	- Social media Q&A – website feedback form - Online discussion forums - Post event surveys



Engaging stakeholders in SENSE

Thierry Nolmans (Drees & Sommer) &
Martin Serrano (University of Galway – Insight Centre)

What is SENSE?

SENSE is a co-funded European project that helps cities create **interactive 3D Digital Twins** – virtual versions of the city that **allow citizens** and **decision-makers** to **explore, test and improve** their **urban environment** together.

SENSE helps cities become smarter, greener and more democratic by making urban planning more transparent, inclusive, and data-informed. It's about **strengthening digital sovereignty**, promoting **inclusive innovation**, and making sure every city – and every citizen – can benefit from the digital transformation.



Strengthening Cities and Enhancing Neighbourhood Sense of Belonging (SENSE) Project has received co-funding from **European Union's Digital Europe Programme** under the Grant Agreement No. **101167948**

Strengthening Cities
and
Enhancing Neighbourhood Sense of Belonging



www.senseverse.eu



The Pilots & Follower Cities

SENSE will create interconnected virtual worlds to boost citizen engagement and foster a sense of urban belonging

Led by **Frontrunner Cities** **Kiel** (Germany) and **Cartagena** (Spain) and supported by **Follower Cities** across Europe **Arezzo** (Italy), **Valongo** (Portugal), **Murcia** (Spain) and **Ulm** (Germany), the project will implement **four real-world use cases**, serving as a crucial step toward the deployment of the CitiVerse.

Dissemination in Follower Cities

An accesible pathway into the CitiVerse

- Structured guidance to adopt digital planning tools
- Practical steps toward future-ready urban workflows

Capacity building that delivers

- Online courses & In-person workshops for hands-on learning
- Train-the-trainer programs to strengthen local expertise

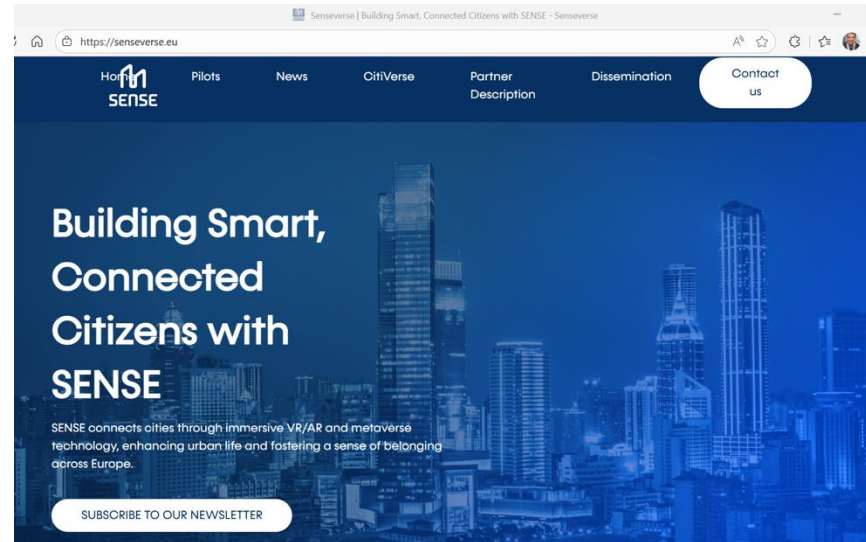
A European network of cities

- Exchange ideas, strategies, and best practices
- Compare digital readiness and accelerate knowledge transfer
- Learn tactics to overcome common urban transformation challenges

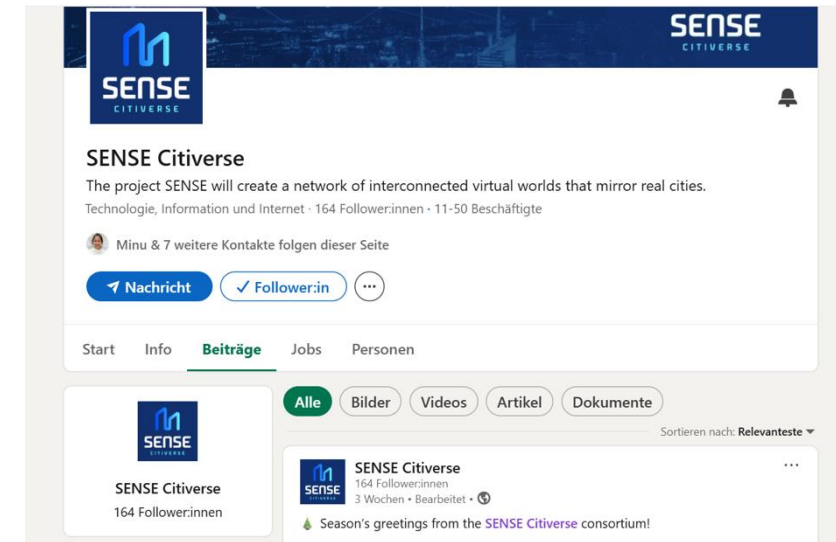


Main Channels

Project Website



LinkedIn



Furthermore project uses a **mix of online and in-person communication channels**, including **webinars**, local **workshops**, public **demonstrations**, and **co-creation events** in pilot cities, complemented by **targeted outreach** for policy or technical audiences.

SENSE Citiverse Academy

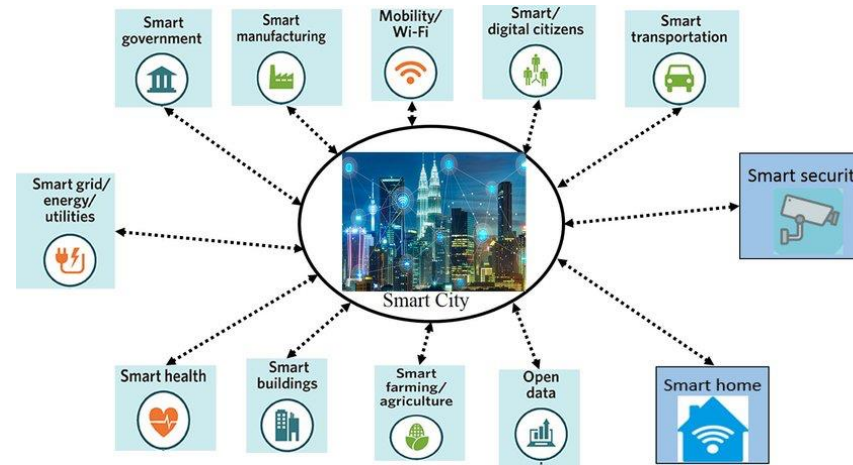
A structured **training program** on **Digital Twins**, **CitiVerse**, and **smart city interoperability** for **policymakers** and **practitioners**

5 major courses:

1. **Foundations for the Digital Transformation of Cities & Communities**
2. **Open Data & Data Governance**
3. **Citizen Co-Creation & Experimentation**
4. **Open Urban Platforms**
5. **Standards for Smart Cities & Communities**



Smart Cities and Communities



**Participate
in SENSE
Standards
being a
Follower City**

Smart City Infrastructure

Open Data and Interoperability / Interconnectivity

Smart Governance and Policy

Citizens Engagement / Participation

Smart Mobility and Transportation

Smart Solutions (Environment and Sustainability)

Smart City Landscape is a Complex Ecosystem

Pre-standardization Forum Activities

Identification of standardization gaps

Discovery of opportunities for standards organizations to leverage or align each others work

Create broad consensus on use cases and requirements

Generating reviews and feedback for draft specifications



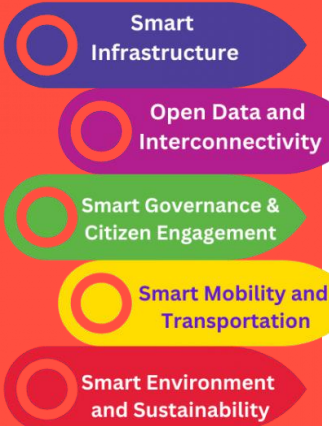
Post-standardization Forum Activities

Interoperability testing and testbeds

Development of conversion and layering tools

Publication of educational materials, reports, best practices & guidelines etc.

Diversity on Standards and Metaverse Solutions

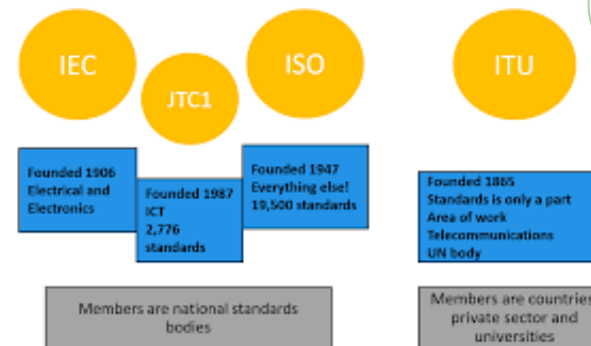
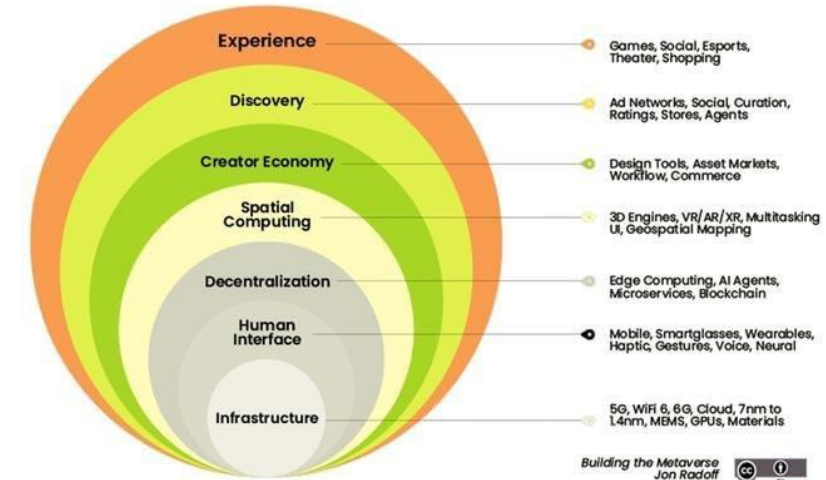


Smart City Standards



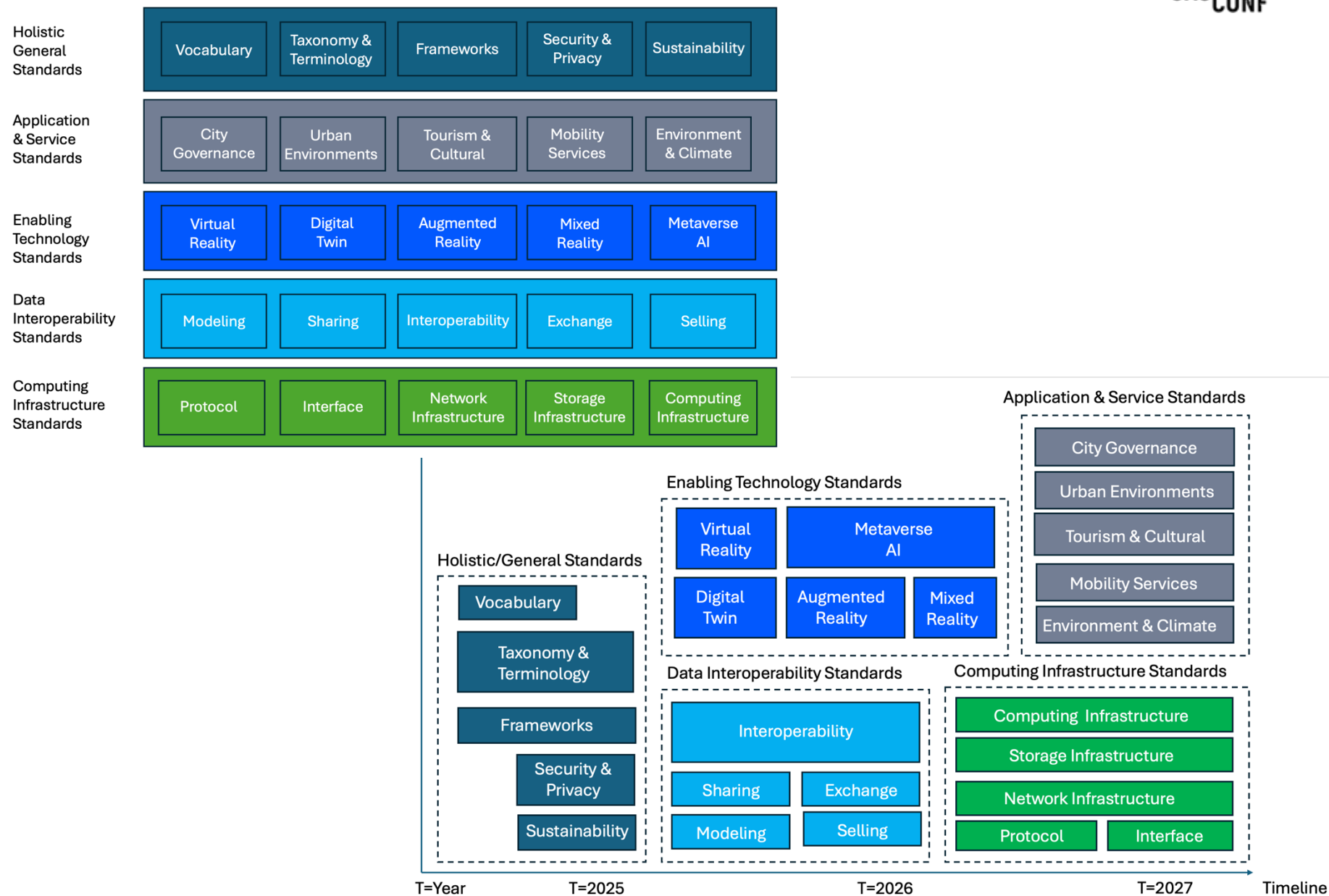
A BIRD'S EYE ICT STANDARDISATION IN SMART CITIES

The Seven Layers of the Metaverse



Holistic General Standards to Technology Standards Groups

Making SENSE of Standards for the Citiverse



SENSE Citiverse Standards for Smart Cities and Communities

Engaging stakeholders in European Citiverses Uniting for Inclusiveness

Claus Popp Larsen
RISE Research Institutes of Sweden

Co-funded by the Digital Europe



European Citiverses Uniting for Inclusiveness

Our project name tells our story:

European signifies where we operate, raising stakeholder-wide awareness.

Citiverses defines what we're building – a groundbreaking initiative developing a new digital layer in urban life, connecting people, places, and services through AI-enhanced digital twins.

Uniting describes how we work, using the methodology Universal Design to create a human-centric solution.

Inclusiveness is why we do it – setting new accessibility standards across Europe.

Beneficiaries:



XPERIENCE NEXT

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ICEBERG*



OUR
NORMAL

UNIVERSITY
OF TWENTE.



KOKOKAKA

RI
SE

VIRTUELL
DESIGN
3D VISUALIZATION STUDIO

Associated Partners: Kungälv municipality, School of Business, Economics and Law at the University of Gothenburg, Region Västra Götaland, YRGO, Digital Twin Cities Centre

The keys to a human centric approach

"Traditionally, urban planners and city developers have built environments by creating standards for the majority first and then adding adaptations as an afterthought. By applying universal design principles from the beginning, we can create environments that truly include everyone — not just in theory, but in practice."

Jenny Lindström Beijar, Founder, Our Normal Association

Universal design methodology



Electric toothbrush

Made for people with limited motorskills and orthodontic patients, the electric toothbrush is today used by many, no matter the amount of motorskills.





European Citiverses Uniting for Inclusiveness

The project prototype

A mobile first web-based solution.

An innovative and more accessible way to explore Gothenburg.

Based on unique city data.

Powered by the digital twin of Gothenburg.

AI-enhanced avatars as interactive guides.

Easy to explore, with or without guidance.

Showcase key events with real-world footage and pre-rendered content.

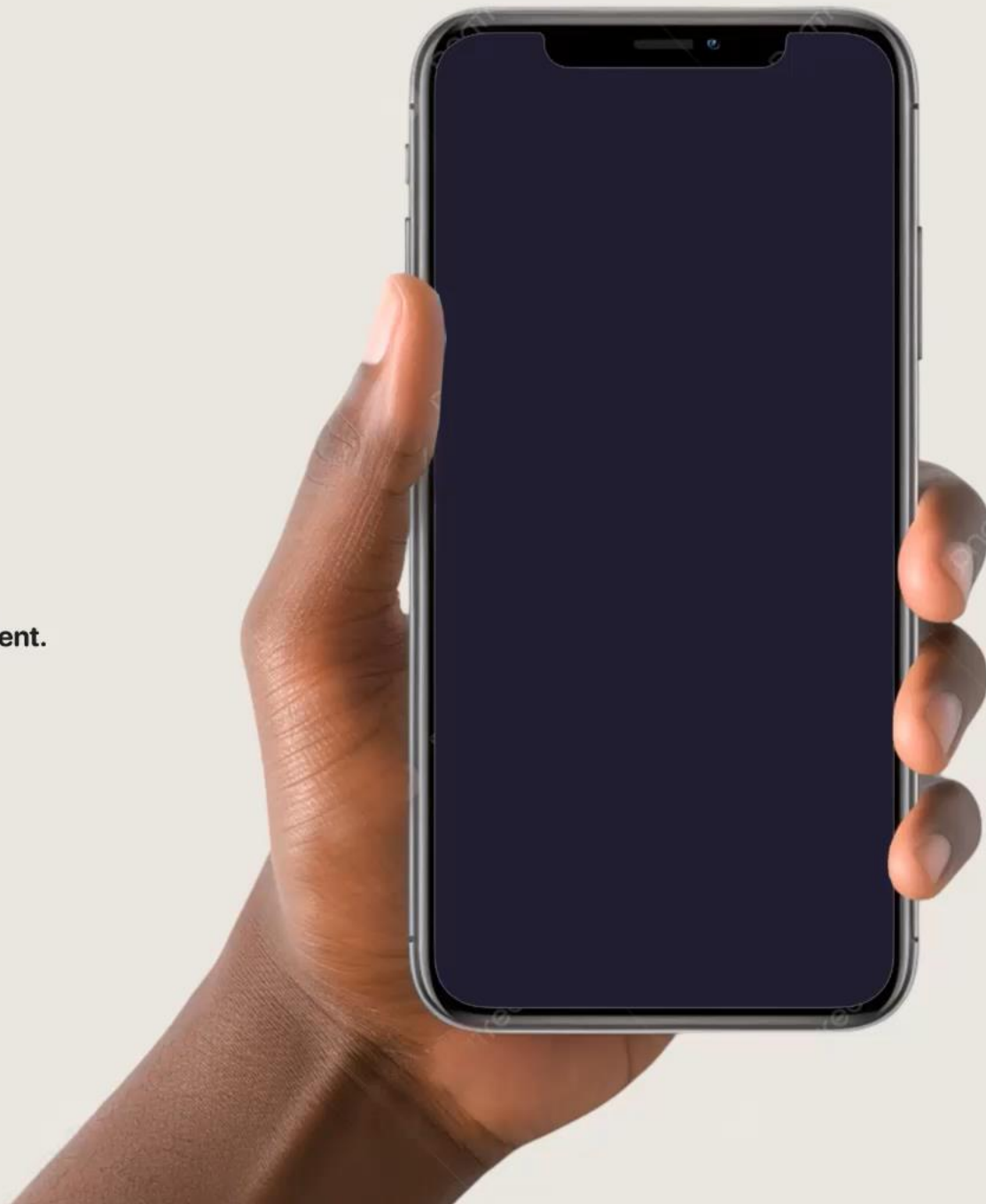
Easy access to valuable data within the 3D environment.

User-friendly navigation in a clean, structured environment.

AI-assisted search.

Intuitive wayfinding within the 3D environment.

Work in progress.



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Thank You

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