



OPENVERSE Summit Report

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EXECUTIVE SUMMARY

As the three-year OPENVERSE Coordination and Support Action (CSA) project concludes in October 2026, the OPENVERSE Summit convened on September 10, 2026, in Brussels, bringing together over 100 leaders, 27 expert speakers, and 11 project partners across research, industry, creative practices, and policymaking. The summit addressed a critical strategic challenge: counterbalancing closed, proprietary global platform dominance by building an open, interoperable, human-centric, and sustainable European ecosystem for Virtual Worlds and spatial computing.

Using foresight methodologies, multi-stakeholder panel discussions, standardisation mapping, and interactive participant consultations, the summit validated **Roadmap 2.0 (Horizon 2030–2040)** and defined actionable mechanisms to safeguard European digital sovereignty. The OPENVERSE project partners presented the tools they developed which will hopefully remain after the completion of the project.

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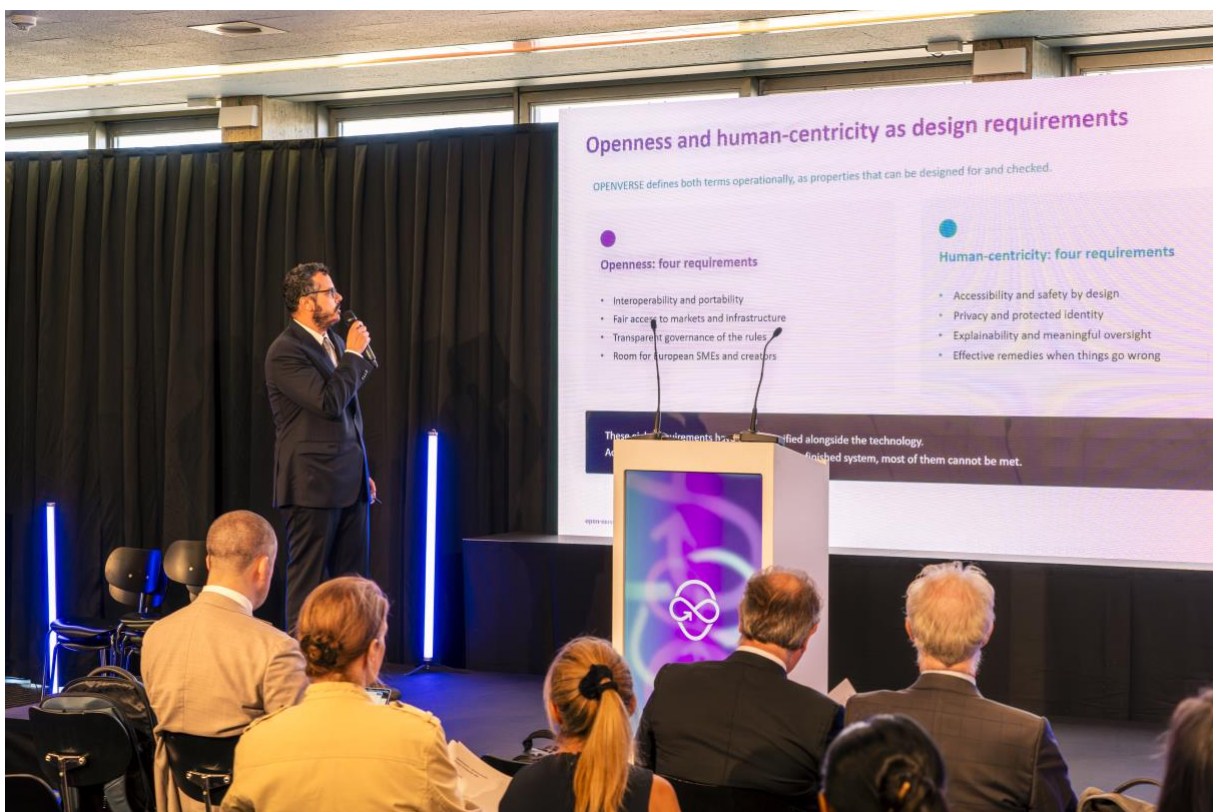
1 INTRODUCTION

BACKGROUND

After three years of pioneering work on open, human-centric, and sustainable Virtual Worlds across Europe, the OPENVERSE CSA is reaching its grand finale at the end of October 2026. To mark this milestone, the project hosted its final event: the OPENVERSE Summit—on September 10 in Brussels. Over 100 participants gathered at ALBERT, a venue featuring panoramic views of the city, to chart the future of European Virtual Worlds. Supported by 11 project partners, the high-energy event featured 27 expert speakers across six thematic sessions, along with a dynamic exhibition space showcasing groundbreaking solutions from partners and cutting-edge SMEs.

OBJECTIVES

Under the theme **“Open and Co-Created Virtual Worlds for Europe,”** the one-day OPENVERSE summit delivered seven thematic sessions aimed at driving concrete outcomes for Europe’s digital transformation across industry, research, culture, education, public services, and climate resilience. In response to global markets dominated by closed, proprietary platforms, the summit’s core objective was to advance a future-proof European vision grounded in openness, interoperability, human-centric design, trust, and strategic autonomy.



2 KEYNOTE SPEECH

"We must turn our values into competitiveness strengths. We need to make sure that the virtual worlds of tomorrow are not only technologically advanced but open, interoperable, sustainable."

Anne Bajart, Deputy Head of Unit at the European Commission, OPENVERSE Summit, 10th September 2026.

Navigating the Technological Transition

Addressing the summit, Bajart framed the transition toward virtual worlds not as a speculative future, but as an inevitable shift that Europe must actively shape.

"We are really heading through this technological transition. It is not something that we will be able to avoid, this is coming. So, the question is really not whether this will happen, but more how this is going to happen and what we can do to make sure that it happens the way we want it to happen."

While Europe possesses world-class research institutions, creative industries, and a vibrant startup ecosystem, the landscape remains significantly fragmented across sectors, technologies, and borders. Overcoming this fragmentation requires building a unified, resilient European ecosystem anchored in the four key pillars of the EU strategy: skills and citizens, industrial support, public administration applications, and global governance.

EU Values as a Competitive Advantage

Rather than viewing regulatory and ethical frameworks as restrictive, the European Commission views them as a core market differentiator. Security, privacy, and trust are fundamental to user adoption and sustainable growth.

"Let's never forget that this is the way we do it, and we do it differently from most of the rest of the world. We don't see it as a handicap; we see it as an advantage for competitiveness... People can be confident that this is something that is going to help them and not steal their data or do something that could harm them."

By aligning technological developments with fundamental rights, Europe aims to pioneer virtual environments that are simultaneously innovative, human-centric, competitive, ambitious, and inclusive.

Anne Bajart, Deputy Head of Unit at the European Commission, provided a strategic overview of the EU's vision for Virtual Worlds, emphasising a transition from initial stocktaking to active, value-driven execution. Bajart highlighted Europe's strong foundational assets. World-class research, innovative SMEs, and rich creative industries are active in Europe. While

acknowledging persistent fragmentation across sectors, technologies, and member states. To overcome this, the Commission is driving a comprehensive strategy built around four key pillars (skills, industry support, public applications, and global governance) backed by a €400 million co-funded Horizon Europe Virtual Worlds Partnership (€200 million from the EU matched by private industry). Frame-shifting the debate, she argued that Europe's commitment to human-centric principles, privacy, trust, and safety is not a competitive handicap, but rather its primary asset for building resilient, interoperable, and sustainable ecosystems. Closing with a call to action, Bajart urged European stakeholders to remain ambitious and open, pointing to upcoming collaborative milestones, such as the co-located Virtual Worlds Partnership Forum during the EuroXR Conference 2026, and the NEM Summit in Valencia at the beginning of November, as a concrete proof of a unifying European ecosystem shaping the global future of virtual worlds.

3 FUTURE SCENARIOS AND ROADMAP FOR OPEN AND CO-CREATED VIRTUAL WORLDS AT HORIZON 2030–2040

Organiser	Partner
Gianluca Misuraca	Inspiring Futures

Panelist	Organisation
Camille Donegan	Eirmersive – Ireland
Patricia Pons Tomas	ITI Valencia – Spain
Kathrine Fremming	Khora – Denmark
Matthieu Worm	Virtual Worlds Association - Belgium

MAIN MESSAGES, KEY TAKEAWAYS AND RECOMMENDATIONS

OPENVERSE Final Summit in Brussels reviewed the Roadmap's priorities and supported the validation of its emerging version 2.0. Moderated by Gianluca Misuraca, the session opened with Pierre Rossel's presentation of the 2030–2040 foresight scenarios, five strategic pillars, ten key actions and six proposed policy recommendations. Dr. Rossel presented both, briefly, the previous version of the Roadmap and then, opening the Roadmap 2.0 stage, the suggested amendments originating from the previous workshop cycle and the Survey that was carried out in parallel. The panel brought together perspectives from Camille Donegan (Eirmersive), Patricia Pons Tomás (ITI Valencia), Kathrine Fremming (Khora) and Matthieu Worm (Virtual Worlds Association), connecting research, creative practice and industrial deployment. Dr Donegan highlighted the need for the start-up support for the access to funding, but also to possibility test and scale up their solutions at European level. Dr Fremming and Dr Pons brought interesting use cases of VR applications that were developed specifically to support mental health patients. Finally, Dr Worm, in his role as representative of the Virtual Worlds Association (VWA) expressed his opinion, extremely relevant for the VWA, that virtual worlds help solve real problems of the citizens and active organisations in the real world, acknowledging that the OPENVERSE Roadmap is actually well designed to address key stakeholders' challenges and needs of the XR/VW field.

The discussion examined how Europe could bridge the gap between promising prototypes and market adoption, with particular attention to SME scale-up, first customers, financing and skills issues. It also addressed how human-centricity, trust and safety could become more operational and measurable features of immersive applications, particularly in sensitive domains and areas of European excellence. Another focus was the transition from isolated pilots to transferable, procurable and reusable demonstrators, alongside opportunities in professional applications and digital twins.

The Roadmap's priorities were considered against the growing influence of AI, the need for interoperability and increased European sovereignty, and the balance between innovation, safeguards and environmental sustainability. The session formed part of the final consultation informing Roadmap 2.0 and explored how its recommendations could remain a living resource beyond OPENVERSE, including through the wider ecosystem and the European Virtual Worlds Partnership.

4 VIRTUAL WORLDS STANDARDISATION

Organiser	Partner
John Favaro	Trust-IT Services

Panelist	Organisation
Alina Kadlubsky	OpenAR Cloud - Germany
Christoph Runde	Virtual Dimension Center - Germany
Luis Bravo Martins	XRSI - Italy

MAIN MESSAGES, KEY TAKEAWAYS AND RECOMMENDATIONS

The objective was clear: A formal showcase of OPENVERSE assets and legacy on the topic of standardisation. *As Virtual Worlds continue to evolve into critical infrastructures for Europe's digital future, interoperability, accessibility, trust, and standardisation become essential enablers of adoption and innovation. This session presented the latest findings and strategic developments shaping the standardisation landscape, while showcasing mature OPENVERSE assets that can support future ecosystem growth.*

In this session, moderator John Favaro led with a brief overview of the OPENVERSE Standards Related Assets and Legacy. He noted that a task was dedicated to pursuing standardisation related activities that could support and feed into the most important OPENVERSE assets. The Observatory's Virtual Worlds taxonomy was created by a task force that spanned the entire consortium and is an important contribution to taxonomic classification work. The Technology Framework organised the Virtual Worlds landscape from a technological perspective and one of its major activities was collocating technical XR standards into this framework. Whereas the OPENVERSE Roadmap analysed Virtual Worlds in the context of a strategic framework, whereby standards were collocated with respect to strategic concerns like interoperability and policy expression. Finally, he noted that StandICT.eu is the flagship project promoting European leadership in ICT standardisation, and OPENVERSE exploited its relationship with them to join forces to create a new Technical Working Group in Virtual Worlds Standardisation, under the chairmanship of Advisory Board Member Christoph Runde.

The floor then moved to Alina Kadlubsky, who leads the EU activities of OpenAR Cloud Europe through projects such as OPENVERSE's sister project XR4HUMAN, and is a recognised leader in Virtual World ethics. Alina presented the S.E.E. Framework, in order to help the audience to understand the new

realities that are creating challenges in areas like human agency, trustworthiness, and ethics. S.E.E. makes ethics routine: Synthetic Perception, Evaluation & Governance, Ethics-by-Design. She also reported on how standardisation and interoperability can help us avoid malignant manipulation in synthetic environments.

The baton then passed to Luis Bravo Martins, the Vice President of XRSI Europe and Chief Marketing Officer at KIT-AR, to talk about new kinds of initiatives that fill some perceived gaps in current standardisation work. Luis presented the RAISE Council initiative: Responsible Advertising for Immersive Spaces and Environments. He described a number of activities being carried out in key areas of this new space: Classification System, Labelling System, Ethical System, Implementation Guidelines.

These two presentations from panel members on emerging standards initiatives in Virtual Worlds and the perceived gaps set the stage for a presentation by Christoph Runde on current work on cataloguing initiatives in this space and identifying gaps and priorities. This was accompanied by live interactive session with the Summit participants in which they had the possibility to indicate their own perceptions of gaps and priorities. A key takeaway from this interactive session is that current ongoing Virtual Worlds standardisation work is not happening in the same areas that are considering to be priorities. This either indicates a shift in priorities over time, or an urgent need for alignment (or both).

The session concluded with a discussion of current recommendations for moving forward with standardisation work – including radical proposals like insisting on proven *ad hoc* implementation of a proposed standard in practice before moving to formal approval. The top recommendation approved by all present was to “Enforce European and International standards for interoperability and data protection.”

5 OPENVERSE LEGACY

Organiser	Partner
Lapo Fioretti	IDC

Panelist	Organisation
John Favaro	Trust-IT services
Francesco Panella	Martel-Innovate
Ilaria Mariani	Dipartimento di Design – Politecnico di Milano
Lukasz Porwol	Insight Centre – University of Galway

MAIN MESSAGES, KEY TAKEAWAYS AND RECOMMENDATIONS

Session 5, introduced and moderated by Lapo Fioretti (IDC), provided a comprehensive overview of the key assets, achievements, and enduring legacy generated throughout the OPENVERSE project. Following an opening analysis of European Virtual World market trends: focusing on investment flows, adoption rates, core drivers, and ecosystem challenges. The session highlighted the project's main technical and methodological outcomes. Ilaria Mariani (Politecnico di Milano) presented the OPENVERSE Co-creation methodology alongside its practical Toolkit, Handbook, and Virtual Worlds Mapping, establishing a structured framework for participatory design. John Favaro (Trust-IT) then detailed the OPENVERSE Observatory, a central repository storing technical reports, regulatory analyses, and standards for European innovators. Highlighting its global reach. With registered entities spanning Germany, the Netherlands, Scandinavia, Southern Europe, North America, and Japan, John Favaro emphasised that the Observatory's community facilities now function as an active brokerage platform, enabling experts to showcase capabilities and forge strategic partnerships across borders.

Building on these structural tools, Francesco Panella (Martel Innovate) introduced the OPENVERSE Collective Intelligence, a MediaWiki-based hub designed as a unified entry point for outputs from EU-funded Virtual Worlds research. This platform integrates reusable software components, the Co-creation Toolkit, the Roadmap for Open and Co-created Virtual Worlds, the OPENVERSE Technological Framework, and a curated overview of relevant

Strategic Research and Innovation Agendas (SRIAs). Complementing this ecosystem, Lukasz Porwol (University of Galway) demonstrated the Graph-RAG for Governance & IPR Intelligence, leveraging knowledge graphs and retrieval-augmented generation to assist stakeholders with complex intellectual property and regulatory navigation. Together, these interconnected platforms ensure long-term sustainability, equipping European enterprises, researchers, and public administrations with the open tools, data, and collaborative network required to drive a competitive, values-driven virtual world ecosystem.

6 THE ROLE OF SME'S IN SHAPING OPEN, SOVEREIGN VIRTUAL WORLDS

Organiser	Partner
Michael Barngrover	XR4Europe

Panelist	Organisation
Alexandra Gerard	UnitedXR Europe – Belgium
Sébastien Nahon	XR Wallonia – Belgium
Tim van Dam	Changefied – The Netherlands
David Lähner	Mindport - Germany

MAIN MESSAGES, KEY TAKEAWAYS AND RECOMMENDATIONS

The session explored the role of small and medium-sized enterprises (SMEs) in advancing open standards, interoperability and digital sovereignty in Europe's XR and virtual worlds ecosystem. Bringing together perspectives from technology developers, regional innovation initiatives and industry events, the discussion examined how SMEs balance these objectives with immediate commercial priorities, including market access, customer acquisition and the need to deliver solutions quickly.

A central theme was the gap between the long-term benefits of openness and the short-term pressures facing SMEs. Sébastien Nahon explained that companies frequently prioritise speed to market and immediate returns over interoperability, only to encounter hidden costs associated with maintenance, hardware compatibility and integration with other systems. Drawing on the experience of HIT XR Wallonia, he emphasised the value of collaborative proofs of concept and demonstrators that bring together SMEs, researchers and end users around concrete industrial challenges. Such collaborations can expose technical, security, and interoperability issues that might otherwise remain unaddressed until deployment.

Tim van Dam, founder of Changefied, illustrated these challenges through the company's development of immersive training applications for neurodivergent young people. Although its software is designed to operate across different VR headsets, schools and public institutions frequently purchase hardware without considering compatibility with the applications they ultimately need. Proprietary ecosystems and closed deployment environments can therefore prevent institutions from using existing equipment, generating additional costs, and discouraging adoption. He argued that SMEs have an

important role in educating customers and public buyers about hardware choices, interoperability, and the practical requirements of XR deployment.

David Lähner, founder of MindPort, emphasised that openness should not be understood as a binary distinction between open and closed technologies. Using Unity, Godot, OpenXR and Meta's proprietary software development tools as examples, he explained how different degrees of openness influence technology choices and long-term flexibility. MindPort has prioritised broader hardware compatibility over access to certain device-specific capabilities, demonstrating how SMEs can support interoperability through their own development decisions. However, he stressed that these choices involve commercial trade-offs and that customers must understand their long-term value.

The discussion also addressed the support structures available to SMEs. Nahon highlighted the importance of regional innovation ecosystems in facilitating collaboration between companies, research institutions, and potential customers. David noted that European funding programmes can encourage cross-border cooperation and indirectly promote interoperability, although identifying suitable opportunities remains difficult within a fragmented funding landscape. Tim's experience demonstrated that such support is not equally visible or accessible to all SMEs.

Alexandra Gérard described the role of industry events such as UnitedXR Europe in connecting SMEs with customers, investors, technology partners, and international markets. She highlighted sector-specific exhibition tours, startup pitching opportunities, and the event's Booster programme, which provides mentoring and matchmaking for startups and creators. Lähner nevertheless observed that XR-focused events often attract more technology suppliers than prospective customers, suggesting that SMEs must also engage with sector-specific events where potential buyers are primarily interested in solving practical business problems rather than adopting XR technology itself.

Looking ahead, the panellists questioned how much responsibility SMEs can realistically assume for driving open standards and digital sovereignty. Nahon argued that meaningful progress requires a broader cultural shift towards interoperability by design, supported by shared frameworks, infrastructure and leadership at European level. Lähner suggested that SMEs can contribute by developing and offering more open alternatives, thereby giving customers greater freedom of choice. Both Lähner and van Dam emphasised the importance of educating purchasers about the hidden costs of proprietary dependencies, while van Dam also raised concerns about the transparency of data flows from connected XR devices.

Overall, the session highlighted that SMEs can contribute to more open and sovereign virtual worlds, but cannot be expected to drive this transition independently. Their capacity to adopt and promote interoperable solutions depends on commercially viable alternatives, informed customers, accessible support mechanisms, and stronger cooperation across the European XR ecosystem. Making openness relevant to immediate business needs, while demonstrating its longer-term economic value, emerged as a central challenge for policymakers, industry associations and innovation support organisations.

7 SUSTAINABLE INNOVATION IN VIRTUAL WORLDS

Organiser	Partner
Lukasz Porwol	University of Galway

Panelist	Organisation
Alina Kadlubsky	OpenAR Cloud - Germany
Stephane Sorkin	EDFVR - Germany
Sonya Seddarasan	XR Crowd - Spain
Linda Ricci Jacobs	Independent Designer – The Netherlands

MAIN MESSAGES, KEY TAKEAWAYS AND RECOMMENDATIONS

The objective of this session was identified as a strategic priority in the foresight work (D2.3). With the following central question: How can a business remain sustainable in the Virtual Worlds ecosystem? This session explored sustainability as a strategic priority for the Virtual Worlds ecosystem Through a series of cross-sector lightning talks featuring SME representatives from the Observatory, the session addressed the central question of how businesses can remain sustainable while operating and growing in Virtual Worlds. Aimed at policymakers and SMEs, the discussion generated practical sustainability pathways for businesses and provide policy-relevant insights to support green digital transitions.

The session “Sustainable Innovation in Virtual Worlds,” moderated by Luke Porwol (University of Galway), brought together Alina Kadlubsky, Stephan Sorkin, Sonya Seddarasan, and Linda Ricci Jacobs to examine the long-term economic, environmental, and technological sustainability of the Virtual Worlds ecosystem. Building on the strategic priorities identified in the OPENVERSE foresight work (D2.3), the discussion explored why significant technological progress and investment have not always translated into viable business models. The closure of prominent virtual world platforms highlighted challenges related to high infrastructure and operational costs, fragile revenue models, platform dependency, and limited interoperability. Panellists also challenged the tendency to equate Virtual Worlds with consumer-oriented social VR, emphasising the growing opportunities in B2B applications, industrial digital twins, robotics, immersive training, and spatial computing. A key takeaway was that sustainability depends less on technological sophistication alone and more on delivering measurable value, addressing genuine user needs, and integrating immersive technologies into broader industrial and societal ecosystems.

The discussion identified interoperability, asset portability, resource efficiency, accessibility, and user-centred design as essential foundations for a sustainable European Virtual Worlds ecosystem. Particular attention was given to the risks faced by SMEs and content creators when proprietary platforms close, leaving digital assets and investments stranded, and to the need for common standards, reusable assets, and credible exit strategies. Panellists stressed that sustainable innovation requires moving beyond technology-driven experimentation towards practical, scalable applications supported by viable business models and clear pathways from pilot projects to everyday operations. The debate also highlighted the importance of device-agnostic experiences, inclusive access, workforce development, and the potential of XR to reduce resource consumption through remote collaboration and more efficient training. Overall, the session reinforced the importance of a collaborative, interoperable, human-centric and economically resilient European ecosystem, with the OPENVERSE Observatory positioned as a platform for continued knowledge exchange, stakeholder engagement, and the development of practical guidance for SMEs and policymakers supporting the green and digital transitions.

8 ETHICAL VIRTUAL WORLDS

Organiser	Partner
Arno Laeven	The Lisbon Council

Panelist	Organisation
Pilar Orero	Universitat Autònoma de Barcelona
Luis Bravo Martins	XRSI - Italy
Sonya Seddarasan	XR Crowd - Spain
Abdoul Benamer	i-Oasis - France

MAIN MESSAGES, KEY TAKEAWAYS AND RECOMMENDATIONS

The panel, moderated by Arno Laeven, opened from the premise that immersive worlds are built by humans for humans, so the real test is whether they treat people well. Framed through the “Lessig gap,” the point that we have rules and values but can’t enforce them because they aren’t built into the infrastructure, the discussion moved from what users hand over to these systems, to what the technology does with it, to who has to act.

On what makes immersive tech inhumane, Sonya Seddarasan argued that the closeness of XR makes trust easy to exploit. Drawing on Ari Waldman’s work on dark patterns, she noted that in a phone the user still chooses what to open, but in VR the designer authors even the periphery of your vision, so trust that is normally granted by the user is instead assumed by the design. Her central call was that the field has “safety by design” but not yet “ethics by design,” and that returning rights to the user needs to become a concrete checklist in the design process. Abdoul Benamer brought the physical layer: consent to even put a headset on someone, the need to train trainers (for epilepsy risks, for touching people, for calibrating haptics and smell), and the data-leak risk when training simulations of airports or nuclear systems expose protected positions and information.

Pilar Orero named the quieter harm, biased and badly annotated data that treats people unequally before any design choice is made. Her sharpest point was that voice, not skin colour or appearance, is the most biased data, because systems trained on large undifferentiated datasets fail to understand most people, and the producers and consumers are the same narrow group, a vicious circle.

On solutions and who acts, Luis Bravo Martins pointed to the XR4Human Code of Conduct as a usable framework (already used by UCL students, per Alina Kadlubsky), and argued ethics should become a competitive advantage for a European market already recognised as trustworthy and privacy-abiding. Pilar countered that neither obligation nor penalties drive adoption, education does, and, in the session's most memorable turn, that what actually makes technology accessible is love: someone building it has a person close to them who needs it. She also warned against the return-on-investment model for ethics.

Abdoul's ethics audit of his own company became the standout concrete story: his developers had populated virtual worlds only with tall, strong, white men, defended as "what the customer wants," and correcting it took internal training and a checklist rather than a one-off fix. Luis closed the analytical thread with his four levers of behaviour change, regulation, financial incentives, emotional commitment, and peer pressure, noting Meta has automated the last two into business models, and arguing Europe should instead build business models that make ethical behaviour the default.

A recurring tension ran underneath: regulation is necessary but outdated the moment it ships, so the same people must hold both the rules and the live discussion, and must listen to younger generations who already act on these values without being told.

To close the session, each panelist named what humane VR asks of us: Abdoul, looking to the people around us and protecting companies and workers from information leaks; Sonya, designing for trust, since trust is what earns user retention; Luis, seeing how we can benefit the people in our communities and families; and Pilar, seamless communication, after nearly closing the whole session by singing "All You Need Is Love."

9 KEY CONCLUSIONS OF THE OPENVERSE SUMMIT

The OPENVERSE Summit demonstrated that Europe has a distinct, value-driven opportunity to lead the next generation of spatial computing and virtual worlds. Moving beyond proprietary, closed ecosystems requires a shift toward open, human-centric, and sustainable virtual environments grounded in fundamental rights and strategic autonomy.

- **Operationalising European Values:** Principles like privacy, safety, human oversight, and accessibility must not remain high-level ambitions. Instead, they need to be embedded operational requirements integrated directly into technical architectures ("ethics-by-design" and "safety-by-design").
- **Addressing Market Realities for SMEs:** While European SMEs drive innovation in B2B applications, spatial computing, and digital twins, they face significant short-term pressures, including speed-to-market, initial customer acquisition, and fragmented funding access. Expecting SMEs to champion open standards independently without structured market and financial incentives is unrealistic.
- **Bridging the Standardisation-Priority Gap:** Current standardisation efforts do not fully align with immediate industry priorities. True interoperability requires transitioning from theoretical specifications to mandatory European and international standards backed by real-world, ad-hoc implementations.
- **Focusing on Practical Value Over Hype:** Long-term sustainability relies on solving real-world problems in industrial manufacturing, mental healthcare, immersive training, and public services rather than consumer social VR speculative hype.