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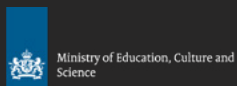
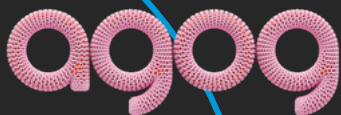
# IDFA DOCLAB IMMERSIVE THINK TANK REPORT

Cross-sector insights and reflections on the future of immersive, AI, and interactive art

Written by Kent Bye

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Produced with support from



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# Introduction

This document is an in-depth report on the day-long DocLab R&D Summit hosted by the International Documentary Film Festival of Amsterdam (IDFA) on the 16th of November 2025. The R&D Summit is an invite-only think tank that brings together artists, researchers, technologists, curators and producers to share knowledge on best practices, case studies, latest research, and key industry trends. Reporting on the afternoon sessions comes from recordings of the panels and fishbowl sessions with comments attributed to featured panelists and moderators whilst leaving comments from the audience anonymized. Recordings for the morning session were not available, so coverage is supplemented by oral history interviews with featured speakers and panelists conducted by the author of this report, Kent Bye. Bye makes use of prior reporting as well as additional analysis and interpretation in order to provide session summaries. The perspectives provided reflect his views, the views of individual participants and contributors, and do not necessarily represent those of all partners. This report aims to surface emerging questions, tensions, and opportunities in the field, and to contribute to an ongoing dialogue about the future of immersive storytelling and its role in society.



Photo: Kent Bye

This community of immersive creators is actively engaged with the practice of the “creative treatment of actuality”, as filmmaker John Grierson put it. The curators of DocLab poured over the submissions this year and identified the compelling theme of “OFF the Internet / OF the Internet.” Many DocLab pieces explored the Internet’s vast cultural reach, and also pointed to an impulse to escape “OFF the Internet” while using XR tech “OF the Internet” in search of authentic human connection. This year’s theme poignantly reflects a broader cultural zeitgeist, and serves as a reminder that listening to artists orients us all.

Here is the statement from the curators:

*We are connected 24/7 through digital technology, yet at the same time, we are also more disconnected, lonely, and anxious than ever. As social and digital media became our primary interface to the world, are we getting stuck in a perpetual present? With reality collapsing into frenetic feeds of content and clicks, what is happening to our past, and to our futures? To ourselves and to everything outside of our screens?*

*'Off the Internet' grapples with the impossibility of ever truly logging off, death by convenience, and the inherent privilege of stepping offline. But as DocLab is also a program that is inherently OF the internet - that emerged alongside the internet and technologies like VR and AI - we also explicitly ask: What role does digital and immersive art play? Instead of keeping us paralyzed and locked even further into our screens, could digital and immersive art become part of a more physical and shared experience of reality? Could it offer us different ways to reflect and reconnect, beyond virtual escapism, more in tune with our human bodies and sensibilities?*



*Life Needs Internet* by Jeroen van Loon,  
installation view at IDFA DocLab November 2025, photo: Kent Bye.

A DocLab project that really encapsulates these themes is Jeroen van Loon's *Life Needs Internet 2010-2025*, a 15-year project where he invited participants from around the world to write anonymous letters about how the Internet has affected their daily lives.

Here is a passage from one of the letters written in 2025 by a 26-year old artist and designer based in the Netherlands that captures many of the major themes covered in this year's DocLab program. She wrote:

*For me, the Internet has recently become a hostile and oppressive space, instead of the free and egalitarian place I grew up with... It was a place to escape from reality and meet distant unknown acquaintances. A place where you can be yourself and where you become part of the whole world, and the whole world is a big happy community, living in harmony, with creativity, with humor and with hope... The Internet now does not invite me for a cup of coffee, but it hangs above me like a heavy storm cloud and follows my every step, so it can pour on me in time. And no matter how much I try to run away from it in search of the true reality, I can't. It's as if its absence will destroy my entire reality. And at the same time, its existence is slowly destroying me. And now I live with all the wars and occupations, elections and coups, billionaires and influencers, artificial intelligence and bots, and inhumane humans, ever so hanging over my head. And now I run away from the Internet into reality, not the other way around.*

This passage really captures the dialectic between our hopes, dreams, and aspirations of technological futures that empower, connect, and enlighten us versus the oppressive forces and harsh realities that are constraining, controlling, and trying to extract value from us. What started as a liberatory place of harmony, curiosity and freedom, has transformed into an oppressive place of hate, manipulation, and the Big Brother-levels of surveillance capitalism that Orwell tried to warn us about.

Artists are reckoning with this vibe shift, but there is another one on the horizon with the rise of artificial intelligence, which looms large as the next major platform shift Big Tech companies are betting on. Some artists are credulously using AI, and trying to find their own ethical boundaries in an uncertain legal landscape. Some are using AI to critique how much they hate AI. Other artists are reflecting on the colonial impulses of techno-capitalism that destroys cultures and increases the enshittification of everything as every relationship and moment of our attention is a transaction to be monetized. As technological spheres of influence merge with political influence, the polarization between Pro-AI and Anti-AI sentiments mirrors the political polarization we see around the world.

Artists also considered the evolution of the Internet from HTML 1.0 to web 2.0, to the mobile revolution sparked by the iPhone, to the techlashes over Cambridge Analytica and Gamergate. Some creators contemplated the myriad of ways disinformation on social media undermines democracy and civic life. And some pointed to the way polycrises are flooded into our psyches via social media causing us to become numb to the horrors of the world. Immersive artist and former war photographer Karim Ben Khelifa posted a poem on Instagram in June 2025 that perfectly captures this context collapse. His poem grounds us in the horror of digital lives curated by Big Tech's profit motives, and also points to the antidote immersive art offers. Khelifa's poem was read at the opening ceremony of IDFA DocLab to help set the context for this year's program:

# Unscrollable

There is something obscene in the way we  
consume war now.  
It arrives not with the weight of history or  
the stench of blood,  
but as a fleeting image on a screen.

Compressed between an influencer's  
breakfast  
and an ad for the latest electric car.

The crying child in a cratered street.  
The severed limb in the rubble.  
The dust cloud hanging like a ghost.

All of it is real.  
The camera does not lie.  
But the camera cannot speak.

What it captures is stripped of its context.  
Violence, without memory.  
Suffering, without history.

The viewer scrolls on.  
The missile strike dissolves into a meme.  
The tragedy fades behind a tap.

We are living through a collapse of moral  
proportion.  
War and comedy.  
Atrocity and lifestyle tips.  
Carnage and celebrity news.

All of it delivered in the same feed.  
All of it treated the same.

Even the legacy media now trades in  
euphemism.  
"Surgical intervention."  
"Kinetic action."  
"Targeted neutralization."

Words chosen not to disturb.  
Not to offend.  
Not to feel.

This detachment is not neutral.  
It shapes opinion.  
It shields us from guilt.  
It makes war seem manageable.

And a war that is not felt  
is a war that can be ignored.

The tragedy is real for those who endure it.  
But unreal for those who consume it.

Filtered.  
Softened.  
Suspended between spectacle and fact.

In my work, I try to tear through that veil.  
Not to show war, but to make it present.  
Not to trigger emotion, but to restore  
agency.

Because war has many dimensions.  
And unless we find ways to feel what we  
cannot see,  
we become numb to the horrors,  
untouched by the very catastrophes we  
allow to continue.

- Karim Ben Khelifa  
July 19th, 2025.

Just as the full spectrum of culture floods our social media feeds, this year's DocLab program and Research and Development Summit also spanned the multitude of human experience at this moment in history. You could be immersed in a 360-degree video bearing witness to the aftermath of genocide in Gaza in *Under the Same Sky*, and ten minutes later embody a lesbian cartoon character in VR yelling, "I am gay!" as you enact key moments of the coming out journey in *Lesbian Simulator*.

Indeed, as various topics collided in panels at the R&D Summit, moderator, Ingrid Kopp, & panelists commented how jarring it could be to context switch between some of the topics represented by DocLab artists. However, entering into the direct experience of the work enables a safe container to bear witness to artists who are speaking the deepest truths about this moment. It is cathartic to be completely immersed within a fuller context of a story, to be embodied, and to viscerally feel our feelings beyond the disassociative malaise of social media that dissolves contextual boundaries.



Caspar Sonnen opening the R&D Summit in Vlaams Cultuurhuis de Brakke Grond, November 2025. Photo: Kent Bye

To go back to the questions posed by the curators, *"Could digital and immersive art become part of a more physical and shared experience of reality? Could it offer us different ways to reflect and reconnect, beyond virtual escapism, more in tune with our human bodies and sensibilities?"* The work presented in this year's DocLab program would suggest the answer to this question is a resounding YES. In fact, the immersive storytelling & Location-Based-Entertainment (LBE) space may be perfectly timed to provide an antidote to the numbing, isolating, hostile, and toxic aspects of online digital culture.

Increasingly, consumers are seeking out dumb phones to counter smart-phone addictions, quitting social media all together, and going on digital detoxes to escape the algorithmic

filter bubbles curating our realities. It is within this context that location-based immersive experiences might provide the types of novel, social, embodied, moving, immersive, and ultimately meaningful experiences that connect people more deeply to the world and others around them.

Collectively, the liminality of these shifting sands is reflected in the dissolution of the geopolitical and global economic order as brilliantly explicated by [Prime Minister of Canada Mark Carney's speech at the World Economic Forum](#). In his rousing speech, Carney detailed how the middle powers of the world are banding together to fight the democratic-backsliding of the United States of America in what he characterized as the end of an era of "rules-based international order." Carney said,

*Let me be direct. We are in the midst of a rupture, not a transition.*

*Over the past two decades, a series of crises in finance, health, energy and geopolitics have laid bare the risks of extreme global integration. But more recently, great powers have begun using economic integration as weapons, tariffs as leverage, financial infrastructure as coercion, supply chains as vulnerabilities to be exploited.*

*You cannot live within the lie of mutual benefit through integration, when integration becomes the source of your subordination.*

Certainly a new era seems to be upon us. Carney's articulation of the rupture and dissolution of the rules-based order clearly identifies some of the broader geopolitical and economic shifts that will affect the XR industry and tech in general. Just as economic integrations are being weaponized, technological integrations may also become the source of our personal subordination as surveillance capitalism inevitably evolves into mass surveillance sanctioned by authoritarian governments. It is within this context that individuals, companies, and countries around the world are already starting to re-evaluate the depth of their technological integrations and dependencies upon US-based technological companies.

The trend DocLab curators coined as "OFF the Internet" harkens to a broader cultural movement of people decoupling from Big Tech in favor of re-connecting to local communities, building resilience through peer-to-peer, decentralized technologies, seeking out open source alternatives to subscription software bloated with unwanted AI features, and pursuing meaningful, face-to-face gatherings to revitalize civic participation.

This sets the broader context for many of the discussions at DocLab 2025. There is a hunger from the public to get offline, and experience something real and something meaningful as experiences in algorithmically-driven, online-mediated spaces are more and more dehumanized with ragebait to stoke our emotions, clickbait to drive engagement, and AI slop to keep us distracted.

Funders like the Netherlands' Creative Industries Immersive Impact Coalition (CIIC) are interested in funding efforts to use immersive technologies and experiential design processes to create collective experiences of civic engagement. Martijn de Waal is a professor at the Amsterdam University of Applied Sciences in the research group called Civic Interaction Design, and he is collaborating with IDFA, MIT, and a number of other immersive studios based in Amsterdam and beyond. de Waal [said in an interview](#),

*The more society is mediated through technology, the more humans are out of the loop. And on the one hand, that's more efficient. But it really takes away all these small moments of human-to-human contact. And increasingly, we find it more awkward just to have a conversation with a person. And we sort of hide behind our screen and we don't dare to maybe even approach somebody, or we find it awkward to even talk to somebody. So while we were having these conversations right now, then what does it mean to design for collective experiences?*



Introduction to Shared Realities, a new consortium focussed on: How to research and develop collective immersive experiences and a physical and sustainable exhibition culture for emerging forms of immersive art? Photo: Kent Bye.

This helps to set the context for the afternoon sessions at the R&D Summit of IDFA DocLab that focused on De-Isolating the Experience of XR, De-Isolating the XR community, and De-Isolation and understanding the latest barriers and opportunities for LBE distribution.

This report will summarize some of the biggest insights from the sessions and workshops at R&D Summit, including an extended workshop about the ethics of AI in film, XR, and video games.



R&D Summit session at @droog, November 2025. Photo: Roger Cremers

This report will also mention some of the projects from this year's DocLab selection to help further elucidate this liminal crossroads. Immersive documentary artists have a way of tapping into key insights about where we're at and where we're going, and there's a lot of power in immersive storytelling and its role for telling the truth in the face of authoritarian impulses.

PM Carney said in his speech:

*The powerful have their power. But we have something too – the capacity to stop pretending, to name reality, to build our strength at home and to act together.*

Naming the reality of this moment is precisely what the artists and storytellers at DocLab do every year. This year we took the time to reflect on what is working for us in this digital age and what is not. We looked at how we got to where we are from historical, cultural, and techno-capitalist perspectives because without fully comprehending the nuances of this story, we can't make good choices for our future. As we stand at the cusp of a new chapter in technological evolution we need to be mindful that we cannot rely on techno-capitalists not to repeat the same move-fast-break-things types of mistakes with AI that were made with the Internet. Fortunately, as artists, we are, perhaps, particularly able to be imaginative and agile as we look ahead, and that instinct has never been needed more. It's a potent time to invent the types of futures we want to live into for a more just, fair, and relational world.

# De-Isolation & Civic Society Discussion

De-isolation was a core theme at the IDFA DocLab R&D Summit and there were many fish-bowl discussions in the afternoon sessions on how to better connect people across different communities within the XR industry. At the end of the day, Abdelraman Hassan moderated a discussion exploring how to use XR mediums and the craft of experiential design to cultivate civil society. For the purpose of this documentation, we will start with this closing session, because it elucidated larger threads and questions that serve to underline core themes from the Summit overall.



Abdelraman Hassan moderating a discussion at the R&D summit on de-isolation practices and civil society. Photo: Kent Bye

## What is a Civic Society?

Before we begin a breakdown of the session, we should identify a necessary discussion that happened around the questions, “What is civic? What is civil society?” This led to the group articulating what they meant by civil society. Hassan offered that civil society is “the opposite of the market-driven,” and civic spaces are “public, accessible, almost the commons” that serve civic society. Currently most, if not all, online digital spaces are owned by corporations with market-based dynamics of production, which stands in contrast to civic spaces controlled by cultural institutions or the state in the interests of the public. Bringing people together through art within the context of such public spaces or commons, can be seen as an expansion of civic society, especially when artists are directly impacting conversations and leading the discourse.

After presenting the group with a cultural context of democratic backsliding, a growing numbness from a social media malaise, and an increased experience of alienation, Hassan formally began the session by asking some big questions that set the tone for the rest of the hour. “What can we do? What is the role of everyone in this room? What can be done to de-isolate, to really change the equation a little bit?” Hassan’s questions sparked an engaged and wide-ranging dialogue between attendees. We will begin by addressing the discussion that ensued after one attendee asserted that creative technologists wield a lot of power, and could have a shot at shifting the tide if there was a focus on cultivating values that brought communities together.

### **Creating Virtual Civic Spaces Absent of Big Tech**

Another attendee added that AI-driven Big Tech is motivated by isolating people and “atomizing ourselves and our relationships from one another” for their own profit, not for the benefit of communities. They noted, “they’re trying to make money, right? Which is fine, but it’s not a value ... that’s a safe value to create and hold community. What if a platform only invited people who are friends of the artists and built that?” This points to the merits of locally-owned and locally-controlled platforms that organically grow communities, connect artists to their audience, and enable them to have agency on the platforms they use. The same attendee observed that “it’s easier to [have agency] on a bespoke [platform] than a Big Tech one”, prompting another participant to question whether artists are commonly part of the decision-making process that creates these platforms in the first place.

The work of futurist and writer Maria Farrell was mentioned, specifically an essay she co-wrote with Robin Berjon titled [“We Need To Rewild The Internet”](#) that applies ecological metaphors to digital culture. They wrote, “The complex web of human interactions that thrived on the internet’s initial technological diversity is now corralled into globe-spanning data-extraction engines making huge fortunes for a tiny few.” They continue, “The internet has become an extractive and fragile monoculture. But we can revitalize it using lessons learned by ecologists... Rewilding the internet is more than a metaphor. It’s a framework and plan. It gives us fresh eyes for the wicked problem of extraction and control, and new means and allies to fix it.” They recommend looking at earlier phases of the Internet for inspiration: “Look at the resurgence of RSS feeds, email newsletters and blogs, as we discover (yet again) that relying on one app to host global conversations creates a single point of failure and control.” They end their essay on an optimistic note, “The instruments we need to shift away from extractive technological monocultures are at hand or ready to be built.”

There was a suggestion from a participant to look for what a next-generation Internet might look like. The Internet Archive’s Decentralized Web Summit gatherings, starting in June 2016, may hold some clues toward this end. Facing censorship from authoritarian governments around the world, the Internet Archive created a decentralized implementation that could be resilient to centralized surveillance, manipulation, and control. Similar movements towards locally-controlled technology networks using open source technologies and decentralized protocols could result in a “rewilded Internet” that is peer-to-peer, protected via encryption, and perhaps designed for offline, face-to-face use. Such an Internet would more accurately reflect traditional public spaces designed to facilitate a truly civic society.

The discussion shifted to exploring how immersive, face-to-face communal experiences could also be a part of revitalizing civil society. One person mentioned that there are many people working on next-gen digital networks, building new communities, and making social media spaces “social” again. We can also look back to June 2002 when Meetup.com started using the Internet to connect communities in the aftermath of 9/11 around shared interests, and that the end goal was to use the Internet to facilitate physical gatherings. A participant pointed out that there is the need to realize when you do not need the Internet at all, asking, “When can you do things with your own ten fingers without a keyboard touching it?” Another attendee remarked on the potential value of ephemerality for community experiences, “not to have something all the time because you’re trying to make money, but you’re doing it intentionally for people, the artists and their community. And it happens and then it’s gone.”

By this point group consensus held that immersive technologies could positively disrupt contemporary public space, possibly to the point of intervention. However, the question was asked: “How does this participate in something like surveillance capitalism?” At stake is the work of artists to be fed into, and used by, the corporate machine no matter what the original intent. The mention of [“The Pleasures of Surveillance”](#) by scholars Julia Chan and Stéfy McKnight provoked a strong response from attendees since surveillance systems are typically focused on perpetrating violence, oppression, and extracting information. Their research highlights artistic works that “recognize the harm of coercive forms of surveillance while also underlining the subversive potential of pleasure.” Chan and McKnight say that movements like pleasure activism are “re-examining pleasure as a way to reclaim agency and resist oppression,” but also how pleasure can cultivate “friendship, intimacy, resistance, sexual pleasures, affective embodied experiences, and artistic exploration.” They point to artists who are exploring the “complex ways that surveillance and pleasure may entangle along surveillance’s continuum of care and control.” In other words, what if systems were built that cultivated care, supported networks of resistance, and built deeper relationships within the context of a community? Of course, the paper is called *The Pleasures of Surveillance*, not *The Pleasures of Surveillance Capitalism*.

The question remains, can we use immersive technologies to create safe spaces when the axis of power is using it to make it less accessible and less safe? A participant pointed out that some countries have criminalized homosexuality, and that queer online spaces offer a safer context to assemble than in physical spaces where this is not a possibility. They added that the phrase “go touch grass” assumes that physical reality is always more valuable across all contexts, but for some, online spaces are not only safer than offline spaces, but the only spaces where they can truly be themselves.

### **Practical Examples of Artists Providing Antidotes to Isolation**

One of Hassan’s big questions at the beginning of the session provoked a compelling response from a participant. Hassan asked, “What is the key problem? Why do we feel isolated from civil society as creators, funders, proliferators of XR technology? And in your practice, what has helped in de-isolating this?” A pithy response from one of the attendees encapsulated the overarching theme of moving from passive consumption to active creation:

“It’s the power of creation as an artist. For me it’s agency and making. And I think that’s where I’m finding my way back is not feeling like a consumer, feeling like a maker again.”



Participants at the DocLab R&D Summit, November 2025.

In short, the active power of creation might be the most compelling salve to isolation, and creating work that puts that creative power into the hands of the people is therefore vital. During this session, a number of public art projects were shared as examples of bringing interactivity, play, and shared social experiences to different communities.

- The [Playable City](#) initiative from the Pervasive Media Studio and the Watershed facilitated civic conversations through interactive public art projects. They invited citizens to participate in a series of different playful experiences that were responding to their cities as well as their environment.
- Japanese artist Tomo Kihara’s [“How \(not\) to get hit by a self-driving car”](#) project is a single-screen, site-specific installation “exploring the consequence of evading AI detection on the streets.” The goal was for people to reach a finish line without having computer vision detect them as a human, which illustrated the fallibility of AI in the context of automated systems. But it was also like an IRL stealth game that encouraged people to be creative and play with how to disguise your human form with objects or to move in unorthodox ways.
- Also mentioned was Future Collider’s [“What are the next “signs” of change?”](#) that encouraged citizens to create signs they would like to see within their city, which were then placed within the city via phone-based AR application.
- Imagination of Things’ [“Parle à main Européen”](#) is a phone-based, AR and immersive audio experience that gives a critical alternative tour to the European Parliament. The virtual

tour is given by immigrants, and it questions the one-sided, colonial history of the Union of Europe while providing playful ways of subverting the top-down hierarchies of power.

- Finally, [The Follower](#) by Belgium artist Dries Depoorter was mentioned as it explores themes as privacy, artificial intelligence, surveillance, & social media by allowing people to take selfies on surveillance cameras.

## Challenges of Funding Public Artwork and Centering the Needs of Artists

In keeping with descriptions of individual pieces, there were questions raised about the role of XR festivals with regards to civil society. Do festivals actually help creators offer their work for the audiences that they made them for? If not, then what are some ways for artists to be more in direct contact with their intended audience?

The end of the discussion then focused extensively on the challenges around funding public artwork, as well as the need to include artists within the decision-making processes. Are artists part of the broader discussions on financing, grant writing, and securing funding? Artists are rarely in direct conversation with the curators and festival directors during the planning and funding phases, how can artists be more of a part of the process? It is worth mentioning here that, while it was not mentioned in this session, the Shared Realities Living Lab are actively addressing these questions, please go to the next section on their presentation for more. Museum boards usually represent monied interests, and do not normally have artists directly engaged within those decision-making discussions. How do we give more agency to the artists? One festival held a back-of-house field building and world building session that produced a zine of what immersive artists needed and how we might get there.

In terms of funding, most of the artists are in competition with each other, but are there ways to reimagine how artists could collaborate during this early phase? Is it feasible to build up networks of artists if they're encouraged to share with other creators at an early stage, and then kept closer in touch throughout the production of the projects?

## Lingering Open Questions

The group was, understandably, left with more questions than answers and the questions did not end with concerns about funding public art. Also explored was how do you reach people who are not into technology with the XR media? What emancipatory futures are proliferated by immersive technologies? How do we reckon with the violent colonial context that makes the technology largely inaccessible to creators, and is really expensive to produce work? How is this technology used on a singular basis of one person to one machine, and are there more communal contexts that can be created to build civil society?

One big issue that comes up with public service media is around: How do you measure it? This an existential question for most public service media in Europe and wherever it still exists. How many eyeballs? Do you use the same market tools? What are the Key Performance Indicators (KPIs) and metrics for success of these types of projects? The value of a healthy civil society may be difficult to quantify, so there is a need to create frameworks around it in order to know how to measure progress of these types of projects.



Fishbowl session during the IDFA DocLab R&D Summit. Photo: Roger Cremers, 2025.

Perhaps most potently, how do we shift the dynamic of communication tools not only failing to connect society, but often becoming the very tools that socially isolate us? The group noted that this has been the role of the arts and storytelling. If you hybridize the form and really focus on quality storytelling, then this has proven to bring all kinds of different people together across many different contexts.

During the wrap-up, there was a recap of trying to imagine radical alternatives whilst also positioning the artist a little bit better, and giving them more agency. Many open questions remained, including: How do artists counter the dominant market logic? How do we cook slower outputs that intentionally build a sense of community from the beginning? How do we give ourselves license to not participate in the hamster wheel of mass production? Participants agreed on one salient end point, however: ultimately, the stories are what is most important.

The session closed with this quote from Donna Haraway's book, *Staying with the Trouble*, as an invitation:

*It matters what matters we use to think other matters with; it matters what stories we tell to tell other stories with; it matters what knots knot knots, what thoughts think thoughts, what descriptions describe descriptions, what ties tie ties. It matters what stories make worlds, what worlds make stories.*

# Introducing: Shared Realities

The first half of the IDFA DocLab R&D Summit featured a number of panel discussions of artists and brief presentations from scholars. If we trace the themes discussed in the De-Isolation & Civic Society session, we can connect them to the announcement of a new consortium called Shared Realities. Martijn de Waal is a professor at the Amsterdam University of Applied Sciences as a part of the research group Civic Interaction Design, a partner in the Shared Realities consortium. De Waal shared the aim of the consortium to investigate how immersive experience can facilitate collective storytelling experiences within the context of a civil society.



Martijn de Waal from UvA sharing goals and ambitions of the Shared Realities research consortium. Photo: Roger Cremers, 2025.

## Thriving Public Spaces are Essential for Democratic Societies

We are missing recordings from the morning session, but [de Waal described in an interview](#) that the consortium is “interested in how the design of all kinds of technologies can create thriving public spaces that we see as an essential part of democratic societies.” They are also “trying to figure out new ways for collective storytelling in immersive media” as well as “what it means to design experiences of conviviality or togetherness or collectivity.”

The Shared Realities Consortium is composed of IDFA DocLab, Amsterdam University of Applied Sciences, MIT Open Documentary Lab, PHI Centre, and a number of XR studios

based in the Netherlands. They are funded by the Stimuleringsfonds as well as the Creative Industries Immersive Impact Coalition's (CIIC) Artistic & Design Research for Immersive Experiences program, and the grant recipients were announced on February 6, 2026. [Here](#) is how the consortium describes their mission:

*Shared Realities aims to bring people together through shared immersive experiences. The consortium is starting a living lab where new forms of collective immersive art and a sustainable, physical exhibition culture are explored and developed. The focus is on experiencing stories together, rather than individual digital experiences. By bringing people physically together, Shared Realities aims to create space for meeting and connection. In this way, the consortium works towards a stronger ecosystem for joint production and presentation, and towards an audience that can experience and nurture immersive art together.*

As a program of applied, artistic research, the Shared Realities consortium will be collaborating closely with industry partners to form a community of practice composed of interdisciplinary creative technologists. They will undertake a formal analysis of storytelling methods, as well as explore the landscape of LBE distribution options that best suits each project.

de Waal is collaborating with professor Mirjam Vosmeer at the Civic Interaction Design research group in exploring questions around: What is the Public Domain? Why is having a Public Domain important? How should it function? What rights should people have? de Waal says, "We've left the digital, public domain completely to commercial companies to organize. Those commercial companies don't have the quality of the public domain in their mind. They have their revenue model and their shareholder value as their first target." He continues by saying, "We see it as our responsibility to take a part of that public domain back... But what we need are digital tools and platforms to actually do that."

de Waal suggests that there are two main approaches in thinking about cultivating experiences within the context of civil society. The first comes from a social psychology perspective that aims to facilitate a communal shared experience similar to a concert or athletic competition where an individual audience member can experience the collective synchrony of clapping, dancing, and being together.

## **The Role of Friction in Catalyzing Civic Society**

The second approach is one that interests de Waal more due to its implications for revitalizing civil society. He [says](#),

*Another way could actually be maybe somewhat the opposite of that and actually is to create maybe some friction. To build experiences that are not seamless, but bring in these moments of awkward interactions... Or by doing something that is not efficient, but is more complex than that. And I think that's really important, right?... Bringing this back to democratic societies, I think for me the heart of democratic society is being able to live together with difference. So it's not that*

*we all have to think the same, or we have to become one big collective. But we have to find some sort of a common ground on which we can trust each other and be together. To respect all the differences that are there, and to try and get a better understanding of it.”*

This concept of deliberately introducing friction into social dynamics was explored within the ‘Phenomenal Friction’ theme of a previous edition of IDFA DocLab in 2023, and this year by the DocLab Digital Storytelling project called Deep Soup by Luna Maurer and Roel Wouters. Their collaborative video project poetically deconstructs the frictionless world promised by AI, and rather than using generative AI for b-roll, they sent out an open call for participation and received 100 clips from amateur cinematographers. These user-generated clips provided imaginative and accessible visual metaphors to illustrate the mistakes AI makes based on its lack of contextual knowledge, specifically within the context of physical reality. In the absence of embodied experience, AI relies on purely abstracted language that leaves nothing to stand on in its understanding.

Additionally, Maurer and Wouters embraced the friction of collaborating with over 100 people. The end result is something uniquely human, and something that goes beyond what a GenAI model might have produced.



Still image from *Deep Soup*, by Luna Maurer en Roel Wouters, IDFA DocLab 2025.

This idea of embracing friction was inspired by philosopher Miriam Rasch, who wrote a book about friction excerpted within [an Eurozone magazine article](#). Rasch says that “frictionless or seamless design” has been the “ideal for software and hardware development since the 1990s.” Inspired by this book, Maurer and Roel Wouters wrote a [Designing Friction](#)

statement that says, “Digital technology has long pursued the goal of eliminating friction, striving for seamlessness. We now navigate a sea of frictionless experiences.” Wouters described the role of a designer in the Big Tech era would be to “Look at the world, identify a problem, find a solution and capitalize on the solution... Every app you can see on your phone is somehow the promise of a better life... But as a side effect, we also lose contact with the human factor of things.”

It is within that spirit that Maurer and Wouters want to embrace the benefits of friction. Maurer encourages us to think about how we could bring friction back into our digital culture and to design experiences for our “whole body and all senses, getting together rather than everybody isolated, smooth behind their screens.”

### **Unintended Effects of Eliminating Friction Through Technology**

There is a tendency for Big Tech to minimize the value of humanity, reducing it to data flows, as illustrated by Yuval Noah Harari’s assertion that “organisms are algorithms.” Comparing humans to computers through the lens of computation allows technologists to hype their products by claiming their technology is quantified to be superior to humans. But these comparisons inevitably collapse complexity and context, and ultimately pass over humanity’s unique aspects of emotion, meaning, value, will, embodied experiences, and relationships. The end result is that, while technology is promoted as an aid to human connection and relationships, and, certainly we are digitally-connected to one another beyond any previous generation’s ability to comprehend, the reality is that we are also more isolated, lonely, and emotionally disconnected. Algorithms that treat humans as data are used to promote strife and keep us glued to our screens rather than one another. This dehumanizing relationship between Big Tech and humanity is what many DocLab artists were responding to in this year’s selection that led to the curators choosing the “OFF the Internet” theme.

Gathering people in physical spaces can be messy, complicated, and certainly introduces a lot of friction, but it also supports layers of presence, authenticity, meaning, emotion, value, and connection that can be lost in digitally-mediated spaces. The revitalization of civic spaces is integral to the Shared Realities Consortium’s aims.

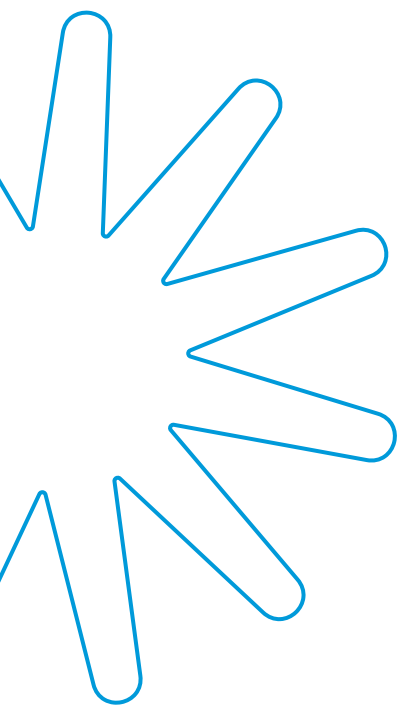
Coming back to de Waal, he explains some of the biggest open questions that he’s interested in exploring through his Civic Interaction Design research:

*We’re moving to a society where social structures are increasingly mediated through digital networks. We’re growing more individualistic over time. And we’re connected with people and institutions throughout the world. We’re seeing a lack of trust in traditional institutions. There may be a need for new types of institutions, but they’re not really there yet. And I guess the question that drives me forward is exactly that, right? If we have all those changes and all those shifts, how can we make sure that a democratic society – and for me, public space and civil society – is a vital aspect of that? How do we make that happen without keeping yourself tied to ideas of what civil society was in the ‘50s?*

The Shared Realities living lab aspires to revitalize civic society through immersive art, but doing so requires reckoning with the dominance of profit-driven public digital spaces designed for entirely different purposes. As de Waal stated in an interview, “commercial companies don’t have the quality of the public domain in their mind. They have their revenue model and their shareholder value as their first target.” Instead of serving the public good, public digital spaces enrich billionaires through the harnessing of individual’s data through surveillance capitalism.

Part of the revitalization of civil society is to regain digital sovereignty and treat people as relational beings rather than as objects with data to be mined. Shared Realities will explore how immersive experiences can gather people together, provide a shared context for the pluralistic exploration of ideas, and invite a certain amount of productive “friction” in order to build up our training wheels for how to live together with difference.

Yet these ambitions do not exist outside of material constraints. Immersive works, especially those tied to physical locations, are shaped not only by artistic intent, but also by the economic logics that govern how many people can access them, how quickly, and at what cost. In this context, the notion of “throughput,” or the number of people who can move through an experience per hour, becomes a decisive factor. The economics of throughput in location-based experiences has therefore catalyzed a shift from single-player formats toward collective, shared experiences. In the next sections, we turn to specific examples of such collective immersive works, as well as emerging frontiers in immersive distribution. In the next sections we’ll turn to some specific examples of collective immersive experiences as well as the frontiers of immersive distribution.



# Strands and Strategies to De-Isolate XR

The pragmatic and economic requirements of high-throughput experiences have been pushing XR designers to lean towards creating shared, communal experiences that have the end effect of de-isolating XR. The contemporary immersive art space has exploded with the spectacle of selfie museums, but as more storytellers move into the space there is the possibility of creating more meaningful stories and community rituals, and potentially even the transformative experiences Joseph Pine III predicts in his recently released book on [\*The Transformation Economy\*](#).



XR artists, producers and distributors in a panel talking about the various strategies for developing collective and social experiences at the R&D Summit.

Photo: Roger Cremers, 2025

This session featured five XR artists, producers, and distributors talking about various approaches for developing collective and social experiences across the various “strands” of XR. Moderator Martijn de Waal defined these “strands” as being the full spectrum of genres, potential futures, and design disciplines for XR that include theater, performing arts, cinema, visual arts, gaming, music, and architecture. Each of these XR strands can have fairly distinct funding mechanisms, design practices, distribution and monetization strategies, and audience expectations. The panelists represented a wide range of these various traditions, spoke about their experiences of fusing these strands together, and provided some examples of the types of collective experiences they have been creating. They also explored current trends in immersive distribution.

## Nu:Reality: Bringing VR to the Cinema

Diversion Cinema's Paul Bouchard collaborated with Cassette distributor, Babette Wijntjes, to create Nu:Reality, a Virtual Reality Platform that exhibits 360-degree, cinematic VR experiences in Dutch film theaters. Active since 2022, they have received funding in the Netherlands to equip cinemas with VR headsets, train the staff, and curate the best 360-degree films produced over the past decade. They use film theaters to screen these films, leveraging theater sound systems to create a vibrant shared experience, with the caveat that they can only select forward-facing experiences since theater seats do not allow viewers to swivel around. Working with pre-existing cinemas grants them access to an in-built receptive audience and the cinemas like it because Nu:Reality attracted a younger audience demographic to film theaters after losing them in the pandemic. Additionally, working with art house cinemas meant the audiences were "very open to strong mise-en-scène proposals" of 360-degree videos that were linear, narrative and sometimes experimental.



Nu:Reality is bringing VR into film theaters. Photo: Marcel Krijgsman.

Bouchard also talked about collaborating with theaters, museums, festivals, and digital arts venues around the world. However, most of these cultural institutions have planning cycles on widely varying timelines. Diversion found working with cinemas to be a good model for them because they are changing their programming on a weekly basis, and able to program cinematic VR experiences at a similar cadence as films. He says, "Working with cinemas appears to be a good model. Because once we design an installation that fits and works in one cinema, then we know it can be duplicated."

In conclusion, Nu:Reality, Sister Sylvester, Ontroerend Goed, Scarlett Kim, and ONX Studio demonstrate viable paths towards successful immersive arts ventures. Collaborations with other artists and funding organizations, cultivating discussions, creating compelling

audience participation, utilizing gameplay, world-building, and using XR mediums in unexpected ways and settings are clear examples of thinking outside the box of traditional storytelling mediums whilst honoring and making use of the same platforms and audience members those mediums enjoy.

## Sparking Dialogue Through Curated Shared Experience

Sister Sylvester is an immersive artist with a theatrical and performance background, but her work focuses on objects and situations rather than actors. She created *Drinking Brecht: An automated laboratory performance* that premiered at DocLab 2024, which started as a live performance with musicians, but became too costly and impractical to tour. She received funding from DocLab to explore how she could automate portions of her performance to make it a scalable experience that could sustainably travel. She replaced her live performance with a video essay and written instructions that shepherded pairs of audience members through a series of interactive biohacking lab experiments. Sister Sylvester said during the discussion:

*I wanted a space where the audience had to deal with each other, and there was no authority figure telling them what to do or guiding them through it. But they were left alone in this laboratory with a film... and then moments where they had to interact with each other, learn a particular thing together, and create a kind of situation together in that room.*



*Drinking Brecht: An Automated Laboratory Performance* by Sister Sylvester, installation view at IDFA DocLab November 2024. Photo: Kent Bye

By the end of the experience, the audience members can drink their biohacking experiment as a cocktail. It creates the feeling of being part of an underground speakeasy where participants engage in deep conversations about the intersection of science and politics. Sister

Sylvester achieved similar ends with her immersive piece, *Constantinopoliad*, where audience members were paired together to listen to an audio-driven, guided tour of a pop-up book that explored the queer, erotic poetry and life of Constantine Cavafy. She says,

*For me, the aim is the interactions or the conversations that happen between the audience... I know they've worked when at the end of the piece, the audience doesn't leave. There's not really an ending to either piece, but the audience stay and spend that time with each other, and they have this thing that they experience together as a kind of point of reference.*

Creating a shared context to enable deeper connections is a core theme of how immersive stories can play a part in revitalizing civil society. This automated form simplified the performance logistics, which opened up the range of places where it could tour. She said,

*It wasn't about reaching more people or scaling the work or making it bigger. It was actually about allowing it to be more specific and travel to different kinds of places... The hope with both *Drinking Brecht* and *Constantinopoliad* was that they could travel outside of [the normal theater circuit] and find different kinds of communities and different ways of existing inside of spaces and things that were already happening... There's trying to scale and trying to reach more places and more things, and then there's trying to think very, very specifically about where a piece of work might find its place. When it's smaller and more nimble, you have more ability to do that.*

### **Interactive Theatre for People Who Don't Like Interactive Theatre**

Another radical experiment in scalability is *Handle With Care*, which comes from Belgian theatre collective, *Ontroerend Goed*. Artistic director, Alexander Devriendt, described his desire to tour his work when commercial theaters are in a difficult state. He asked, "How do you make experimental work in the space which is already limited in how adventurous it is, and there's not a lot of room for experimental new ways of thinking because they can barely get in an audience for normal work." The answer was to create a theatrical piece that entirely cast the audience as performers.

*Handle with Care* is simply a box with a series of props and instructions shipped to a theatre after they purchase it. Forty-five tickets are then sold for a performance in which the box is placed at the center of the theatrical stage, awaiting audience members to take their seats where they will each find a note stating, "The performance starts when everybody has had time to read this and one of you opens the box." The audience then becomes the performers as they follow the instructions distributed to different people over the course of an hour.

Devriendt explains, "I like to make interactive theater for people who don't like interactive theater. I think at the core, it matters that you're there." In an [interview](#), Devriendt expands on this by saying,

*If you want to do something that is performative, theatrical, physical, it should matter that you're there. And that leans into interactive, of course. But the problem is with interactive that it scares people off because they always say, "I don't like to be put on the spot." That's the sentence they will always repeat, and I understand that. I don't like that either.*

With *Handle with Care*, the performance becomes the emergent social dynamics that are explored through information asymmetries, broader themes around the nature of time, and some parallel processes that become too vast to pay attention to everything at once. As the performance concludes, the audience is compelled to explore what they missed during the performance through conversations with others about what they witnessed and experienced.



*Handle with Care* by Ontroerend Goed, a performance without actors, technicians, just a box. Photo on the left: Sandra Gaudenzi, photo on the right: Kent Bye

Devriendt describes himself as being “anti-tech, low tech,” and *Handle with Care* demonstrates the depth of social dynamics that can be cultivated through tools as simple as written language on pieces of paper. As with any interactive piece, the author has to reckon with surrendering some control of the narrative and how it unfolds. He [said](#),

*At a certain point, I wanted to control timing... But the problem is every time we tested it, something happened that we never foresaw. So we went back to the drawing board to change it. Then we tested it again, and then something else happened that we never thought was possible. And at a certain point... it was like, "I'm going to give up. It's going to be their thing..." It didn't feel like they made a mistake, or that it became an escape room box. They didn't have to solve anything. Because you provided the structure. There's surprises, but there's no solution you have to find. And I think in the beginning, [I was striving for] the "ideal play" that people never managed to reach. So I gave up this "ideal play."*

We usually think of the spectrum of interactive stories as having two dimensions with one end being a film and the other end as a game. With cinema, the audience's agency has no impact on how the story unfolds, which allows directors to maintain complete control of the timing of the emotional beats in a narrative. On the other extreme of that spectrum is a video game where the audience can express their agency through exploring the possibility of interactions, but the narrative can become harder to receive. Video games solve this dilemma by using cut scenes that demarcate context switches that make clear to the player when they should be receiving a story and when they're empowered to play the game.

Within the context of theatrical performances and a participatory audience, there are additional dimensions that go beyond the ludonarrative dialectic of a video game. Immersive experiences can combine the elements of narrative with elements of interactivity, as well as elements of communication resulting in emergent social dynamics and collective imagination.

*Handle with Care* is an example of a piece that changes depending on who is in the audience, therefore, it really does matter that "you were there." Devriendt intentionally caps the audience at 45 people, in order to eliminate hierarchy of participation. If there are different tiers and prices of tickets it might differentiate between for who spectates and who participates, at which point the decision is made before the full context of the show is provided. Enabling anyone to participate allows each audience member to make a conscious choice as to whether to spectate or more directly engage. Devriendt brings this all back to the revitalization of civil society by saying,

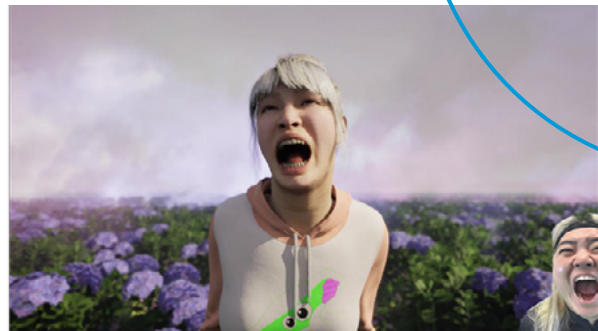
*I like this intention of "How do you make a community active?" Because we're in a time frame where it sometimes seems like the customer has to have everything. AI is just agreeing with everything I say and lying because of it, just giving me what I want. But I want to be an active member of the world and society where the work asks you to engage. I think that's where the beauty of theater for me will always be there. Because again, the movie doesn't need me to be there. Of course, it can intellectually engage me, emotionally engage me with material... But the problem is most of the entertainment doesn't require you to act it, but it requires you to zone out. And I think that's where the beauty of theatre is because you're there. And again, if the work says it matters that you're there, it requires you to be an active human with your whole universe there. And why not use that?*

Providing the opportunity to collaborate with other people face-to-face within the artistic context of a performance strengthens muscles that have been eroded by technologies that aspire to eliminate friction and, along with it, the need for other humans. Pieces like *Handle with Care* demonstrate the power of experiential design independent of the technological means being used.

## Insights at the Frontiers of Interdisciplinary Fusion

Within the production of immersive works, different strands and design disciplines continue to be combined in novel ways. Artist and creative producer Scarlett Kim recently spent her Royal Shakespeare Company Interdisciplinary Fellowship at Stanford Arts, pursuing the fusion of some of these strands,

*Whenever I traipse between mediums and disciplines, I see that as an opportunity to expand what we mean by those mediums... What happens if we actually shift that paradigm and bring a different disciplinary language and also process paradigm?*



*BEASTS* by Scarlett Kim (Center for Unclassifiable Technologies and Experiences)

There are benefits to applying design practices from one discipline to another. Kim spoke about the benefits of fusing game design principles with theater.

*Whenever I bring games into the theater world, that's also another exciting discovery because the idea of play testing in the game world is very similar to the rehearsal process, but when we bring the kind of paradigms of play testing into theater, I think it unlocks all kinds of new stuff.*

Another overlap Kim utilizes is how architectural worldbuilding can inform the stories being told. She says,

*I always felt that I am a worldbuilder more than a storyteller, and felt that the work that I'm trying to create is less of a narrative, but more of a narrative engine. And that the more pluralistic and polarizing the interpretation and the experience it is, I use that as a metric to kind of explore what success means to me.*

With immersive art she combines social dynamics, improv, and the realm of the imagination to provoke an experience of presence in participants:

*I'm really interested in creating work that can only happen through the encounter in the here and now and the work that's using imagination as the medium and using the collective presence and the process of being and becoming as a medium.*

The de-isolation theme at the DocLab R&D Summit highlights the various ways creators have been playing with the experience of collective presence and being together. This collaborative spirit is also new when it comes to the licensing model that usually is focused on a single playwright rather than as a collective effort:

*How we work with artists in American theater is based on the written text and the playwright-driven licensing model. So what does it mean to actually develop ensemble-based work or devised work through a shared-stakes model where multiple presenters are coming together from the development stage? I think there's a lot of interesting conversations like that... There are touring models and co-development models in the theater. What if we draw from the wisdom there and apply it to different models?*

While at the Oregon Shakespeare Festival Kim created the Quill Festival in virtual reality, which was an attempt to bring theatrical experiences to new audiences. She says,

*The point I want to make is about access, because we brought in technology-based work and immersive work to expand access, which allowed for international audiences, intergenerational audiences to access theater. Because theater, at least in the US context especially, has become kind of this culturally elitist space where the relationship is transactional and observational.*

XR is at the center of fusing together these various disciplinary strands, which represent widely varying audiences, cultures, and funding models. XR is being used as an umbrella term to encompass all of these various traditions, each strand offering their own unique design process. Kim says, "I think sometimes my work starts from a curiosity about an object or a technology. Sometimes it starts from a chance operation or a relationship. I feel like it's been important to me to kind of keep that beginning point pluralistic." There may be new genres that have yet to emerge, and Kim encourages us to embrace a state of liminality by saying, "I'm resigned to being a kind of shapeshifter and have found freedom in that as opposed to making myself legible. My focus is more on being as expansive as possible."



*The Golden Key by Matthew Niederhauser at SXSW in 2024*

## Multiplayer XR and the Frontiers of Immersive Distribution with ONX Studio

Matthew Niederhauser spoke about his multi-player XR work as an artist as well what ONX Studio and Onassis Foundation have been doing at the frontiers of immersive distribution.

He mentioned multi-player XR pieces that he worked on including a four-person experience about Sufism called *Zikr*, a multi-player AR experience called *objects in mirror AR closer than they appear*, and a two-person VR experience called *Metamorphic*. He says, "I think that this space is super important still, and is sometimes at odds with distribution, but the technology is still changing."

Niederhauser spoke about his single-player experience called *Tulpamancer*, which transformed answers to text prompts into a customized VR experience created with generative AI. He got frustrated at the limited throughput while exhibiting at Venice Immersive, and said to himself: "'Oh my God! I've done it again. It's like only 20 people can see this today.' And I was like, 'Why do I keep doing this?'"

This led to *The Golden Key*, which won the South by Southwest XR Experience Jury Award in 2024. He says that the idea originated from designing an experience with high throughput in mind.

*It started with the question of "How can I actually use this mechanism at the heart of Tulpamancer, which we use the word 'narrative engine' to describe, to generate customized stories from interactions at scale in a social manner?"... Let's try to think about this in a completely different form that we knew could potentially work within an exhibition environment.*

*The Golden Key* was a three-screen installation that included two tablets enabling audience members to ask questions, which were then integrated into an emergent fairy tale spoken and illustrated by generative AI. This system allowed for asynchronous collaborative agency where audience members could provide input, but would then have to wait to see how the traces of their agency fed into the story. The end result allowed many people to see the experience with a spectrum of interactivity ranging from just spectating to entering prompts to steer the story in specific directions.

He exhibited both of these pieces in an exhibition called “Coded Dreams” at the PHI Centre, where Niederhauser says, “Their amazing team helped us find a way to scale the *Tulpamancer* VR experience up to eight people at a time.”



*Parallels* by Matthew Niederhauser

LED walls have also proven to be a compelling medium to share immersive art in outdoor festivals and gatherings. He says, “We have a piece called *Parallels* now that is touring the most. I’m not saying everybody has an LED wall in their back pocket, but it’s just a camera, a computer, and an outdoor LED wall that can create this interactive AI experience.” *Parallels* applies style-transfer AI techniques to real-time photos taken multiple times a minute, which encourages playful expression of identity as it transcends what you expect from the normal experience of taking a selfie. Snap has deployed similar installations featuring their facial filters, which successfully translates their phone-based, AR experience into a collective experience with friends.

Niederhauser also spoke about the evolving role of ONX Studio as an XR development space in New York City looking to build relationships with exhibitors. He says,

*ONX Studio is the digital cultures platform for the Onassis Foundation, and how it started was that we were going to have a studio where artists can access advanced technologies for free. But we quickly realized that that wasn't enough within this space in terms of trying to find platforms for presentation or developing touring models or distribution.*

Niederhauser said there is a larger public audience engaging with places like Meow Wolf, Van Gogh Immersive Experiences, and places like The Museum of Ice Cream. He said,

*These immersive spaces have challenged traditional institutions in terms of how do we reach this new public? How do we potentially respond to this demand? It has helped prime audiences, but I think that there's also a growing audience who want more developed narratives, not just Instagram backdrops.*



*Tribeca Immersive: In Search of Us, photo: Mikhail Mishin, 2025*

ONX Studio collaborated with Agog and Tribeca Immersive in 2025 in an immersive exhibition that felt more like an art gallery than the normally-cramped, festival context. They invited museum curators and larger institutions to showcase how this work might be presented in more formal contexts. ONX Studio has continued to do outreach to New York cultural institutions and Niederhauser says,

*Right now, we're very active in thinking about distribution and building co-commissioning networks amongst institutions. That is really hard work. It's almost like museum by museum where you have to infiltrate, understand their infrastructure, and build consensus. It really helps to have a fancy name like the Onassis*

*Foundation behind you, but you realize that to get these people to start lining up – they want to engage, they want to approach things, but they need allies and you have to, like, literally get in there and try to do that work. How can we make sure that they feel they all have potential buy-in with an artist or in a project that’s actually going to tour and work together?*

XR fuses together so many design disciplines and they are finding performing arts centers actually have an easier time than galleries making the transition to XR. He says,

*But quite frankly, for us, it’s a lot easier to go into a black box of a theater, which has a grid, they have people who understand lighting and sound and projections almost more than the white walls of a gallery. So we’re spending a lot of time thinking about performing arts centers.*

He also reports that some performing arts centers are seeing encouraging growth after showing an immersive piece. He says, “They reach a whole new audience, and then that audience also gets sticky to the other parts of their programming, which might be more traditional proscenium staging.”

The diversity of exhibition opportunities for XR also means that there might be multiple distribution options as well, which may feed back into the design process. Niederhauser says,

*We encourage artists to think about how a project can manifest on many platforms. What is an ideal form for in-person happenings? There really is a demand for that. You don’t want to ignore that. But in terms of the production cycle they’re doing and the assets they’re creating, then we try to advise them on how this could be easily translatable into a web platform, or something that might be distributable on Steam, and at the same time work in a theater or as an installation. So that type of multi-platforming is there.*

In conclusion, the pragmatic and economic requirements of high-throughput experiences have been pushing XR designers to lean towards creating shared, communal experiences that have the end effect of de-isolating XR. The contemporary immersive art space has exploded with the spectacle of selfie museums, but as more storytellers move into the space there is the possibility of creating more meaningful stories, community rituals, and potentially even the transformative experiences Joseph Pine III predicts in his recently released book on [The Transformation Economy](#).

# Spaces and Places Exhibiting XR Work

Continuing on the theme of XR distribution, the first afternoon session of the DocLab R&D Summit focused on four different immersive exhibition venues, all revealing important insights into audience dynamics, modes of communication, and questions of accessibility. Moderator Martijn de Waal kicked off the session by saying,

*In this panel we will talk about this from the perspective of venues that have started showing immersive work. What does it take for these venues to enable that work? How do you bring in audiences? What kind of spaces do you need for that? Is it possible to have works that actually go on tour? Those are the types of questions that we'll be discussing today.*

The panel of immersive venues featured representatives from a relatively new immersive art gallery called Undershed, everything from immersive production to exhibition to distribution with PHI, a 24-hour music venue with immersive audio from THE OTHER SIDE, and immersive dome works with the ARTIS Planetarium.



Panel on different venues exhibiting XR work, discussing audience engagement, production challenges and more. Photo: Kent Bye, November 2025

## Immersive Gallery Lessons Learned from the first Year of Undershed

Undershed is a new immersive gallery in Bristol, UK that opened on the 26th of October, 2024. Lead curator Amy Rose had many canny insights from her first year of operation. She started by sharing the origin story of how Undershed was born under the umbrella of the Watershed, a beloved cinema institution that has been showing high-quality, independent

films since 1982. She was lamenting in a bar with a couple of Watershed employees about the lack of places to exhibit her immersive art,

*I think it was four years ago, and we were all kind of sad and curious about why there was not a space in Bristol for showing immersive works on an ongoing basis. There are other art galleries, there are museums, but there was never really anywhere that was dedicated that could establish a practice and could show work from festivals that audiences could become comfortable with the form, and start to trust somewhere that they would take the risks that we want them to take because we believe in the work.*



FRAMERATE: *Pulse of the Earth* by ScanLAB Projects at The Undershed  
Photo: Fish Outta Water Media, 2025

Rose emphasized, “This work will not survive, and this industry will not survive if we do not find new audiences for the work. And that is our job as venues.”

One of the big lessons she had from the first year was around finding ways to communicate how a piece of immersive work will resonate with audiences. She said it’s not about having world premieres, but rather, “It’s actually got more to do with finding themes that we feel are really relevant to people and that we can tell a story about, and then we look for work that fits in those themes.” She boils it down by saying,

*If I look at a piece of work, and I say to myself, “How am I going to tell the story of this piece to the people of Bristol? Is it going to matter to them?” And if I cannot find a way that it will matter to them easily in one or two lines, I cannot do*

it. Because the comms department of Watershed would literally have me on the chopping block if I brought them work like that.

So there is something about distilling ideas down from the particular to the universal that will enable us to reach new audiences. I don't think that means that the work has to be bad, mainstream, boring, or commercial. I just think it has to be treated with a sieve that enables us to really speak clearly about what the work is truly about, and that it feels relevant to people now. Because the reality is that we have to sell tickets to Undershed. We cannot survive without ticket sales. We're not a gallery in that sense, we're something else.

There are some key lessons to be gathered from looking at how Undershed has been describing the work to audiences, and also from the innovative ways that they're greeting and priming them.

For instance, they boiled down their latest [The Everyworld Exhibition](#) into a two-sentence logline, "With virtual reality, giant inflatables, feature films, projections, sketchbooks and more – this season explores family, the creative spirit, grief and togetherness. With a multimedia exhibition alongside a series of events and films in the cinema from the Kötting family."

The screenshot shows two main sections: 'What to Expect' and 'Exhibition information'. 'What to Expect' is a dark red box with white text, detailing the VR experience 'The Tell Tale Rooms' and the 'Wake of a Deadad' installation. 'Exhibition information' is a light grey box with dark text, covering 'Comfort and Wellbeing', 'Opening Times', 'Ticket Prices', and 'Your Booking'. Below these are 'The Practicalities' which includes 'Cloakroom', 'Toilet breaks', 'Can I bring my baby / toddler to Undershed?', 'Food & Drink', and 'Photos & Videos'.

### What to Expect

When you arrive at The Everyworld, a Gallery Assistant will welcome you and give you time to settle before experiencing the VR piece *The Tell Tale Rooms*. This 15-minute father-daughter collaboration explores Louvre, their Pyrenean family farmhouse, in virtual reality on a Quest 2 headset. Blending animation, archive material, and live action, it celebrates the wonders of Eden's rare neurological syndrome and her distinctive fantastical world.

*In The Wake of a Deadad* sits at the far end of the gallery, with two towering inflatables of Andrew's father and grandfather – the 'Deadads', accompanied by a poetic looping film of a journey taken with the inflatables to places of family significance. From the family grave in Germany to nieces kissing the inflatable deadad in a brother's garden and trips to the Faroe Islands and Mexico, the piece is a powerful and surreal reflection on grief, memory and the tangled relationships many of us have with close family members.

The rest of the exhibition includes more films and artworks from two decades of shared artistic practice, a bricolage including sculptures, costumes, objects, and books from Andrew and Eden's lives working together.

See more about their work on Andrew Kötting's website.

### Exhibition information

#### Comfort and Wellbeing

*The Tell Tale Rooms* is shown in VR (virtual reality) and requires the use of a Quest 2 VR headset. There are some custom features such as volume and brightness control. Anyone with epilepsy who has not used VR before should avoid this part of the exhibition.

You are able to experience and enjoy the exhibition without doing the VR piece if you wish.

There are seats and benches available in the gallery, as well as spaces where you can lie down. Gallery Assistants are happy to help if you need extra seating.

A note for glasses wearers: To ensure a comfortable fit, we recommend wearing contact lenses or standard-sized frames if possible. Large or oversized frames may be difficult to fit inside the VR headset.

#### How it works

When you arrive, you enter our welcome area, a Gallery Assistant will greet you, explain what to expect, and answer any questions.

In the main gallery, a Gallery Assistant will help you get set up with the VR headset. The piece runs for 15 minutes. The rest of the exhibition includes artworks, films and inflatables.

If the exhibition is fully booked, you have up to 1 hour in the space. If you'd like to stay longer and we're not fully booked, you are welcome to.

At the end, we invite you to share your feedback and tell us how the exhibition felt for you.

#### Your Booking

Please arrive on time for your session or you may not be able to complete the experience within your time slot.

If you are running late, don't worry. We can hold your spot for up to 10 minutes after your session start time. After that, we won't be able to hold your space as it would delay other visitors. If you arrive more than 10 minutes late, just pop over to the box office and they'll help you swap your ticket for another available session.

If we can do anything to make your visit to Undershed easier, please email us and we'll be happy to help.

#### Opening Times

- Mon: 12:00-19:00
- Tue - Thu: 10:00-19:00
- Fri - Sat: 10:20-19:20
- Sun: 10:20-16:40

There is a maximum capacity of 15 people in the gallery at any one time, with 5 people starting their session every 20 minutes.

The full experience, from arrival to departure, takes around one hour.

We recommend pre-booking in advance online, in person at Box Office or by phone on 0117 927 5100. Any unbooked slots are available for walk up customers to Box Office.

#### Ticket Prices

Tickets are priced on a sliding scale for adults, £5 - £12, and £4 for children, based on a pay-what-you-can basis. Further details are on our booking pages.

Companion tickets are available.

See Access at Undershed for details.

### The Practicalities

#### Cloakroom

In the welcome area of Undershed there are spaces to leave your belongings while you are inside the exhibition. A Gallery Assistant will be in this area at all times.

#### Toilet breaks

You are welcome to use any of the toilet facilities in Watershed then come back into Undershed.

#### Can I bring my baby / toddler to Undershed?

The Everyworld is a multi-media exhibition anyone under 16 must be joined by a parent or guardian and the VR experience is recommended for ages 8+.

#### Food & Drink

Please do not bring in outside food or drink into Undershed. Watershed Café & Bar is on the first floor for refreshments before and after your visit to Undershed.

#### Photos & Videos

Photos & videos are allowed in Undershed, but please do not take or share images of people without permission whilst they are participating in the work.

Undershed provides detailed descriptions for their events using clearly-spoken language without hyperbole to help audiences understand what they should expect. They also provide detailed explanations of the logistics of the exhibition, some practical questions that are frequently asked, as well as detailed accessibility information.

Here's how Rose explained their description-based, onboarding approach that helps to prime audiences and reduce their anxiety around trying something new,

*If you look at the Undershed website, every piece of work explains what it's about. And then it has a section called "What to Expect." I write this, and I use extremely plain English. I say, "You walk in the door. You meet a person." And it's really trying to demystify, and break down barriers for people that feel confused by this bizarre form that we are all working on. And it felt very, very, very important to do that. And I often see text written about this kind of work that uses words – really silly language to be honest – that is trying to kind of make claims about 'changing the world' or you know, 'groundbreaking' and all these kinds of things. And I just feel like there's a lot of fatigue in audiences around that stuff. And we just need to speak in a more direct way and say, "This is what it is like to have a go."*

Undershed prioritizes accessibility when they exhibit immersive work by providing captions, audio descriptions, and other accommodations on a spectrum for moving, sensing, thinking, feeling, or communicating differently. This level of accessibility is unusual compared to other immersive exhibitions in the festival context, and Rose explained why the Undershed finds the practice valuable,

*For us as an institution, Watershed is really built around values of inclusion and access. And so those things are really borne out through language and mannerism and etiquette and something where we're not saying, "This is a white cube, come and be really cool." We're saying, "Please come and sit down and talk to us..." So we think very deeply about how we speak to people when they come in the door, and all of the access materials that we have to develop to make this work accessible to all of the communities that we want to come.*

Whenever accommodations are provided for one set of accessibility needs, then everyone benefits. But also, providing and describing accessibility options is like extending an open invitation to bring in as diverse an audience as possible.

#### The Everyworld Access

##### There are captions available for Deaf and hard of hearing audiences

Please ask the Gallery Assistant if you would like these activated.

##### The exhibition is accessible to most ages

Anyone under 16 must be joined by a parent or guardian, who will support them with putting on the VR headset with guidance from our team. Gallery Assistants cannot supervise children if a parent/guardian chooses to do the VR experience.

##### If you have photosensitive epilepsy, the VR may not be for you

The *Tell Tale Rooms* VR piece is not very triggering in terms of lighting, but if you haven't used VR before and have photosensitive epilepsy, we recommend avoiding this part of the exhibition.

##### There are places to sit throughout the gallery

Benches and stools are available, as well as yoga mats and blankets on request if you need to lie down.

If you cannot find a seat and would like one, please speak to a Gallery Assistant.

We welcome resting at any point while you're in Undershed.

##### Facilities

You can breastfeed anywhere in Watershed. If you would like a bit more privacy, a Gallery Assistant can advise on spaces that may be available, though we cannot guarantee a private room.

Changing facilities are available in male, female, gender neutral, and accessible toilets. Gallery Assistants are happy to help if you need any support during your visit.

##### There are captions available for Deaf and hard of hearing audiences

Films will be captioned, and we are working on getting the VR experience captioned too. We will update soon.

##### Overview

The Everyworld is a multi-media exhibition exploring themes of home, family, grief and joy. The space includes films, inflatables, books, sculptures and objects arranged in an immersive environment.

The VR experience is recommended for ages 8+ and the tone is playful, familiar and sometimes irreverent.

##### There is audio description available

Using an mp3 player, you can experience The Everyworld with audio description. This will outline the visuals in the gallery to enhance the experience for any blind or partially sighted visitors. There is a single track and not specific audio description for each film.

There is no audio description available for the VR experience.

##### The Everyworld is designed to be as inclusive and relaxed as possible

All sessions have gentle lighting and ear defenders are available if you need them. The Everyworld is an informal place and you're more than welcome to chat or make noise whilst in the space.

Spacious sessions are available for visitors who prefer more room to move and less people in the gallery. There are two of these each day. We're currently unable to display these sessions on the website, but in the meantime get in contact with the Box Office team to advise.

The VR experience can be slightly altered; the brightness and volume can be adjusted to suit your needs.

The experience is a single-person VR setup, and each participant is already spaced in their own section of the gallery. You are very welcome to wear a mask, but we cannot guarantee that other visitors or staff will be masked.

If you would like a tour to familiarise yourself with the environment, then please [contact the Undershed team](#) to arrange this.

##### We're excited to welcome you to Undershed

If we can do anything to make your visit to Undershed easier, or you have any questions or feedback please get in touch, we'll be happy to help.

We know there will be things we can improve on and adapt.

Find out more about general Undershed access

Rose also emphasized the importance of cultivating togetherness, and how she trained her docents to really engage with people both before and after they have experienced the exhibition. The audience members are not just coming in to consume pieces of immersive art, but rather to connect to other people in the community and build relationships. In an [interview](#), she talks about the need to treat these exhibition centers as an opportunity to revitalize civic spaces by saying,

*I think it's very important at Watershed to think about our role as a kind of civic space. And many people come into the building who use the cafe bar, who sit there and nurse a pint or a cup of tea for the whole day. And long may that continue forever. I think it's really rare for spaces in cities these days to be really upfront about offering that to people and say, "Hey! Come in and feel at home here. Use it for what you need. Come and play chess here. Play chess for three hours, and spend £2.50 a night. That's all right. Please come and be together." And so that spirit, I think, really permeates all of the way in which we design to look after people.*

*And we're not really seeking a space that carts people through the door, gets them to spend money and then kicks them out. What we're seeking is a space that feels welcoming, and where you might chat to someone you don't know or feel comfortable enough to come there if you don't have enough money to pay for the heating in your house – or all those questions that are quite real to people. And there's lots of different ways of trying to do that. And some of it is programming work that is for more than one person at a time. But also it's about all of the ways in which you are with people. I suppose, "How can you be with living people?"*

We face many harsh realities right now, in a time when civic spaces have been, as elsewhere noted in this paper, left up to digital spaces hosted by Big Tech that seem to facilitate alienation vs connection. So spending time in a third place, with other people, in conversations about shared experiences, and opportunities to imagine better futures has a clear appeal.

Rose previously worked at Anagram, where she created award-winning immersive stories with co-founder May Abdalla. She is applying the same experiential design lessons they learned from Anagram to the exhibitions of work at Undershed. She shared some of [her key insights](#) in an interview,

*One of my big lessons from The Collider was that we really needed to make sure that there was a space at the end of the piece for people to integrate what had happened. And the first time that we built it, it didn't have that space. It was here in IDFA in 2018. It had the beginning, it really prepped people. And then it had the meat of the piece. You were with another person, and one of you was wearing the headset and the other person was holding the controllers. And all sorts of bizarre things happened. But at IDFA, it didn't have the final resting space where the two people, without any technology, would sit together and try and work out*

*what had just happened. We noticed that people needed that space. And so what they would do is they would go and sit in the bar or they would go for a walk, which also produced wonderful things...But the next time we built it, we integrated a final room that gave people this opportunity to sit together and to talk and to think together and to integrate this journey...*

*But I think it's really, really crucial in experience design to think about that beginning and think about that end. And that if all you do is hang out in the middle, you don't reach people because you don't prepare them to think. And you don't allow them to muse, and to be with what's happened. And often that's where the gold really is. And if you don't look after that, and if you don't provide that space for people. Maybe they do it anyway. Maybe they go for a walk together. Or maybe they do it at home, and you know that's great. But I think it's part of our responsibility to really look after the whole of the process.*

If you really want audience members to connect after an immersive experience, it's important to think about integrating a dedicated time and space for it. If there is space available in the installation or the immediate environment, this helps to maintain the integrity of a container. And if time for discussion is included within the run time, this helps in a festival context, and also creates an implicit invitation because participants have to reserve a time slot.



*The Collider by Anagram, Photo: Nichon Glerum 2018*

But it's also important to make an explicit invitation to participate. This could be through an open-ended invitation to chat, through a series of questions that serve as prompts, or via a docent or impact producer who facilitates a conversation. Immersive stories create a shared context that offers many opportunities for audiences to connect with others in order to unpack and digest their shared experiences. Ritualist Michael Meade often says that a ritual isn't over until you tell the story and share your experience of it.

Finally, Rose reflected on the struggles of being an immersive artist whilst the distribution landscape was still nascent and forming. Once she realized her pieces were not getting broader distribution beyond the niche audience of the festival circuit, she felt it was sort of a waste of time, which led her to work on solving that problem. She [said in an interview](#),

*One of the big things that we're doing now at the Watershed, and also in collaboration with other venues in the UK and hopefully abroad, is that we're building this network of venues that have good mutual understanding of each other's capacities and needs, where we can offer this pathway for artists and artworks to tour in a way that's both possible, financially-supported to some degree, and is clear and visible from the beginning.*

But even as this network develops, then immersive artists need to be aware of the exhibition constraints, capacities, and needs of these various exhibition venues. Rose expressed some frustration with the communication disconnect between the vision of the artists versus what is both practical and sustainable for venues to exhibit. She said during the session,

*I see work developed by artists that is very far away from the realities of exhibition, touring, and what's really needed at the moment. What is needed is for venues and exhibiting partners to become much closer to the development process so that when artists think about making work, then they really understand what the pressures are that venues are under to be able to present and tour that work. And I think without that close relationship, artwork will continue to be made that is really, really difficult for us to present. And I think it's really important that we as venues are really honest about that, and get closer to people and say, "Please think about these questions. Please design with this in mind. Because I love the work, but I can't show it if it isn't X, Y and Z."*

Rose continued to elaborate by saying, "It's not necessarily technological as much as it is – it's just that horrible word, "throughput." PHI's Myriam Achard objected and injected, "It's not a horrible word." Rose opted to reframe her judgment by saying,

*That "lovely" word of "throughput," which is just about, "What is the realism of how many people can come through the door?" Yeah, it is the reality. And what is the balance between the people that come through the door, and the number of staff that have to look after them, and the balance between the staffing costs for us and the ticket sales? That's the golden ratio. Having made work that was awful for that myself, as artists you just have to do those numbers yourself. Because if you bring a work that is going to take three staff members to facilitate three people an hour, it will be impossible for us to do.*

The Undershed is breaking new ground in terms of contextualizing immersive work to be shown in gallery spaces, and doing the extra work to prepare a wide range of audiences for these new experiences with accessibility in mind, as well as providing spaces for connection.

Rose also spent a year with the Royal Shakespeare Company’s Interdisciplinary Fellowship exploring the frontiers immersive exhibition, so she came to DocLab 2025 with a lot of in-depth insights that were shared not only in this panel, but also this [interview](#), and a soon-to-be released report from the RSC.



### **PHI at the Frontiers of Immersive Production, Exhibition, & Distribution**

Myriam Achard is the Chief New Media Partnership and PR at PHI, and she gave a quick recap of the robust offerings of this leading immersive institution:

- PHI Foundation for Contemporary Art was founded in 2007 by Phoebe Greenberg.
- PHI Center was founded in 2012, which has focused on the intersection between art and technology.
- PHI Studio launched in 2019 by producing large-scale, location based entertainment (LBE) experiences. In collaboration with Felix and Paul Studios, they released *The Infinite*, which can welcome 175 people per hour in virtual reality.
- PHI has residencies in music, contemporary art, and immersive art.
- PHI just finalized their distribution branch within PHI Studio called “Infinity Experiences,” where they are distributing their own large-scale LBE content as well as third-party content throughout Canada and the United States.
- PHI Contemporary will be opening in 2029.

On March 26th, 2025, [Greenberg announced](#) that PHI Foundation and PHI Centre were merging under the umbrella of PHI. She wrote,

*The PHI Foundation for Contemporary Art and the PHI Centre, as you have known them, will give way to a single name: PHI. This transformation comes at a pivotal moment for us as we prepare for PHI Contemporary, a new space dedicated to art*

*and culture that will further our mission and ensure its lasting impact for generations to come. Under this unified identity, we will continue to offer a rich and inspiring program, rooted in contemporary artistic practices and driven by our commitment to experimentation and discovery.*

This combination of PHI Foundation and PHI Centre into PHI may reflect a broader trend of how contemporary art is integrating more aspects of digital art and immersive art. Archard says,

*In 2029, we will be opening a new venue, which will be called PHI Contemporary, which will allow us to bring under one roof what we are currently doing in two different institutions. And we don't have to say anymore, "This is contemporary art." and "This is art and technology." It's just going to be about "art." And it's going to be approximately 7,000 square meters of spaces, gallery spaces, gathering spaces, public spaces, and this is for 2029.*

PHI does both production and distribution, which helps to inform the work they produce to be more well-suited for distribution. Archard agrees with Amy Rose's assessment that artists and exhibitors need to be in closer communication because they are not always on the same page. She said,

*I couldn't agree more with what Amy said. We as venues need to be close to the artists, and know what they're working on. And artists should not be shy to come to us and exchange. It will not be possible, of course, to welcome all of your works. But it's really about collaboration. It's about discussion and this is the best way, I think, to approach it.*

PHI Studio had to learn from their mistakes with *The Infinite* because their minimal required space and architectural requirements made it really difficult to find adequate locations that could host the experience. Archard says,

*We really learned it the hard way with *The Infinite* because we produced an installation, an experience that was not scalable at all. And we needed 1,400 square meters with no columns [laughs from the audience] and a very, very high ceiling... But it was clear very quickly that it would be very hard to tour. So we did tour it. And as I said, it's still touring. But then right away, we produced a smaller version that is way easier to tour, to find venues, scalable, columns are okay, and lower ceiling. So yeah, we learned the hard way.*

PHI ended up creating a scaled-down version that gave them more flexibility to tour. An [interview about \*The Infinite\* in 2022](#) recaps the timeline: "*The Infinite* originally opened in Montreal on August 17, 2021, then moved to Houston on December 20, 2021, and recently opened in Seattle-Tacoma, Washington on May 25, 2022. It will open up in San Francisco five months later in 2022, followed by Chicago, and then potentially opening in smaller venues after that."

Five months after The Infinite had pioneered this type of large-scale LBE in August 2021, a French-based company originally named Emissive (later rebranded to Excurio in 2024) debuted a piece called *Éternelle Notre-Dame* in January 2022. Here's an [interview with CEO Fabien Barati](#) from 2023 where he recaps how it developed

*It's a 17-year-old company now. We founded the company in 2005, and we specialize in creating immersive experiences using VR mostly. And for a few years now, we were developing this format that we call the "immersive expeditions." The first immersive expedition was launched in January 2022. It's Éternelle Notre-Dame. It was launched in Paris. It's still in Paris in operation in two different venues. and the second immersive expedition is the Horizon of Khufu that was launched in June in Paris as well now is in Lyon and it will be in China very soon in the next few weeks. So I'm very happy about that, and so we are really developing this concept worldwide by creating dedicated venues and also of course creating new content.*

Excurio's immersive expedition format feels a bit like getting a guided tour where you naturally expect to be with a lot of other people, which enables high-throughput experiences ranging from 100 to 150 people per hour. They also use the affordances of VR to take unique tours through space and time where audiences explore the architecture of places like Notre-Dame and the Egyptian pyramids.



EXP Rosemont, Photo: Doola, 2025

Julie Tremblay is PHI Studio's general manager and executive producer, and she recounted the process of discovering and bringing Excurio's immersive expeditions to audiences in Canada. She says in an [interview](#) from September 2025,

*I remember at the time, Excurio, under the name Emissive, had launched Éternelle Notre-Dame at that point. And we had the chance to experience that content in Paris. And it was an extraordinary experience. So we wanted to bring that content specifically in Montreal. And then we discovered that, “Okay, there’s a model. There’s new content that will emerge from their team at a certain lapse of time. And we want to make sure that we can bring that not only to the Montreal audience, but to the Canadian audience as well.” And that’s how we start opening more and more venues. So right now, at the end of the month, we will be operating six venues across Canada. And one in the States. And yes we are presenting Excurio work, but the intention is still to present what’s the best of immersive. And so at one point, there will be other content providers who will also create large-scale experiences. And it will become a choice to find the right content for your audience.*

After validating that exhibiting Excurio’s immersive expeditions in Canada led to a profitable business model, PHI expanded to six locations in Canada including Montreal, Edmonton, Calgary, and Quebec City, with their most recent opening being the EXP in Rosemont, Illinois with their first long-term lease. They’re distributing Excurio’s work, their own work from PHI Studio, but also other third-party pieces through their newly-formed distribution arm of PHI Studio called [Infinity Experiences](#).

In terms of exhibition lessons learned, Archard says that the role of the docents – or what she calls the “mediators” – are absolutely key to whether or not audiences have a good experience. She explains why she sees the mediators as the cornerstone of the experience. She says,

*Onboarding for us is key to the experience. It’s part of the experience, 100%. It’s not possible to have somebody from the production always on location for four months. But when we present works, and the artists are coming, we have the artists spend sometimes an entire day with our mediators. We have a team of mediators that are with us actually for a long time. And having that time with the artists makes such a difference. So that would be a recommendation. And if the artists cannot come, then it’s an online meeting with mediators.*

*But I always tell our mediators that I am their number one fan, because they will make the difference for the experience of our audience. So this is something that’s really, really important not to skip that. And yes, onboarding, but offboarding. Because there are some works that can be very emotional, powerful. And sometimes people need to talk about it after. So they are always there for that. To us, it’s really part of the experience. The onboarding and offboarding, it’s one.*

Archard is also bringing back cinematic VR screenings to Montreal after some successful experiments during the pandemic. She says,

*I'm bringing back a VR cinema in Montreal. We've been doing that before the pandemic. It was quite successful. But then the pandemic happened, and then we're busy with other things. But I'm building the program right now. And I will probably mainly show works that premiered two years ago, three years ago. To me, it's not about when it was produced. Is it good? Is it relevant? Will our audience be interested? So we're not into premieres... There's one piece of work that I always refer to, Notes on Blindness, from the French studio that was produced ten years ago. And it's still so relevant and beautiful. So to answer your question, we will do that, bring back older projects with our VR cinema.*

Finally, when asked about future trends, Archard pointed to how their latest production *Blur* is at the intersection of performing arts, theatre, and XR. She says,

*I think that we are in a very interesting moment right now. I'm not objective because we just produced something that's related to it, but the intersection between performing arts and technology can be very powerful. We are very curious about that. Our founder Phoebe Greenberg is a visionary, an artist, and coming from the theater world. Caspar mentioned *Blur* this morning, which is our latest production that premiered in Taiwan earlier this year, but we also had it in Venice. And it's really a piece that is at the intersection between performing arts and technology. And this is really what we are looking to do more, and it's really an exciting moment for that intersection.*

PHI has been at the forefront of both production, exhibition, and distribution, and this tightly-coupled integration has led to the development of sustainable models. This has allowed them to experiment and innovate by fusing together the performing arts with virtual reality and mixed reality. Most recently, this resulted in *Blur*, which was one of the hottest tickets at Venice Immersive 2025.

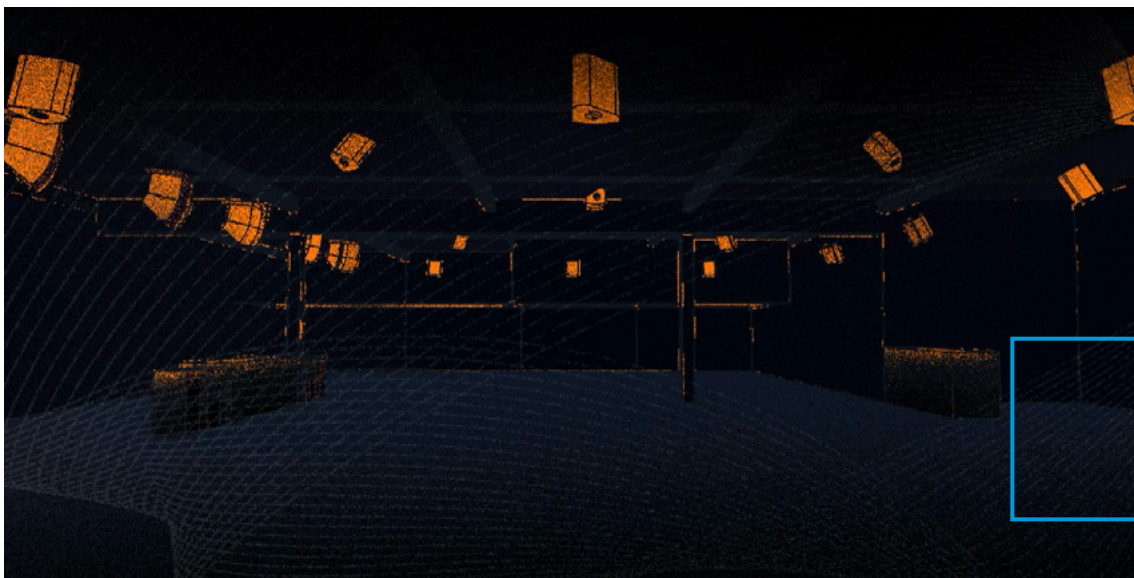


Image included within the invitation for *The Other Side* opening in 2023.

XR distribution has largely been within the early “cinema of attractions” phase, but we are getting glimmers of what the “theater of XR” might look like with Excurio’s immersive expeditions format and PHI’s own homegrown solutions. It is enabling large-scale, free-roaming XR, location-based entertainment that is becoming a more standardized and scalable format that can be replicated in different cities around the world. But PHI demonstrates it isn’t just technology and the willingness to innovate alone, it also requires insightful curation of strong storytelling and careful tending to the user journey from start to finish.

## Amsterdam Nightclub Features a Unique Spatial Audio System

The Other Side is a 24-hour nightclub and music venue in the harbor area of Amsterdam featuring a unique spatial audio system that first opened on September 30, 2023. Co-founder Doeshka Vrede shared the origin story,

*When we started, we had no money, no nothing. So we constructed everything with friends. And then at a certain point, there was a little bit of money. We were like, “Okay, where are we going to invest in? Let’s do sound, because for us, that’s our main product.” So then we decided to invest in a spatial audio sound system by L-Acoustics. It’s a sound system of 36 speakers hanging in an umbrella type of shape in the room. And as a producer, you can decide from which speaker comes which sound.*

This is how they describe their sound system on their website:

*THE OTHER SIDE is among the select venues globally that boast revolutionary L-ISA immersive sound technology from L-Acoustics. The main room, with a capacity to accommodate 900 enthusiasts, is equipped with a state-of-the-art 14.1.5 L-Acoustics sound system that surrounds the audience, offering listeners unparalleled clarity, a natural auditory experience, and an expansive sound panorama. Introduced in 2016, L-ISA enables artists to create and deliver immersive sound experiences for live productions. With typical stereo sound systems, most concertgoers are outside the central “sweet spot,” missing the full audio experience. L-ISA spatial audio technology ensures every listener is at the heart of the performance and feels like they are “inside the music.” Even more astonishingly, expanding the stage speaker setup to envelop the audience with sound from every angle results in a 360-degree experience. Prepare to feel the music surround you, to hear every note, every beat, from every direction. This is L-ISA Immersive Hyperreal Sound.*

One challenge with spatial audio systems is that the bespoke nature of every installation means spatial music artists have to do a custom mix for every venue. Vrede says,

*Unfortunately, I hope there will be more, but we are the only nightclub with a sound system like this. But yeah, for us, we hope there will be more, so then artists can have a spatial tour... All these spatial audio systems are different. So if you’re touring as an artist, you have to tweak it every time for a different place.*

Because there can be a wide variance for how an artist may be using the full capacity of the spatial audio system, audiences are not always aware of the technology behind it. Vrede explains,

*It depends on the program. So for example, if people go to a listening session of a record, they know they're attending this special session. If they're going to a live electronic concert, mostly people are aware, and they will definitely hear it. Then if it's a regular club night, where it's mostly DJs playing around with the DJ tool to make it immersive, then it's really hard to tell if people are aware. But then afterwards, people always say, "Yeah, it was really nice. I didn't need to wear earplugs. And I'm not as tired as usual if I go to a nightclub." And then it's like, "Yeah, do you know about our sound system?" "Oh, actually?" So yeah, it's interesting.*

Vrede also reports that there is a growing audience who are aware, and that they don't want the type of spatial audio gimmicks with audio objects moving around the space like the binaural audio barbershop and haircut demos. She says,

*I see the development where people are really aware that it's not a gimmick. We're not looking for a circus or a carnival type of sound. So it just sounds way better. And now since people know that, and it's not only about moving objects, I really see that phase is calming down a bit. So it's more about producing for your natural ear because our ears are built to receive immersive.*

As far as who is creating work to be featured on their system, she said that it's home producers and DJs who are porting over prior work, but are increasingly producing work tailored to their system,

*It's mainly producers, and they produce at home. And at this point, it's mostly still people who transform what they already have, their sets, into a set that can be played on our sound system. And now you see more and more artists that really produce with spatial audio in mind. And that, of course, for us is the most interesting because it's a different way of producing.*

The ideal situation for these producers would be to test and develop mixes on their bespoke spatial audio system, but that's not practically feasible. But they can simulate their system in virtualized software so producers can develop the bulk of the mix, and then tweak it when they're on site. Verde says,

*We work with L-ISA from L-Acoustics, so we also have a blueprint of our club. So people can already at home work in L-ISA Studio software, and then they can binaurally hear how it would sound in our place... Then when they come to the club, they always need a couple of hours with the sound technician, and then they're ready to go.*

As they onboard a new producer, she works with her sound technician to walk through all of the software online and provide some tips for how to get the most out of the space, as well as some strategies for how to build up to a satisfying mix. She says, “For example, if you have a set where you have the sub going around, then that’s too much. So we give them some guidelines like, okay, “Maybe first try 3 or 5 stems instead of trying to start with 96 stems.”

When asked about premiering new content versus featuring older material, Vrede said that they’ve been having producers make spatial audio mixes of albums that are having an anniversary. She said,

*We also just did last week, for example, the 20-year anniversary of Sigur Rós, their record. And in January, we’ll do Max Richter’s 10-year anniversary. So their records then get remixed way later on, and then we can present it.*

In terms of what’s next, they’re hoping to add lighting systems to bring more awareness to the spatial nature of the sound through audiovisual synchrony. Vrede says,

*For us it’s clear that it’s a spatial audio system, but for most people who come to the club, it’s not. And we have a really nice light installation. Now the next step is “How can we connect it? And also how can we implement video and visuals to really visualize what is happening with the sound?”*

For a final thought, here’s how other co-founder Jasper Löwik explains the experience of The Other Side,

*For club-goers, this translates to a transformative experience where music moves around, above, and through them, making each performance uniquely engaging. The immersive soundscape ensures that every detail of the music is perceptible, regardless of one’s position in the venue, fostering a deeper emotional connection to the performance. This innovative approach not only sets The Other Side apart from other clubs, but also elevates the standard for live music experiences in Amsterdam. Up until now the audience loves it!*

## **From Scientific Planetariums to Immersive Domes Featuring Art & Stories**

The final representative on the Space and Places panel was Callum Griffiths, who is the audio/visual specialist at the ARTIS Planetarium based in Amsterdam. Griffiths remarked that the popular appeal of large-scale domes like The Sphere and Cosm has raised public awareness of the wide appeal of immersive dome content, which has been happening for a long time in planetariums. Griffiths says,

*We see the planetarium as an incredibly versatile space. It’s historically always been used for astronomy, but it’s capable of so, so much more because you do have this 360-degree horizontal, 180-degree vertical dome where you can gather a*

whole load of people in it, and you can just create this really surrounding immersive experience. And we don't want to miss out on that. So we have been trying to stay curious and do interesting and new things.

*But the ARTIS Planetarium, even for decades past, has had this real attitude of like, "Let's make something new. Let's innovate something." So my last colleague tried to do that in all of his work, and I'm trying to carry that on as well. And so a big part of that is working with creators that are in the immersive space, people that are working in VR in particular, because so much of that content actually maps beautifully onto the planetarium. And if you just go in with the right kind of approach, the right kind of process, you can really take a personal experience and make it this community experience and a completely different thing. So we're working with a lot of interesting people, mostly in the Netherlands and around Amsterdam, trying to figure out what's the best way that we can take your content and put it in front of 300 people on a 20-meter dome.*

IDFA DocLab first started showing dome experiences in 2019 as a part of their programming. They've been coming back each year with a mix of pieces that were explicitly designed for the dome, as well as other VR or 360-video pieces that were adapted for it. The DocLab exhibition space also featured a 3-meter dome to show a couple of the selected dome pieces to four people at a time.



*Grieg's Wonderland at ARTIS Planetarium on 22 Nov 2024, Photo: Rob van Dam.*

Janire Najera & Matthew Wright's *The Rift* screened at both domes during DocLab 2025. They have been deeply involved with the dome festival community since 2011 and have started their own grassroots dome exhibition space in the United Kingdom. Neither artist was on the panel, but their perspective on this subject adds substantially to the conversation. Wright [commented in an interview](#) that "Of the 4,200 - and whatever we're up to now



Besides the fulldome program in ARTIS-Planetarium, IDFA DocLab presented a 'mini dome' in the exhibition to showcase work. The minidome was handmade by and property of artist Maarten Isaäk de Heer. Photo: Roger Cremers, 2025

- planetariums around the world, approximately 85% of them are tilted. That degree of tilt varies a lot, but generally graded seating, so that you can look over the top of the person in front of you." ARTIS Planetarium is a part of the other 15% of planetariums in a concentric arrangement, which allows for more variations in the work shown, but does require special consideration for translating VR content. Griffiths says,

*We have what we call concentric seating. So we have people sat all around. Everyone's facing in every direction. So we really need content that has interesting things in every direction... So we're really looking for people that are producing content where they're basically using the full potential of the medium, where every direction is interesting. Let's really surround you. Let's make it fully immersive, not just like a vaguely-immersive experience with content in one direction.*

Most of the content produced for planetariums has been edutainment or abstract art, but Griffiths says that ARTIS Planetarium is searching for more substantive stories,

*Most of the stuff that I've seen is kind of abstracted. It's art pieces and stuff like that, which is amazing. It looks so, so good, and it really has a space within planetariums. But what I really want to see is more stories. I want to see how we can use this medium to tell a complex narrative where we can flow and to really just immerse and dunk people into a really interesting story.*

Najera points to the pressures that immersive dome creators face, and notes the unique challenges that concentric domes present considering they only represent about 15% of the overall marketplace. She [says](#),

*When you are creating full-dome films, the main channel where your films are going to be showcased is planetariums. So in a way you need to produce them having in mind the restrictions of these spaces. So we consider when we are making a production if we might need to tilt our film, like 20-25 degrees or 45 degrees. Normally we don't show our work in a concentric space. So Amsterdam is quite unique in that sense. Because it brings another layer of complexity when you are trying to tell a story.*

Griffiths sees that there are a lot of opportunities to translate 360-degree video content that was originally created for single-player VR, but to translate for a more communal dome experience. He says,

*There's this whole world of other immersive content that is out there waiting to be transplanted into the dome in some way or another. And that's where I need to have these more collaborative partnerships with producers where you've been working with VR, you've been developing your stuff and putting it on the headset. And now I'm like, "Okay, I'm going to bring you into the dome. Here's a list of all these different things that you haven't thought about. And also, here's a list of constraints that you have to deal with that you didn't have to deal with before."*

There have been a number of experiments at DocLab over the years that have translated 360-video or VR content into the concentric dome at ARTIS Planetarium. Sometimes the translation works well, and other times there is a lot that is lost in translation from one medium to another. If the center of focus is on the bottom half, then it may get cut off at the horizon line. If there is too much motion or turning, it can trigger motion sickness. If there are a lot of near-field or stereoscopic effects in VR, these will be collapsed into a monoscopic skybox and will diminish the architectural feel of a space. And if there is a locus of attention on only one area, people outside of the sweet spot may have to watch the main action upside down. Not every VR experience will be a good candidate for conversion into a dome experience, but knowing some of the unique affordances of each medium will help identify projects that might work well in both formats.

With the rise of Apple Immersive Video, Blackmagic URSA Cine Immersive, and Canon's Dual Fisheye 3D VR Lens, there is a lot of stereoscopic, 180-degree content being produced for the Apple Vision Pro. Some of this 180-degree content may be well-suited to translation into a forward-facing, stadium seating dome like Cosm, but the stereo effects will also be collapsed. Live sports is a format that seems to be working quite well for Cosm as the audience is usually far enough away from the action to already have more limited stereoscopic effects, and it is able to replicate the feeling of "being there" at a live event. But 180-degree video does not translate as well to a concentric-seating dome arrangement like the ARTIS Planetarium.

Najera & Wright's 4PI Productions specializes in shooting 360-video content, and they share a lot more specific suggestions [in this interview](#) for how to either translate content or shoot content with the dome in mind. There is also a lot of variance between domes regarding the required audio and visual formats, but Wright indicated that he thinks the overall industry is moving in the right direction. He [says](#), "Just in the space of 10-15 years since we started, we're seeing the infrastructure starting to improve and there is a little bit more standardization and there's more cross-platform adaptability. Yeah, it's an exciting time for immersive arts."



Griffiths shared the importance of both audio and video in dome content by saying,

*Mark Spoelstra was the guy who preceded me in my role, and he always said to me that domes are "50% visuals and 50% audio. People will forget that, especially a lot of planetarium producers, because they're focused on the visual side... But audio does way more than you think. You don't see it, so it's maybe not as obvious, but you can tell at the end of a really good show when you've got the audio right.*

The next frontier for domes seems to be LED screens, and Griffiths said that ARTIS Planetarium is investigating the possibilities.

*The next step for these immersive spaces is using LED panels instead of projecting. And that is the goal for the ARTIS Planetarium within the next few years. We hope to be doing that, and we think that that is going to take not just our astronomy content but also displaying this immersive content to a whole new level.*

Wright thinks that the LED-based domes are pushing the industry forward, but also has a word of caution as the required high-resolution and the variance in the outputs means that the options to create content for them are limited to big studios who have the resources to meet those specifications. He [says](#),

*We're entering a new realm. LED is phenomenal technology, but in a way, I think it's almost going to hold back in the short term. Because all it does is it pushes the financial boundaries of the spaces once again outside of a space where producers, content creators, and artists can access to make mistakes, learn and push the language forward. It's still very much an insular studio setup based on very specific, very high-end requirements that aren't standardized. It's not the easiest thing to adapt something produced for Cosm and put it in The Sphere or vice versa because of the different fields of view, the different resolutions, the different ridiculous level of information that's required. It just pushes it outside of it. They had to invent their own camera system purely to be able to do live capture, you know. So it's a challenge that definitely needs to be addressed more on a grassroots level.*



*We live in an old chaos of the sun* dance performance by Jack Philp Dance, August 2025.  
Photo: 4Pi Productions

Najera and Wright channeled this grassroots ethos of dome event production into CULTVR Lab in Cardiff, Wales, which they opened in November 2019. It features a 12-meter dome in an arrangement inspired by the SAT in Montreal to allow for lots of different types of community events. Najera says,

*The main reference was the Society for Arts and Technology in Montreal. There is a 210-degree [vertical] dome that goes all the way to the floor. But the main difference is that it's very flexible. It doesn't have seats as Cosm and the Sphere and the Planetarium in Amsterdam bolted into the ground. So then it facilitates flexibility across any kind of art form that is being displayed there. Flexibility is key to be able to allow different artists to present different projects and be able to reconfigure the space attending to their needs.*

Wright elaborates on the decision for this arrangement when he says,

*If you want to do something like a jazz performance or a contemporary dance performance, you can't because the seats are locked down and the floors tilted. And we realized very early on we'd fallen in love with a medium that has the largest network of immersive spaces in existence on the planet. And yet the artists, the creators could not get into them. And the marketplace was really only there to make edutainment or educational content to teach about stars or life sciences... So CULTVR Lab, the venue we opened, is basically a test-bed facility to enable people – artists, scientists, researchers, academics – to come together and play, because quite often it's very hard to play in a planetarium.*

Najera reflects on how these dome experiences are providing civic spaces for unique cultural events that communities can share together. She says,

*Also it's about the shared experience. So in a way, we like all forms of immersion, but what really attracts us from the dome is that you can be with people next to you, and still feel that energy, that buzz of sharing a moment together whilst being transported somewhere else. So for us, having the aspect of bringing people together under this physical space, the dome, and to transport them digitally with the screen somewhere else, it was very appealing. Because the times that we are in today, having that connection and the personal connection with others is important. So we wanted to create a space that still encourages people to share an experience. And we found that the Dome was the best medium for that.*

Domes without fixed seats invite a wide range of different artforms, genres, and types of events. Wright recounted a spectrum of different community events and then said, “The potential is phenomenal, and the number of magical moments that have existed under that dome at CULTVR Lab for just one night is a joy to have facilitated. Even though it's incredibly hard to do it when you're an independent, small, not-revenue-funded organisation.”

Whether at The Sphere, Cosm, Planetariums like ARTIS, or community-driven domes like CULTVR Lab, domes feel like they're poised to be a key part of the future immersive distribution landscape. The diversity of spaces and places where XR work is exhibited, each with its own technical setups, audience dynamics, communication and institutional logics, reveals a broader challenge: the lack of shared frameworks for distribution and collaboration. The following chapter turns to MIT's research into co-creating XR distribution, which seeks to move beyond isolated case studies by developing roadmaps for creators and distributors. By indexing venues and analyzing how they operate, MIT aims to foster greater alignment across the field and enable more sustainable, collaborative models for bringing XR experiences to audiences.

# MIT's Research on Co-Creating XR Distribution

The Independent XR Distribution Coalition (IXRDC) provided an update on research and resources they provide to address the challenges around XR distribution. Housed at MIT Open Documentary Lab, IXRDC has been surveying artists to better understand the immersive distribution landscape, looking at distribution pipelines, building toolkits for artists, crowd-sourcing the creation of a couple of databases for exhibition venues and distribution resources, and facilitating a community of independent practitioners. Building on MIT's philosophical foundation of open access to knowledge, IXRDC is also concerned with independent media. Director Sarah Wolozin said in [an interview](#),

*Another core principle for us was independence and independent media. Every field has it -- independent film, independent music, and this field is emerging. And of course, the market will take it in one way. But in order for there to be an independent part of this, you really need people to make that happen. And so that was something we also really wanted to make sure we could carve that out in this field -- is an independent media.*

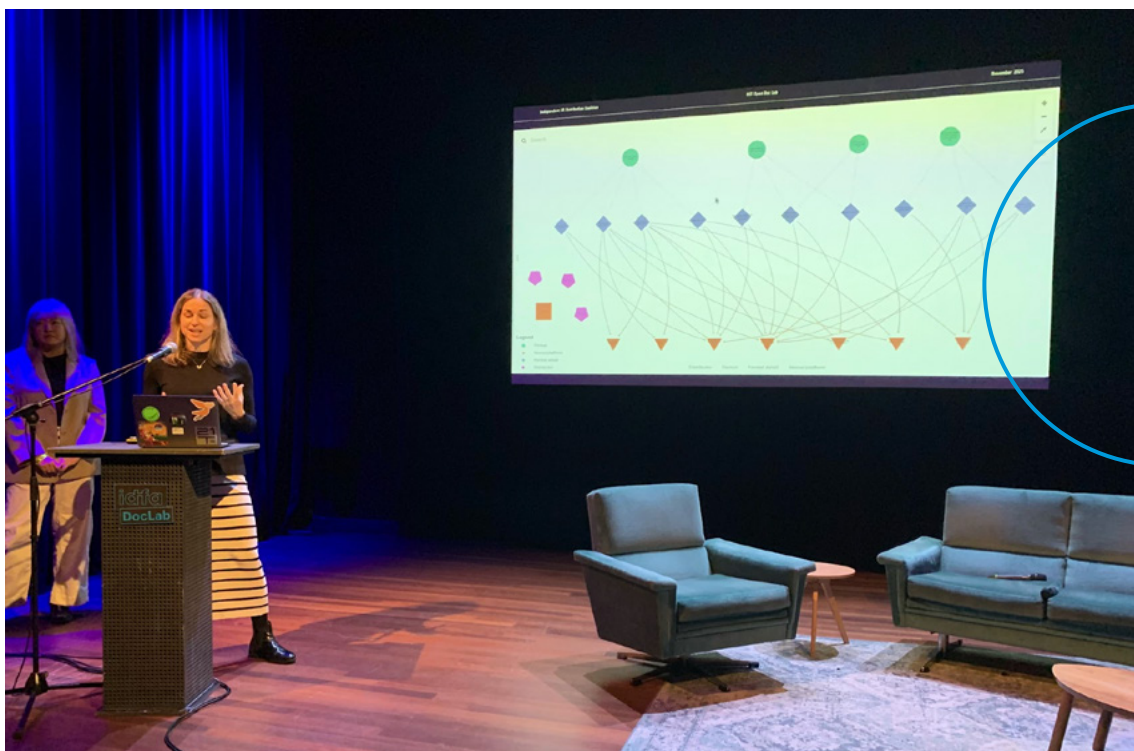


Sarah Wolozin presenting research updates from the Independent XR Distribution Coalition at the R&D Summit, November 2025. Photo: Kent Bye

Wolozin observed that XR is inherently tied to Big Tech platforms and their distribution systems, which poses problems of access for both artists and viewers. She mentioned [an IXRDC Case Study on Kinfolk Tech](#) where they developed their own independent distribution platform, but most exhibition strategies for independent immersive stories start and

end with showing work on the film festival circuit. Unfortunately, unlike film, XR pieces do not have a clear pathway for broader distribution beyond this somewhat insular network of festivals. She says,

*How can you promote and support a field, and put all this effort into making these amazing pieces -- and also with people with important messages -- and not have [distribution]? What kind of impact can you have? And so that's where we really started to identify distribution and exhibition as a problem. I don't think we were the ones identifying it, of course, like everyone was aware of it. And it was the elephant in the room, frankly. But it was always a question of "What could we do?" And as a university that has this bird's-eye view of the field, and we can do research and we can convene people, this seemed like somewhere we could really help.*



Julia Scott-Stevenson is an immersive media researcher at University of Technology Sydney and also stewarding research at IXRDC. She shared about the origins of developing the distribution pipeline and toolkits for XR artists,

*We were hearing from everyone that distribution was in a moment that just really needed some attention... When we talk about these projects, we're often talking about such different forms of media that it becomes difficult to actually have a shared context. And so we collectively with IDFA DocLab started talking about, "All right, maybe we need to start defining some pipelines and thinking about what are the possible pathways that an artist might take to get their work to an audience?"*

She then explains how they started to gather the data for the pipelines tool in 2024,

*At last year's IDFA DocLab, we presented the topic as our point of research and we hosted a number of roundtables with industry folk around a number of different topics. So we looked at location-based experiences. We talked about touring. We talked about online platforms. And we also talked about data, because that's a real gap in this area is that people just aren't collecting or certainly not sharing data around these kinds of pipelines and access to audiences.*

Wolozin said that the next logical step after developing the pipeline was to create a toolkit that explained to artists how they could navigate the distribution journey. She said Scott-Stevenson “started to think of questions that you could be asked as you’re going through, and these case studies so you could see examples. So you would really get a holistic project that could help people in different ways.”



Scarlett Kim speaking about XR distribution pipeline and toolkits.  
Photo: Roger Cremers, 2025.

Scarlett Kim is an immersive director and producer working at the intersection of live experiences and immersive media, and a co-founder of IXRDC. She elaborated on the database, and how it could be used to further develop the pipeline and toolkits. She said in an interview,

*We have two sections of the database. One is platforms and venues. It maps physical and digital platforms to develop, produce, present, or support immersive*

*work around the globe. It can be sorted in many ways right now by platform type, discipline, we're also tracking how each venue curates or how the user might learn more about the technical specification of a given venue.*

*So what we were user testing in the roundtable is how much information is too much or too little. We're finding a balance between having detailed information, but also keeping it usable and pragmatic.*

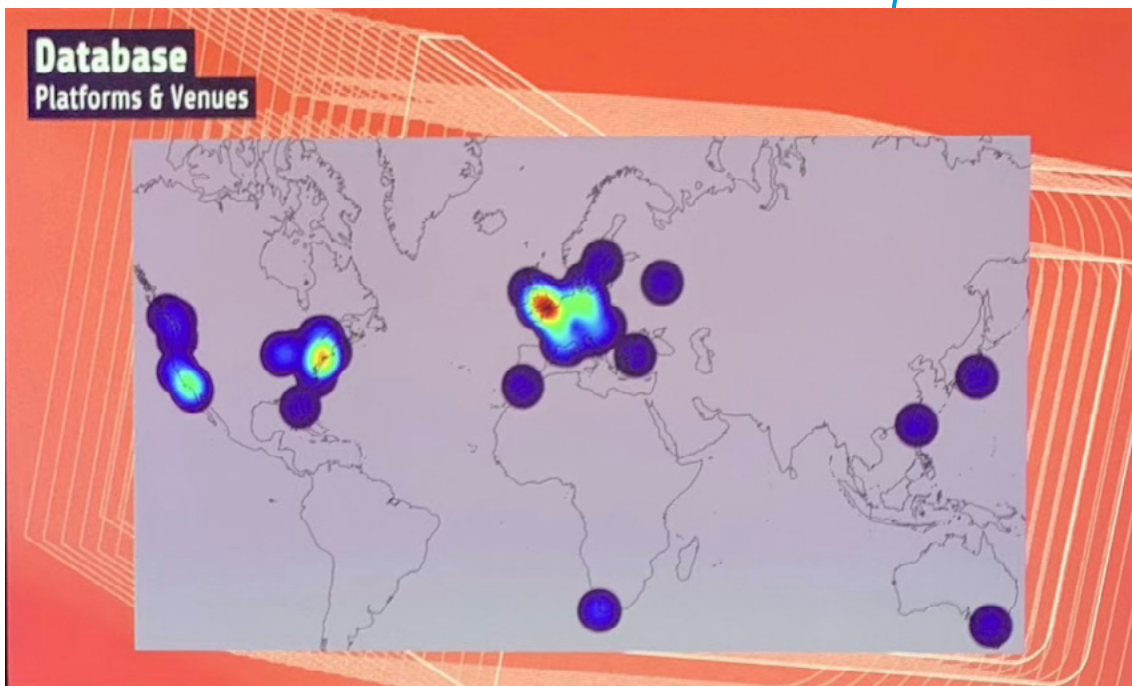
*And the second section right now of the database is around resources. So this is a database that tracks the latest research, writing, and frameworks around immersive distribution. So it has reports, studies, opinion pieces, academic articles, instructional manuals, and all kinds of research around it.*

Last year at IDFA DocLab, IXRDC held some participatory exercises to collaboratively brainstorm the problems surrounding immersive distribution. Kim said that some key takeaways led them to lean towards an interdisciplinary approach, as well as “defining XR pluralistically as this field that is a kind of meta field or an expansive, constantly expanding field.” Part of the challenge of the interdisciplinary nature of XR is trying to do a survey of venues that adequately identify the differentiating factors for what types of experiences they can accommodate, but also how to conceptualize XR as an emerging medium that is still somewhat undefined or undefinable. Kim [said](#),

*Those were the questions we were asking the community during the roundtables of “What do we even call this? How nuanced do we want to be with these forms? What about the forms that don't even have names yet, and are unclassifiable?” Again, advisors have been instrumental in adding either venues they operate, or the venues or platforms that they're connected to to this database. And even as an example, to name a primary discipline of an inherently transdisciplinary venue. Like what does that mean? If a venue is associated with 12 different primary disciplines, maybe it's a more accurate reflection of the venue, but it makes the sorting a little bit more challenging. Those are the questions that we asked the community, and we got some really incredible feedback around how we can grow this. And I think it'll just have to be a thing that we continue to iterate, the taxonomy of it all.*

Kim also [mentions](#) that they want to make as much of this information available as possible, but that they're taking a very iterative approach.

*Offering direct access to the raw data itself is something that we're thinking about seriously to make this as open source as possible – make it as living, breathing, evolving as possible. And something that really emphasizes the relational and iterative nature of our field, and the decentralized nature of our field. It's not trying to serve as a kind of be-all, end-all, exhaustive repository or to kind of claim any monolithic idea of best practice or one way of doing things. But it's really, I think, wanting to be something that can be nimble and grow.*



In the De-isolating the XR community session, it was brought up that there were some significant gaps of activity that were flying underneath the radar in Africa and South America. This person said,

*I was a little bit shocked when seeing the MIT map with the hotspots... I know that there are places where there isn't enough investment and not much is happening. But there are also places where things are happening, and it's kind of ignored... Obviously, there is a combination of things that make that happen. But it is a problem that we all share because whether you think it's a pipeline problem, or a discoverability problem, or a time problem, a capacity problem, right? Because no one has enough time or money ever to do all the things. But, like, that map is a problem. It's not reflecting the reality. And probably even if it was reflecting a reality, it would still be problematic, because things are not flowing equally in all directions.*

When asked about the incomplete nature of this map and database and the potential harm that it could cause, Scott-Stevenson acknowledged the gaps and their awareness of them. She mentioned that these tools were initially seeded and soft-launched within an advisor community that included “students, experts, practitioners, exhibitors, distributors, and cultural institution leaders.” She [said](#),

*We are very aware that particularly the database at the moment is like Europe and North America-centric, and we know there's so many other communities out there and we really need that information. So that's kind of why we wanted to release it to at least that bounded community to start with to get some additional feedback. But yes, it's something we're thinking really carefully about. And we have a form that people can fill in, which I imagine we will share in our newsletter, which is where people can tell us that there is a venue or a platform that's missing. And*

*they can fill in those particular details about the kind of work that it takes, where it's based. So we're really hoping that we enrich this as widely as possible. And certainly I'm trying not to suggest that everything that's on this list is all you need to know, that it's very much a community-focused, work-in-progress.*

Kim elaborated on this, [saying](#),

*Yeah, it's been really important to be aware of our blind spots, you know? And to be transparent, and to be vulnerable, and to be iterative in this process. And I think as we co-create this living, breathing resource, I think it is our responsibility to continue to have those conversations and approach it as a kind of always unfinished, but constantly expanding work.*

Finally, Wolozin [talked](#) about some of the next steps and where to find more information about this effort via their newsletter

*We're starting a public newsletter in which we're going to highlight new networks and new strategies and really try to show the different emerging projects and networks. You can go to our Open Documentary Lab website, and [sign up for the newsletter](#)... You'll start seeing new strategies. You'll see new methods, and new venues. So we're really going to try to track and share the knowledge we're gaining about what's out there in the distribution and exhibition world.*



# Growing the Immersive Field with the CIIC

Heleen Rouw is the program director for the Creative Industries Immersive Impact Coalition (CIIC), which is a unique Dutch program funded by the National Growth Fund. The morning session of the R&D Summit was not recorded, but I was able to conduct an interview with Rouw at UnitedXR on December 10th, 2025. Rouw introduces CIIC in this way,

*It's €200 million funded for five years to strengthen the immersive content field in the Netherlands. So enable the people that are in the industry, researchers, creators, public and private organizations to work together. Bring new solutions or to further develop solutions that are there, and scale it. Skill distribution is important, and to gain societal impact as well, impact is a really important part of the program. And all this responsible, and safe, and access for all. So public values are very much key in the program."*



Ingrid Kopp (left) in conversation with Heleen Rouw (right) about the Creative Industries Immersive Impact Coalition (CIIC). Photo: Roger Cremers 2025.

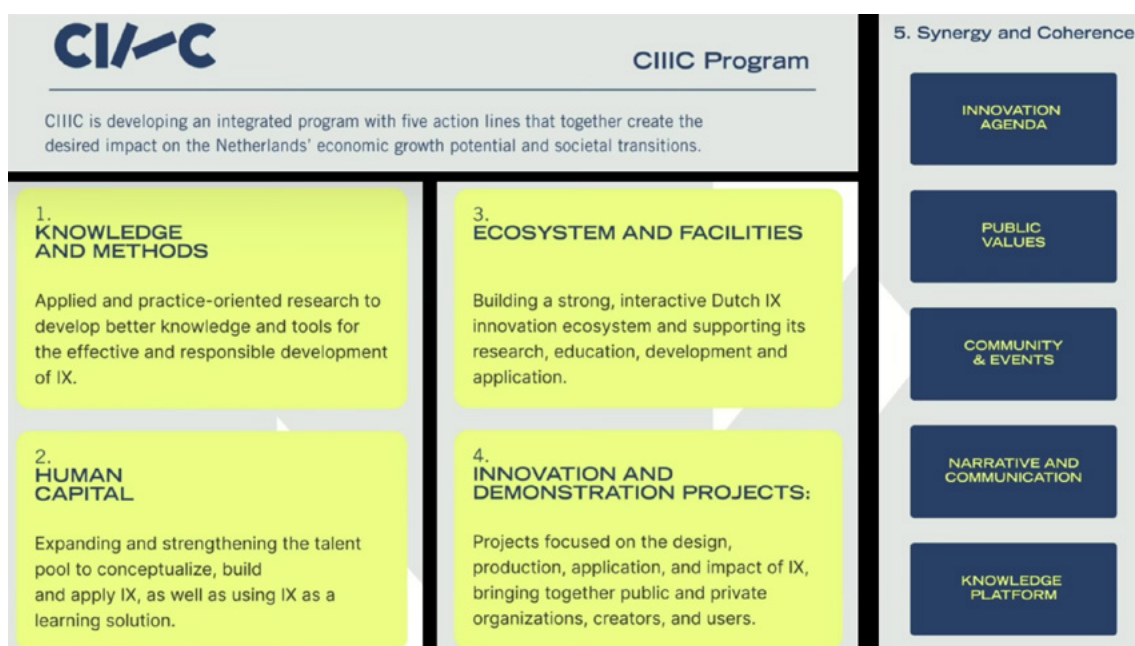
The CIIC website has a slogan, "The third digital wave will be immersive!," and a big motivation for the organization is to ride this next wave rather than miss it. Rouw says,

*The Netherlands saw the wave coming, but it was like, "Okay. Now if we are not stepping on it now, then we will lose it like we did with the last few waves." I mean,*

*we were too slow with the Internet maybe or with the social development. So now the Netherlands really needs to do this because of the talent that is in the Netherlands already, and that's been known that it's there we have to really bring this further. We have to invest in it. If we don't do it, then we are not part of the future. So a very essential choice was being made to do this, and to choose this specific field is because there's a lot of talent around in the Netherlands in this field.*

The CIIC does not define “immersive” through the lens of technology, instead they look for Immersive Experiences (which they abbreviate as IX) to be defined more through the phenomenological experiences they provide. Rouw says,

*Because for us, in our program, we're approaching it like immersive content is something different than maybe looking at it from a technology perspective. For us it's like immersion – there is a digital aspect on it, but it's not like it's the VR or it's the AR specifically. It can be spatial. It can be so many other things, and mixed forms. And this approach that we have is a little bit different than what I see in other countries where there's more studios working on a specific XR like VR, AI, or AR kind of way. And we are looking at it much broader.*



Rouw explains that the CIIC is seeing compelling applications for an immersive approach that goes beyond the entertainment context of gaming and storytelling in which it has been developed. Here she gives some context for the overarching goals of the CIIC

*Immersion comes also from the game industry, which was also very successful, but a little bit flatlining, seeing the potential of all these interactive forms. And seeing them being used in other areas like in film using game engines, or in architecture, etc. So there were these challenges, but there were all these opportunities*

*as well. So that's why there was a choice to really go into this specific field of immersive to take this out of the – I mean, you could say the whole creative industry – but this specific part, and make a program for it. And not only looking at it from a perspective of funding projects, but really taking an integral [approach], like helping on this knowledge and methods, putting out calls for that, really strengthening human capital, like talent development, really creating together with the community, field labs where you can actually work together and also create challenges together with organizations that could apply these solutions.*

Because it is public funding from the Netherlands Ministries of Education, Culture & Science, and Economic Affairs & Climate Policy, there is a lot of emphasis on cultivating innovation that is going to provide public value. Rouw says,

*It's public funding, and so the societal impact is key whether it's on the artistic side... or looking at how you can use XR in urban development, or social cohesion topics. So for us it's all about solving social challenges, in a way. The program approaches it that way. So that's the base of the program. But from this development, from these innovations, it's also transferable to applications that are more in the commercial world. It's like helping social enterprising get better. But there are both social enterprises, artistic enterprises, which are not really enterprises. A lot of the [small and medium enterprises] are not able to make a step further into scaling or finding ways to get their content into a business model. It doesn't have to be profitable, but it has to be "cost neutral," you could say. And it's a difficult area – social enterprising, it's everywhere, it's difficult. But I think there's a lot of potential within the immersive world that you can really make a difference in this place. And the public money should be used to help realize that.*

The CIIC opened up a number of calls for proposals in different schemes in April 2025. Rouw talked about their unique and innovative approach of funding artists to collaborate with researchers, and she elaborated on some of the next steps for the CIIC moving forward over the next five years of funding.

*We are trying to create new consortia, new ways of working together, which people are not used to. I mean, creators and researchers working together, they speak different languages. So you really have to make an effort to connect them. So that's also a really important role that we have, I think. But it is the same with the organizations that should apply these solutions to bring them together. At this moment, we are still tweaking the program on the feedback we get from the community, but we are moving forward. I think halfway next year we will have five field labs selected, like IX labs, that will be facilities that are being used by the community but also by other parties. We will have five consortia doing artistic design research already starting at the end of January actually. We have two challenges with the police and with municipalities on urban development already starting this coming year. So a lot of organizations are using this money, and really*

*working on innovation projects within the program. But we don't know yet what it will actually bring. because the output and eventually the impact will be there in 2030-2031.*

On the 12th of March, 2026 the CIIC announced the [17 selected projects for Innovation Impact Challenge: IX in Urban Development](#), and on 5th of February, 2026, they announced the [five recipients of the Artistic & Design Research for Immersive Experiences \(ADRIE\) scheme](#). One of the recipients of ADRIE funding was the Shared Realities consortium mentioned earlier in this report, which includes IDFA DocLab, MIT Open Documentary Lab, PHI, Amsterdam University of Applied Sciences, and a number of XR studios based in the Netherlands.

Rouw outlined some of the CIIC's next steps including opening more calls where international organizations will be eligible, supporting interdisciplinary collaboration, and cultivating innovation by accepting that boundary-pushing experiments may or may not work. She says,

*We are opening up more calls. The next step is also the international approach involving other organizations than Dutch organizations to get involved in the calls that we have. So we're trying to let them know. But also to support and make the collaborations work. So to help get common ground, common languages within the consortia – that's important. In order to be successful in the innovations that people are doing. Because innovation means that it's allowed to fail. But we hope that a lot of success comes out of it. So the next steps are: It's moving, work-in-progress, looking at how it's working, learning from it. And then hopefully early '27, we will have some prototypes, and some results from the first year. And try to share it as much with other countries.*

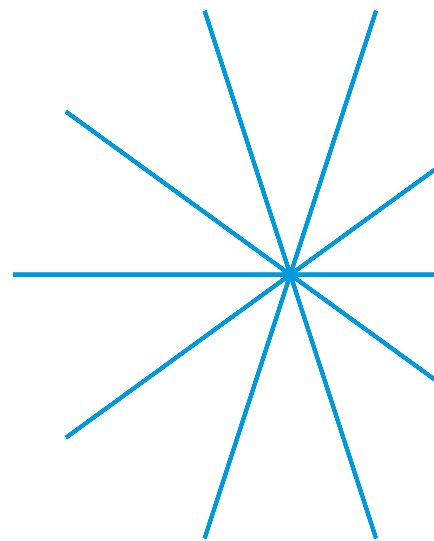
Rouw talked about the need to translate the innovation funding into sustainable business models that aren't completely reliant upon government grants. She says,

*The biggest challenge is to make this sustainable. So this is innovation funding. How can we make it sustainable? How can we connect with other funding opportunities? Or make this field strong enough to go further? Because when the money is finished, it doesn't need to be ending. So that's, I think, really, really important too. And that's not easy, but we have to make that work. That's important.*

As a final thought, Rouw talked about the unique scope and nature of CIIC's effort. If it's successful, then it could inspire other countries to make investments into immersive initiatives in order to strengthen the entire immersive ecosystem. She says,

*Because we are kind of unique in the Netherlands in how we are doing this, then share it with other countries, inspire other governments. And see how we can make the immersive field, the ecosystem, not only the Netherlands, but also internationally stronger. So it's a very big ambition, but yeah, we should try. And we should do it. Let's do it. Let's ride that immersive wave, right?... And to shape it as*

*well, actually, of course. It's not only riding it, but it's shaping it together with the people. So, I mean, we're here to facilitate. Our program is here to help people, and to make it work together. We're listening to what's happening in the field. And also, I mean, maybe the program is not perfect, and everybody understands that. But you can either look at it like, "Oh! It's not perfect. It's too hard work. I'm not going to go for it." Or you're going to try to be part of it, and let us help you to be part of it. I think that's a really important goal that we have as a team of CIIC.*



# De-Isolating the XR community

The theme of de-isolation continued during the afternoon fishbowl discussions with Electric South's Ingrid Kopp moderating a session on how the XR community can be more connected, inclusive, and accessible. Kopp kicked the conversation off with some reflections on the topic, and set a broader context using the [following quote](#) from Rebecca Solnit,

*Activism is not a journey to the corner store; it is a plunge into the dark... History is like weather, not like checkers. A game of checkers ends. The weather never does.*

Rather than focusing on an immediate state of victory or defeat, Solnit urges us to view the moral arc as an ongoing and unfolding process that will continue to fluctuate. The discussion flowed from imagining better futures where an integrated and collaborative XR community is cultivated to acknowledging the dark mood and harsh realities of the current geo-political moment. Worries ranged from constrictions in funding, restrictions to travel, and fallout from the democratic backsliding in the United States.



Ingrid Kopp (Electric South) moderating fishbowl session on connectivity, inclusivity and accessibility. Photo: Roger Cremers, 2025.

## De-isolating *within* the XR Community

Kopp mentioned how the difficulty in securing visas, especially for people from African countries, puts limits on who can show up and participate in international conferences. A participant noted that there is also an increased attack on Diversity, Equity, Inclusion, and Accessibility initiatives coming both from US pressure as well as a rise of right-wing politics in Europe. They talked about how these threats to DEIA are forcing XR creators to make decisions about what they're willing to fight for, and how they navigate the disconnect between living their values while being strategic about how they communicate about them. They said,

*When we think about sustainability from a systemic point of view, we really have to be mindful of who we are talking to. In what ways are we being strategic about it? And also, how are the debates within our own industry formed? And are we only being critical as in being negative about everything? Or are we also speaking up about all the things that we want to keep? Because there are a lot of destructive forces, we also have to provide arguments, case studies, and heartfelt pleas to keep the things that we love, and to keep the openness for different art forms in our field to work transdisciplinarily. But also to work with people who aren't part of the community yet, and should be part of it.*

Efforts to de-isolate emerging tech communities like XR face many challenges to integrate across geographic boundaries, access barriers, disciplines, and legacy institutions constrained by tradition. This is leading to a moment where many are considering how to overcome these boundaries, and potentially even join forces and form coalitions to face limitations together rather than alone.

Kopp asked, "Who isn't in the room with us when we're having these conversations about community?" This was an orienting question that many people returned to throughout the session. One person acknowledged,

*We're in small, physical bubbles of an isolated field. It's important to look at other fields that border on immersive work, but also to broaden the definition. It's not only national boundaries, but also discipline boundaries."*

Someone mentioned that theater makers are often overlooked, as well as architects and dancers. There are plenty of individual immersive pieces created by people from a wide range of different backgrounds, but that doesn't mean that the XR community, as a whole, is engaged in a broader dialogue with the core community of practitioners from different disciplines. An underlying question was: "How can the immersive industry build relationships with these communities?"

In response to the question of who wasn't in the room, one person asserted,

*We also need to think about the changemakers, the activists, and the non-profits. I don't think it's an artist's job to make all the change in the world. And we need to bring in the people who are on the ground doing the work related to these pieces that we're talking about... I don't want us to operate in a vacuum. And even if there is distribution, are we changing things with these pieces?*

It was suggested that perhaps it is time to revive Doc Society's Good Pitch program, but expanded to XR. Good Pitch describes itself as "connecting the world's best social justice films with new allies and partners." It was described by someone who had attended as,

*Instead of, like, a forum where you would pitch to funders, they would have the filmmakers pitch to Civil Society Organizations and Non-Profits, and people who could actually help the project go. They tried to steer it in a really interesting way so that the editorial integrity wasn't compromised, and both parties got what they needed out of it. They just brought really, really amazing people into the room.*

## **Interdisciplinary Collective Strength Broadens Reach**

One immersive festival organizer recognized that a number of different festivals in their region were facing resourcing constraints, and that they decided to pursue an interdisciplinary collaboration rather than compete for sponsors and audience attention. They said,

*We came together and decided, "How about we actually start combining our festivals into a combined festival?" There's theater. There's dance. There's fashion. There's food. There's film. And there's also immersive art. But it means that instead of each of us raising \$100,000 on our own for the festival, we could at least each raise \$10,000 and come together and also be able to share audiences.*

This is an illustrative example transcending traditional discipline boundaries to unite for a common cause, and to pool resources and accomplish something greater than any one individual organization can on their own.

Kopp continued the discussion by saying, "When we're thinking about community, then they don't have to be huge communities. They can be small communities overlapping. Obviously with distribution, scale is a problem, right? But we don't have to scale everything, and sometimes having too much scale is not appropriate." She asked if there were little things that could be done to build small communities?

Siza Mukwedini shared about the Matamba Film Labs For Women that is educating, equipping, and empowering the new generation of new media storytellers in Zimbabwe. They are providing women with access to VR headsets, computers, and "above everything else, to be in community, especially with people like them, who also think outside of the traditional, linear box of storytelling." She also shared, "These are women who have been given a voice to tell the stories that were really important to their hearts."

## **Securing XR Funding from Legacy Arts Institutions**

Another recurring theme was how legacy institutions have old paradigms that make it difficult for them to fully understand XR. One representative from the UK talked about how even within established institutions, making change can be both hard and slow. There are ways that each discipline needs to contextualize XR within the logic of their own medium in order to justify the funding of emerging technologies that don't neatly fit within existing traditional media paradigms. They said,

*The way that the British Film Institute explains XR to their powers that be and why they are able to fund this kind of work is because they call it "Broader Screen*

*Content". And it has really dawned on me recently quite how much I need to get on board with how they're making this argument. Because when you get something funded, it's like you're getting something funded by somebody who then has to get it funded by somebody who then has to get it funded by somebody. And the argument has to be clear, like all the way up to the fountain of cash, wherever it's coming from.*

This reflects clashes between old ways of thinking and new paradigms that are still emerging. Traditional funders have well-established paradigms of distribution for established forms of media with well-defined metrics for success, but immersive work demands a holistic way of thinking about relationships, processes, and community because the traditional paradigms can't always be directly applied.

One immersive funder shared that immersive creators also tend to see funding as a transactional means to an end rather than as representing the establishment of potential relationships to new communities.

*People start talking to me like I'm a bag of money that is just waiting to cross over the line to be in their pocket. And they don't really talk to me as someone who represents communities. Speaking as the film fund, we're representing the film community and film as an art form. When you talk about trends or interdisciplinary projects, don't make it an essentialist fight between different art forms, but start imagining what it is that you are bringing to the film communities.*

An exhibitor of immersive work reiterated the importance of collaborating with legacy institutions in order to reach the communities they represent.

*XR work needs legacy institutions because they have an audience and provide a pathway to people seeing the work. So we have to deal with the challenges that they are actually living with, and then slowly but surely push back on them.*

XR includes the experiential affordances of architecture, theater, dance, cinema, literature, social media, and video games, but it also has unique affordances of presence that transcend these traditional disciplines. However, until XR can stand on its own feet, it must rely on the generosity of these legacy media institutions.

## **Securing XR Funding from Grants When Arts Funding is Being Cut**

The question "Are we changing things with these pieces?" also proved an existential question that came up repeatedly. Being able to adequately measure, quantify, and communicate the impact of XR projects is one of the biggest open questions creators face. Finding satisfactory answers to this question is fundamental to ensuring future government funding. One person shared the stark contrast between how XR industry professionals talk about these issues versus how they talk about them with government officials and politicians.

*There are folks behind the scenes who are working on the survival of the funding agencies. The arguments I have to make are so different from anything that we say in this context, right? And that translation is so, so important to be able to arm me to be able to go and say, "You know, this is how this translates into results for you while I try and reset what the Key Performance Indicators are for government."*



Photo: Kent Bye

With the rupture of the rules-based international order that the Canadian Prime Minister talked about in his World Economic Forum speech, there's been an increasing interest from countries around the world to shore up on their own defense spending. Military expenditures have already been on the rise globally for more than a decade, but the dynamic, geopolitical situation has put additional pressure on governments to divert funding from artistic and cultural ventures over to defense. As the person quoted above continued,

*Arguing the culture argument, and the value of arts, and culture, and society, and identity. You know, they hear that, but then they turn around and go, "What about defense, right?"*

It is within this context that XR faces additional pressure since the throughput numbers are orders of magnitude lower than other traditional mass media formats. As one person said,

*The problem is also that our legislators want to see the return on investment. And that means how many people see the projects. And we all know that that's a problem, of course, because sometimes not a lot of actual people can see your*

projects... [A XR project is] selected at many festivals, but it's not really going to the public. And then our legislators are going to ask, "What is the return on investment?"... We try to tell them that impact, like having festival selections and things like that... but they really want to see numbers.

Quantifying the efficacy and impact of immersive work was a recurring theme that many stakeholders and funders are asking of creators. It might be worth looking at three emerging perspectives on this pressing topic.

## Quantifying Outcomes Beyond Throughput Numbers

The first potential insight comes from the book *Collective Wisdom: Co-creating Media for Equity and Justice* by the MIT Co-Creation Studio founder Kat Cizek & MIT Open DocLab founder William Uricchio. Their work emphasizes the importance of cultivating relationships and facilitating community-development processes.

They debuted their book at IDFA in 2022, and shared a list of 10 Principles of Co-Creation with the first one being "Create projects that don't originate from the single-author vision. Rather, ideas originate from relationships." And their second principle was to "Create projects that emerge from the process, potentially with many outcomes rather than solely outcome-driven processes."



Cizek points to an inherent tension between producing finished "products" versus facilitating "processes" through more fragmentary pieces of media whose aim is to build relationships within the context of a community. She [said in an interview](#),

*Over the course of co-creative methodologies, there is a tension between product and process. And we chart in the book different waves. So at the National Film*

*Board of Canada, for example, in the 60s and 70s there was a rejection of product. The Challenge for Change prided themselves in making no finished films, or very few of them. It was all about these fragments of films, thousands of them, that would be employed in community-development processes. So it was really privileging process way above product. And then there was a bit of a pushback to that in later community work that product does matter, and it does have an impact and a consequence in the world in ways that these fragments maybe don't. So there's been a balancing of that. Now the people that we spoke to, the contemporary co-creators, would argue that they're both important, and they both need to be in balance with one another.*

There is a lot of pressure to measure return on investment, which tends to lean towards perceiving XR experiences more as products measured via throughput rather than as processes that are cultivating civil society relationships in the context of a community, or catalyzing a change of behaviors within the cultural, consumer, or political domain.

It may be worth identifying whether a project aims to deliver a product to achieve specific results that can be objectively quantified, or if aspires to produce more fragmentary experiences designed to cultivate relationships within the context of a community, which may ultimately lead to deeper transformative change in the world.

### **Positioning Immersive Experiences as Part of the Transformation Economy**

The second potential insight comes from Joseph Pine's recent book on [The Transformation Economy](#). He successfully predicted the experience economy in a book of the same name co-written with James Gilmore in 1999. Now in his latest book published in February 2026, he's elaborating on the next phase of transformation-based businesses that provide deeper meaning, purpose, and ultimately human flourishing.

Transformation-based efforts will need to focus on measuring and validating these changes because he predicts that "being in the transformation business economically means charging for the demonstrated outcomes your customers achieve." He elaborates in the book by saying,

*With transformations, then, what customers value is achieving their aspirations. Inputs don't matter, only outcomes. To align what you charge for with what your customers value, you must charge for the demonstrated outcomes your customers desire. Even if you choose not to charge for change, you'll receive immense benefit from thinking through everything your enterprise does as though its income were dependent on customer outcomes – because ultimately it is.*

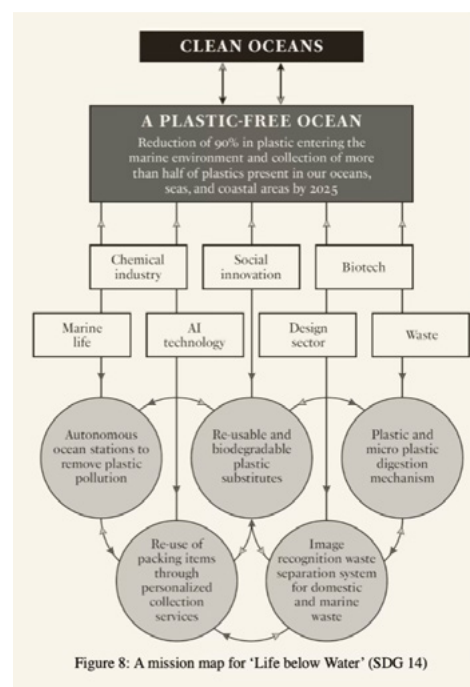
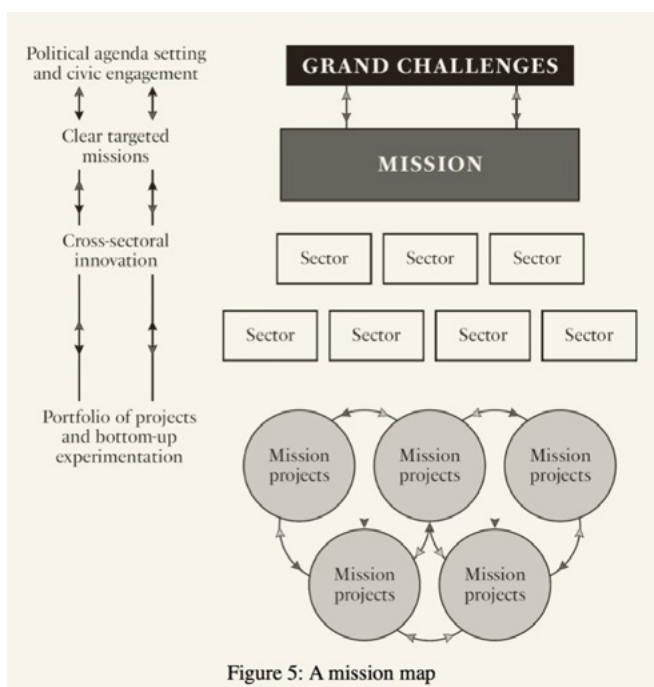
A shift into transformation-based economies emphasizes the need to come up with frameworks and models of change, and how to measure when things have successfully changed. Even if XR experiences do not adopt a charge-for-outcome model, then, like Pine suggests, it may be beneficial for XR creators to specify the change they are aspiring to within community relationships, civil society experiences, consumer behaviors, or political action.

## Mazzucato's Mission-Oriented Framework

The final potential insight comes from economist and academic Mariana Mazzucato. Kopp pointed to her extensive scholarship on value as being particularly informative, noting,

*One of the things that has really inspired me is Mazzucato at University College London. She does all this work on value, like amazing books. And she talks a lot about "the making and the taking." And essentially there is enough money, right? It's just in different places, and it's in places that we can't access. But to say that there isn't enough money is, like the money flows, it just flows in particular directions, right?*

Mazzucato has written over 100 policy papers about innovation that is bringing economic paradigm shifts around the world. There are also many process-relational themes that resonate what Cizek, Urrichio, and Pine have discussed. Mazzucato recommends fundamental economic paradigm shifts that if enacted would cultivate an entirely new political economy. Her work contains mission-oriented strategies useful in answering the question of how to fund XR art and artists.



*Mazzucato's Mission-Oriented Framework, Mazzucato, M. (2021). Mission Economy: A Moonshot Guide to Changing Capitalism. (pp. 112, 116). Allen Lane*

Mazzucato's mission-oriented framework provides a holistic strategy for how to translate purpose-driven, moonshot goals into public value. There are grand challenges that have clearly-articulated missions that span across different industry verticals and contextual domains, as well as a number of mission sub-projects that all tie back to the overall mission and grand challenge. Mazzucato explains how purpose catalyzes participation from both the government and private citizens.

*Purpose defines missions and guides how public and private actors work together, co-creating value. This collaborative process can be called the 'creation of public value'. In this context, 'public' does not mean that government is the sole actor creating value, but rather that value is collectively created by different actors and for the community as a whole, in the public interest.*

Similar to how Pine theorized transformation-based companies might decide to only charge for successful outcomes, Mazzucato is suggesting that “an outcomes-based economy is one where finance serves the economy, rather than the economy serving finance.” She talks more about “outcomes-based budgeting” by saying:

*Whereas the common budgeting practice is to give departments money to cover inputs irrespective of the goals, outcomes-based budgeting focuses on the outputs. The purpose of the budget is to help fulfill the mission to which it is allocated, whether it be putting a man on the moon or eliminating homelessness or building a carbon-neutral city.*

Whether it's Mazzucato reconceptualizing public value as being expressed through mission-driven strategies guided by moonshot goals, or Cizak talking about fragmentary films that facilitate community-development processes, or Pine's idea of only charging for demonstrated and successful outcomes, each of these three approaches represents an underlying paradigm shift on how value is conceptualized through processes, relationships, and the collaborative achievement of goals.

Moderator Kopp shared some closing thoughts on this session on De-Isolating the XR Community:

*I like the takeaway about just being strategic and remembering that whoever you're talking to, even if it's money bags, everyone is fighting battles wherever they're at, and that we are actually part of the same community. It can feel like different sides sometimes, but it really isn't. And I think the more that we can actually act like that, the better the relationships will be. And the more we can all move in the direction we want to go. And remember, this is the weather, not a game of checkers. We're not trying to win here.*

She ended the session with a series of quotes including this one from Donna Haraway:

*“Our task is to make trouble, to stir up potent responses to devastating events, as well as to settle troubled waters and rebuild quiet places.”*

# Time for a Quick Reality Check

The very first session of IDFA DocLab R&D Summit was a panel called “Reality Check,” covering some of the harsh realities of this moment and featuring some mic drop moments from Claudix Vanesix. They said they work with AI just to understand how much they hate AI, and to essentially be able to make better arguments against it. In fact, they expressed skepticism that it is possible to work with AI in an ethical fashion at all, and their reasons for that are good to keep in mind as we enter the following section about AI ethics.



LTR: Ingrid Kopp, Claudix Vanesix, Karim Ben Khelifa and Myriam Achard opening the R&D Summit with a ‘Reality Check’. Photo: Roger Cremers 2025.

Vanesix is the director of the grand jury winner of the IDFA DocLab Competition for Immersive Non-Fiction with a piece called *Feedback VR, un musical antifuturista (Feedback: An Anti-Futurist Musical)*. It’s a brilliant piece that combines glitch art with 360 video, and shows the power of indigenous technologies to alter your state of consciousness as well as reveal some deep truths about the cyclical nature of time as it explores concepts of feedback loops, iterations, and repeating sequences of time.

There isn’t a recording from the morning session, but this [extended quote, captured in an interview](#), elaborates on their definition of anti-futurism as a political movement.

*I think, first of all, it’s a provocation to say we are anti-something. For whatever anti-something you are, it is already creating this negation of something. We’ve*

*discussed this a lot when we were deciding the title, for example. Because the performance artwork can survive without this subtitle, but it's an important political statement to put into the conversation the fact that there is a vision of the future that is the hegemonic that we can gravitate towards. But if we reject that vision of the future, then we still have other futures possible.*

*Like for example, Andean Futurism, that is the one that we specifically feel like we belong to for this specific performance. But we are aware of other people developing their own versions of future, you know, like Tropical Futurism, Amazon Futurism, AfroFuturism. So Andean Futurism is also part of all of these anti-futurist movements that are trying to decenter the white, male perspective of the future. But also Eurocentric or from the USA or for Asia, you know, very specific visions of the future that involve collapse of the society as we know it because of over extraction of resources. And rather trying to imagine "What if everything was different?" It really challenges concepts as basic as time – our understanding of time.*

*So one thing that I was saying earlier that I think resonated with a lot of people was that we are collectively experiencing grief of the life as we knew it, just a few years ago. Like even before the pandemic, there were lifestyles that we had. And now because of war and escalation of conflict worldwide and riots, we seem to be accepting that the life we had, it's not an option anymore. Like we have entered a new era, a new stage in our society. And the geopolitical order is being restructured because of active war, and we are all grieving the life we had.*

*And it feels like the end of the world, and it feels like the apocalypse. So something interesting to take into account that anti-futuristic approaches do is remind you that the Apocalypse already happened to other societies, right? So many societies that were destroyed by different forms of violence and, for example, colonization in the case of the territory that is now known as America. They already went through genocides. And we are here today living proof of that. We are the result of rape and slavery, and we carry that within our genome.*

*And I think all of these conversations are extremely relevant. Talking about the genome right now, it's super important because wars are being fought. They have been being fought about genome dominance. So when we talk about supremacy, which is something that we cannot deny is happening, certain projects like post-humanism, transhumanism have these political criteria into who is developing this narrative? And what does this even mean for the future of humanity? Who is having babies? Who is not having babies? What information, genetic information, is being passed forward? Anti-futuristic approaches are necessary because they challenge this sense of technological inevitability.*

There are so many deep truths embedded in this quote it will be impossible to unpack them all. But it was striking to hear Vanesix identify nostalgia for such recent bygone years. We're

entering a liminal transition as we leave one era but can only imagine what the next phase will bring. AI is cannibalizing our culture through data colonization and the propagation of AI Slop, and it is eye-opening to juxtapose this with prior colonial efforts that have destroyed indigenous cultures. As Vanesix said, “The Apocalypse already happened to other societies, right?” What is happening is not a completely novel experience, even though it feels like it is.

Another point worth elaborating on is the aura of technological inevitability that permeates communities of emergent technologists. It cultivates suspicious levels of groupthink when basic assumptions are never challenged. Positioning Anti-Futurism as a political movement creates a skeptical frame and the negation of trust in those assumptions. Being Anti-AI can be framed through the lens of being pro-human rights, even though the tendency is to contextualize skeptical viewpoints as “technophobic.”

Computational linguist and AI critic Emily M. Bender is the lead, co-author of the famous Stochastic Parrots paper, but also the co-author of The AI Con. When asked about how AI Boosters and AI Doomers end up being two sides of the same coin, both promoting hyperbolic AI Hype, Bender [said](#),

*The boosters and the doomers like to present themselves as like the extreme ends of the continuum of possible positions on this topic. And a lot of the media picks that up as well. And then they say, “Are you somewhere in the middle?” And in fact, as you said, they are two sides of the same coin. And you can see that very clearly when you say, “Okay, well, the AI boosters say, ‘AI is a thing. It’s inevitable, it’s imminent, it’s going to be super powerful, and it’s going to solve all of our problems.’ And the AI doomers say, ‘AI is a thing. It’s inevitable. It’s imminent. It’s going to be super powerful. And it’s going to kill us all.’” And so it’s just that last little turn at the end that makes it different.*

There is a lot of eschatological thinking around AI that reflects a certain amount of religious fervor. But there is also polarization around AI that creates a bifurcation between those who are Pro-AI vs Anti-AI. But since any discussion of our current moment would be incomplete without a proper exploration of AI, let’s dive into the session on AI ethics.

# Workshop Report | TESAI Workshop

## *Towards an Ethical Standard for AI use in film, media and games production*

Piotr Winiewicz and Mads Damsbo created the hybrid documentary film, *About a Hero*, that opened IDFA 2024. The film juxtaposed fictionalized scenes using AI with non-fiction interviews of experts talking about originality, authenticity, and what it means to be human. *About a Hero* broke ground in terms of transparency and disclosure of AI use within a film. The film was edited in a way that provided contextual information indicating when something was a recreation from an LLM script versus when something was from a non-fiction interview. The filmmakers were playful in the ways they blurred the lines between what is real and what was constructed by AI such that ultimately the use of AI was highlighted in a way that it served a clear narrative purpose.



LR: Photos TESAI workshop by Kent Bye and Roger Cremers, 2025.

This year the filmmakers led a workshop on working with AI titled “Towards an Ethical Standard for AI (TESAI) Use in Film, TV, and Games Production.” They have previously held workshops with creatives from various disciplines to explore how to use AI to be “responsible, transparent, and fair to all stakeholders involved.” Based on those workshops they created a series of resources, including an AI chatbot, a website, and some general principles which they used to facilitate a 90-minute discussion during the IDFA DocLab R&D Summit.

The premise for the TESAI workshop was to be in a dialogue with industry, stakeholders, filmmakers and artists to wrestle with the various ethical issues that AI brings up. Winiewicz said that their intention is to listen, learn, note and develop further sessions based on what they hear and learn, and not to dictate anything. For this reason the resources they created are intended only for use with workshop participants or specifically invited users for controlled

feedback. They're still early in their explorations, and are not seeking an ultimate answer or solution. Rather, they encourage active resistance, dialogue, and constructive arguments. Their hope is to begin building a framework in collaboration with the broader community, and it is in that spirit that this section of the report engages critically with AI and all of its various moral dilemmas.

## Legal Considerations when Using AI For Creative Work

Given the uncertain and rapidly changing legal landscape for AI usage, Winiewicz and Damsbo discovered many unexpected roadblocks in getting theatrical and TV distribution for *About a Hero*, including trying to secure Errors & Omissions insurance. Damsbo said,

*We realized that we did not have good documentation and logging procedures. We could not always easily go back in time and see what we had done. If you want to release to a global market, you will have to get that due diligence done at some point to be able to backtrack every single prompt, and to also backtrack your human involvement.*

Works that are entirely generated by AI cannot secure a copyright in the United States, which was first established in the 2023 [Thaler v. Perlmutter](#) ruling, which decided, "the Copyright Office acted properly in denying copyright registration for a work created absent any human involvement." Early in the discussion Damsbo said, "I think there's a fundamental discussion underneath, which is: What makes something "human"? Is it the intent, and the craftsmanship? And what erodes it? What erodes us as humans if we allow that to become standard?"

## Defining What is Uniquely Human versus What is Generated by a Machine

The automating capabilities of AI are catalyzing broader discussions around the boundaries between what is uniquely human versus what is clearly generated by a machine. Legal judgments are setting standards for what types of information about their processes creatives need to document regarding their usage of AI. Winiewicz said that they spent countless hours with lawyers exploring these issues, and Damsbo detailed the types of questions they were expected to answer including,

*What are the human involvement cycles? What are the human-critical gateways? Where does human involvement start and where does it end? Having documentation of that process and making sure that humans are in that process throughout is what makes something a co-created work and not an AI-generated work.*

Continuing in this vein, one person in the discussion predicted AI media literacy will continue to evolve to the point where people will crave having a more-explicitly subjective and opinionated perspective rather than the anodyne and disembodied view that LLMs produce. They said,

*This is just speculation on my part, but I suspect the role of the author is going to be even more important. Do I trust the author? Who is this person telling you this*

*story? And what do I know about the storyteller? Is this somebody who's leaning heavily in the direction of the tech bros? Or is this somebody who's a conspiracy theorist? Where are they leaning on the political spectrum, especially with documentaries? That subjective perspective of "Who is the storyteller?" comes into play. And I think people's awareness is already rising.*

Part of what makes a human "human" are their emotions, values, desires, motivations, relationships, worldviews, beliefs, attitudes, and embodied experiences through a variety of different situations. This perspectival and contextual nuance is collapsed by LLMs, which may create the desire for more transparency around the philosophical, political, economic, and cultural dimensions of human authorship.

### **Demonstrating What is Uniquely Human vs What is Generated by a Machine**

In the spirit of demonstrating that a human wrote this report rather than an AI, I, the author (Kent Bye), will switch to a first-person narrative for the remainder of this section. I have strong opinions about AI, based on extensive research going back a decade which includes in-person interviews with AI scholars, historians, and artists. You can get a pretty good proxy of my current thoughts from my [interview with the authors of \*The AI Con\* Emily M. Bender and Alex Hanna](#).

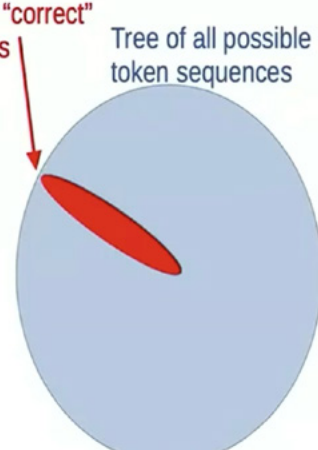
In brief, this is my considered stand on AI culturally, economically, legally, politically, technically, and philosophically:

- **Summary:** AI is a technology that consolidates wealth and power, and any analysis of AI should interrogate: What is being automated? Who is harmed by that automation? Who benefits from it?
- Without strong privacy laws in the US, Big Tech's AI tools are being used in service of surveillance capitalism that may soon be officially sanctioned by a democratically-backsliding, authoritarian state. Participating with US-based AI companies may put users at risk unwittingly due to the Third Party Doctrine of the Fourth Amendment meaning there's "no legitimate 'expectation of privacy'" to any data provided to a third party, meaning the US government can have access to all your LLM prompts without a warrant, US citizen or not. See Daniel Solove's comprehensive article "[Privacy in Authoritarian Times: Surveillance Capitalism and Government Surveillance](#)" for more details.
- The ecological impact of the data centers needed to support AI training and inference is unknowable because Big Tech is not releasing hard data. But it is clearly extreme given they are seeking to use nuclear power because neither traditional sources of coal nor green sources of wind or solar can provide enough power for future needs. Additionally, data centers require enormous amounts of water to cool their systems down, placing further stress on the communities and nations housing them. See "[The multifaceted challenge of powering AI](#)" article from the MIT Energy Initiative for more.

- LLMs are fundamentally flawed with hallucinations and confabulations that are uncontrollable resulting in AI Slop per Yann Lecun (see [this talk](#) for more). This erodes information integrity and a functioning digital civil society.

**Unpopular Opinion about AR-LLMs**

- ▶ Auto-Regressive LLMs are **doomed**.
- ▶ They cannot be made factual, non-toxic, etc.
- ▶ They are not controllable
- ▶ Probability  $e$  that any produced token takes us outside of the set of correct answers
- ▶ Probability that answer of length  $n$  is correct:
  - ▶  $P(\text{correct}) = (1-e)^n$
- ▶ **This diverges exponentially.**
- ▶ **It's not fixable.**



LeCun, Y. (2023, March 24). Do large language models need sensory grounding for meaning and understanding? Spoiler: YES!. [Presentation] *The Philosophy of Deep Learning Workshop*. New York University Center for Mind, Brain, and Consciousness. New York, New York. Retrieved on March 12, 2026 via <https://www.youtube.com/watch?v=x10964w00zk&t=497s>

- ChatGPT’s disclaimer that “ChatGPT can make mistakes. Check important info” functionally invokes [Brandolini’s law](#) that says, “The amount of energy needed to refute bullshit is an order of magnitude bigger than that needed to produce it.”
  - Also see Hicks et al’s 2024 paper titled “[ChatGPT is bullshit](#)” that argues that calling LLM mistakes “hallucinations” is the wrong metaphor. They say, “Their inaccuracy is not due to misperception or hallucination. As we have pointed out, they are not trying to convey information at all. They are bullshitting.”
- The perceived efficiencies gained by prompts of content is offloaded as additional labor for end users who waste time having to vet AI hallucinations.
- More sophisticated neuro-symbolic cognitive architectures are needed to address the structural epistemological limitations of LLMs.
- “Artificial Intelligence” is a ubiquitous marketing term that promotes unnecessary AI Hype by projecting human intelligence onto a wide range of technologies that would better be identified by name to limit specific pragmatic use cases to tightly-bound contexts.
- LLM’s perpetuate gross violations of copyright and data colonialism because corporations do not seek consent for the data they use for training. Using LLMs to benefit from this, especially in the absence of acknowledgement, is to participate in an arguably unethical practice that is eroding human endeavor and labor practices with potentially cataclysmic economic impact.

- There is a future where the production and usage of LLMs could operate in right relationship with the world, but most of the current systems fall woefully short of these ideals.
- Pro-AI and Anti-AI factions see each other as deluded, and there isn't a way to establish a universally-accepted baseline of truth about any of the core claims I make above. Therefore, discussions about AI usually end up entering an almost religious bubble of hype that makes it hard to parse, let alone agree on, what is real versus what is delusion.
- Despite the serious dangers posed by AI, it is shaping our futures and artists have an important role to play in exploring and making sense of it. Wherever an artist falls on the spectrum in response to AI, from credulous to antagonistic, we need the cutting-edge of culture to talk back to this new era of technology.
  - In the context of XR, artists are using AI to increase agency through conversational interfaces, facilitating speculative and imaginal experiences, creating novel social dynamics, using emotional detection as a layer of feedback, and enabling abstracted, embodied gestures where actions and intent can be detected through fuzzy logic programming that uses natural language descriptions. This new probabilistic approach to programming means that AI doesn't always work equally for everyone trying it, and it takes a communal effort to discover and specify the inherent biases and harms, something the artistic community might be uniquely qualified to contribute towards.



Still image from *The Oracle: Ritual for the Future (for humans and non-humans)* by Victorine van Alphen, DocLab 2025.

I believe ethical discussions about AI should consider these broader economic, political, cultural, legal, technological, and philosophical contexts. Whether you agree with my positions or not, it's important to state where I'm coming from so that you can appropriately triangulate my recounting of the remainder of this session.

## The Need for Outlining “Ethical Use of AI” by Artists

*About a Hero* demonstrated the worth of artists experimenting with emerging technologies like AI in order to push the boundaries of what’s possible, but also to discover potential pitfalls and share their experiences. Ethical dilemmas can only become apparent once they are used in specific situations, so the narrative and experimental context of art usually provides a safe container to explore these questions (with the caveat that harm can still be done within artistic contexts). This was a point emphasized to me by director, philosopher, and visual artist Victorine van Alphen, whose DocLab piece, *The Oracle: Ritual for the Future*, used immersive video essay and performance art to deconstruct and critique aspects of AI. She told me in [an interview](#),

*I’m worried when I’m using [AI], for sure, because I have blood on my hands when I use it. That’s how it feels. Yet I also feel that most of the conversations about it are naïve in the sense that we don’t know how things feel unless we are feeling them. And we only feel them unless we’re confronted with them. And that’s really something that people often ignore... But to encounter situations and really feel what’s at stake, that’s very, very, very, very meaningful. That needs to be inside the discussion, inside our navigation of the future, inside of ethics. We need to feel what things mean to us and how they can truly be.*

I really appreciate van Alphen’s plea to pay attention to the feelings that arise when engaging with AI. It reminds me of feminist philosopher Donna Haraway’s concept of “situated knowledges” that emphasizes the importance of the embodied experience situated within a particular location and on a spectrum of power. Haraway is arguing against a type of disembodied objectification that invokes Thomas Nagel’s *The View from Nowhere* in her 1988 paper titled [“Situated Knowledges”](#)

*I would like a doctrine of embodied objectivity that accommodates paradoxical and critical feminist science projects: Feminist objectivity means quite simply situated knowledges... I am arguing for politics and epistemologies of location, positioning, and situating, where partiality and not universality is the condition of being heard to make rational knowledge claims. These are claims on people’s lives. I am arguing for the view from a body, always a complex, contradictory, structuring, and structured body, versus the view from above, from nowhere, from simplicity.*

Again, by default, LLMs collapse all of the nuance and complexity of having an embodied perspective or a worldview. LLMs suck in all of the data from the Internet and beyond, but, when they do, they destroy the contextual integrity of who said what and why. All of the emotions, values, desires, motivations, relationships, worldviews, beliefs, attitudes, and embodied experiences are gone. The semiotic transmission of meaning is flattened into artifacts of words that approximate meaning, luring us to chase the ghosts of meaning like modern day Don Quixotes. Our minds fill in the gaps of meaning through the statistical combination of words, but LLMs are spitting out a view from nowhere.

This is the crux of the argument behind naming LLMs “stochastic parrots”, as coined in the famous paper [“On the Dangers of Stochastic Parrots: Can Language Models Be Too Big? 🦜”](#). In the paper, Bender et al write,

*Text generated by [a Language Model] is not grounded in communicative intent, any model of the world, or any model of the reader’s state of mind. It can’t have been, because the training data never included sharing thoughts with a listener, nor does the machine have the ability to do that. This can seem counter-intuitive given the increasingly fluent qualities of automatically generated text, but we have to account for the fact that our perception of natural language text, regardless of how it was generated, is mediated by our own linguistic competence and our predisposition to interpret communicative acts as conveying coherent meaning and intent, whether or not they do.*

In other words, “coherence is in the eye of the beholder,” because humans project meaning on combinations of words even when an LLM is incapable of deeper communicative intent. This was originally dubbed the ELIZA effect by AI researchers in the 1960s, named for the first AI Chatbot and its interactions with users. Bender et al explain by saying,

*We say seemingly coherent because coherence is in fact in the eye of the beholder. Our human understanding of coherence derives from our ability to recognize interlocutors’ beliefs and intentions within context. That is, human language use takes place between individuals who share common ground and are mutually aware of that sharing (and its extent), who have communicative intents which they use language to convey, and who model each others’ mental states as they communicate. As such, human communication relies on the interpretation of implicit meaning conveyed between individuals.*

The essential argument against LLMs is that they are stochastic parrots mimicking human language by mashing up word combinations based upon statistical distributions of words across various contexts that *did* originally have meaning. LLMs can get things right, but they have no internal understanding of why or how it is right, and are ultimately unreliable narrators that often get things completely wrong.

However, most people are either unaware or do not believe that LLMs are “stochastic parrots”, and often equate AI and LLMs as being as intelligent as, or more intelligent than humans. This is how Damsbo explained LLMs at one point during the session:

*if I give it context, it will actually go to a completely different place in its latent space to work from. So instead of being just an expert in general matters, it’s suddenly like your latest law professor that is within a certain field of expertise going to give you those kinds of answers.*

Making reference to LLMs as generalized “experts” or even subject matter experts like a law professor is projecting human intelligence onto LLMs in a way that disregards what LLMs actually are and how they work. For Bender and Hanna, they identify this as an indicator of unsubstantiated AI Hype, and elaborate by saying,

*Are these systems being described as human? The AI sales pitch involves language that anthropomorphizes — that is, it ascribes human characteristics — to the technology. We are anthropomorphizing creatures, so it takes an effort to keep some critical distance here. Calling a chatbot-based system an “AI teaching assistant”... suggests that it can do much more than what it actually does. Thinking of a human teaching assistant, we immediately imagine someone who cares about what their students are learning, makes plans about how to help them understand better, spots possible cases of misunderstanding, and relates to the students as people gaining knowledge and skills that help them to grow into new roles in their community. The “AI teaching assistant” does none of these things. For any system sold as an “AI [human role]”, we can always ask: What motivates calling this thing by that name? What else do we expect of people in that role, and who is falling for the suggestion that this system can also do those things?*

One of the downsides of ascribing human characteristics to AI is that it can lead to a desire to further automate processes that do not take the inherent limitations of AI into account, and therefore might be a bad fit for automation in general. It is a marker of how profoundly ubiquitous and convincing AI Hype and the anthropomorphization of AI is that Damsbo and Winiewicz, makers of a deftly-moving piece using AI to interrogate AI, should fall prey to its spell.

### **Aspirations to Translate AI Ethics into a Reliable Rating System**

In this session, Damsbo and Winiewicz presented their idea to create a rating system that could potentially certify the degree to which a project is acting in an ethical fashion as per the use of Artificial Intelligence.

Damsbo talked about being inspired by the animal welfare rating system created by the Dutch Society for the Protection of Animals. Called Beter Leven (Better Life), the system rates the quality of life conditions of animals on a scale of 3 stars, with 1 star being the worst, just barely exceeding the legal minimum requirements, and with 3 stars representing the maximum welfare standards. Damsbo would love to see an equivalent system that could be applied to the use of AI in film. He says,

*For us, that’s still the fundamental goal of this is to say, “Well, how do we clarify for the audience in a good way how the ethics were? How were we working with AI in this?”... I think that approach is one way of looking at it, that we could potentially think about a system that says, “Well, you’re pretty risky on your use of AI, and you’re on the edge of how you’re using AI. And you’re going to get a one-star rating for this film.” Or “You’ve really been diligent, and you’ve done all the things*

*that we've told you to do, and that you need to do to be able to get a three-star rating." This could be an approach.*

Winiewicz talked about how they were inspired by the Green Film rating system and certifications for sustainable film production with potential tax credits available that are dependent upon the rating. He says TESAI is leaning more towards a series of checkboxes rather than a color code or smiley faces in order to simplify whether a project is working within best practices or not. *About a Hero* added a lot of this contextual information in the credits, but very few people read all of the credits or can make a proper evaluation of how ethical a production was in their AI usage based upon this. He says,

*This is basically what we have been working on... to try to establish this framework... We've been looking at the green productions here because we knew that we were not going to do the smiley faces in terms of the use of AI, but we've been looking at checkboxes... because again, nobody's going to read the credits. But we just want to communicate it in a simple way.*

The mission statement they presented for their AI certification system is as follows:

*TESAI establishes a standardized certification system for the ethical use of artificial intelligence in audiovisual production, creating a trusted benchmark that production companies, studios, and independent creators can follow to ensure their AI practices are responsible, transparent, and fair to all stakeholders involved.*

It is unclear if Damsbo and Winiewicz are aware of the specific meaning “benchmark” has in the computing and AI space, but it’s important to point out that it usually refers to a set of empirical and repeatable tests to ascertain the level of performance and overall quality. Its use in their mission statement raised some concerns on my part that were not alleviated by Damsbo’s demonstration of their “Ethics Help Desk” prototype, about which Damsbo says that “It could potentially also suggest whether you actually were within an audit, like whether you are within ethical standards. In theory, it could be a little bit more of an autonomous tool that doesn’t require a huge team of auditors like there is of green productions, to actually assess whether your film is ethically created.”

The concern here is that LLMs are notoriously fallible, so information about how to proceed ethically on a project is necessarily suspect. I grew concerned they were thinking of creating an AI benchmark to allow for the quantification of AI ethics for AI systems to rate and evaluate the use of other AI systems. However, I was relieved to hear directly from Damsbo via email that this was not the case. But subsequent use of their Ethics Help Desk on my own affirmed my skepticism about the use of AI to ascertain ethical standards, which I will address later.

The obvious confusion around what LLMs can and cannot do, and the possibility that anyone might therefore think one could create an AI benchmark around ethics deserves to be thoroughly addressed.

My belief is that an automated system that uses an LLM to make judgments about whether humans are using AI systems ethically is deeply problematic. Technologically, AI and LLMs work well when there is an empirical check and balance system to validate inferences, which means they work better within narrow contexts rather than broad and general ones. Ethical and moral dilemmas are thorny problems that humans have trouble navigating, so it is already a bad fit for automation.

Creating an automated system that quantifies ethical best practices could easily produce an “ethics washing” system that arbitrarily produces high scores, whilst failing to capture or comprehend the nuances of context within the productions it judges. Here’s how researchers Chakraborty et al [describe the current moral reasoning limitations](#) of LLMs,

*Unlike humans, whose moral reasoning integrates contextual trade-offs, value systems, and ethical theories, LLMs often rely on surface patterns, leading to biased decisions in morally and ethically complex scenarios.*

They suggest a path forward that requires detailed prompting strategies to evoke the language of various moral theories, but the fundamental limitations of LLMs means they cannot comprehend, much less comment on, the full context of ethical tradeoffs. They acknowledge these limitations in the ethics statement concluding their article by saying,

*While our framework is designed to enhance normative coherence and interpretability in LLMs, we recognize that moral judgments are deeply context-dependent and culturally situated. Our results do not imply that language models should be trusted as moral agents or used autonomously in ethically consequential applications. We caution against deploying these models in high-stakes decision-making contexts without rigorous human oversight. Moreover, we encourage ongoing interdisciplinary collaboration to ensure that future iterations of value-aware AI are developed with attention to pluralistic norms, transparency, and responsible governance.*

I would not consider an automated AI ethics benchmark for creative projects to be “high-stakes,” but I do concur that automating ethics is generally a bad path to pursue, especially considering the limitations of LLMs.

## **TESAI’s Guidelines for Using AI Ethically**

However, there is clearly a need to specify criteria for how to use AI in an ethical fashion, and the conversation Damsbo and Winiewicz ambitiously took on is one that the artistic community would do well to continue. The six principles Damsbo and Winiewicz identified for working with AI ethically are: Control, Consent, Clarity, Credit, Confidentiality, and Climate Awareness.

For control, they suggest that humans should be the ones who initiate and finalize creative work. For consent, they advocate only training LLMs on work that performers and content creators have approved for use with AI. For clarity, they advise transparent disclosures on

how AI is used in productions. For credit, they suggest using proper attribution for human and AI contributions. For confidentiality, they warn about the risks of sending proprietary production assets into AI systems, especially if the settings are set to allow the training of models based upon user data. And finally, they propose promoting general climate awareness around the environmental impact of AI technologies.

✓ **A responsible approach in media production generally follows principles like:**

- **Control** — humans initiate and finalize creative work
- **Consent** — performers and creators approve AI uses of their work
- **Clarity** — transparency about AI involvement
- **Credit** — proper attribution for human and AI contributions
- **Confidentiality** — protecting training data and production assets
- **Climate awareness** — considering environmental impact

OpenAI. (2026). *Ethics Helpdesk by Makropol [Large Language Model, Custom GPT with ChatGPT] (Suspected to be GPT-4o, Free Version)*. End of Response from the Prompt: "Are there any examples or wrong and unethical ways to use AI in film, media, XR, or games?" Retrieved on March 6, 2026 via <https://chatgpt.com/g/g-68e5882a61848191b044e69ae06feab5-ethics-helpdesk/>

## GenAI Toolkits from the Archival Producers Alliance

I can also recommend the very helpful [GenAI Toolkits](#) and [Best Practices](#) guidelines produced by the Archival Producers Alliance (APA). Here are their ["10 Questions to Consider Before Using Generative AI in Your Documentary"](#)

1. Do I have compelling reasons for using GenAI tools to create and/or alter elements in my project?
2. Does my distributor or presentation partner permit the use of GenAI and, if so, do I know what standards and documentation they require?
3. Who is responsible for tracking GenAI creation through the [production workflow](#) — and how will the data be captured on a [cue sheet](#)?
4. If I create a human simulation — sometimes known as a deepfake — have I considered talent contract implications and cultural sensitivities?
5. What steps do I plan to take to check facts and confirm accuracy of AI-generated elements, and have I allowed enough time in my schedule?
6. If I'm considering using GenAI to alter archival materials (including using generative fill, generative extend, colorization, etc.) have I confirmed that my license agreements allow me to do so?
7. Does my budget include funds for legal advice from counsel with expertise in this area of law?
8. Do I know how, and if, GenAI materials will impact my production's E&O insurance?
9. Am I following guidelines for the use of GenAI elements, such as the [Best Practices](#) outlined in APA guidelines?
10. How will I [disclose to viewers](#) when, where and how I incorporated AI-generated elements used in my project?

The APA's [GenAI Best Practices Tool Kit](#) provides extensive resources including [Workflow Tips](#), [Transparency Tips](#), [Crediting Suggestions](#), [Case Studies](#), [External Resources](#), and a comprehensive [GenAI Tracker/Cue Sheet](#) that links to a [Google Sheet](#) that can be used to track the processes used in the creation of GenAI assets.

They also list some great suggestions for when it might be appropriate to turn to GenAI in the context of a documentary and non-fiction project. They [say](#) in their cue sheet,

*The following are suggested reasons for using GenAI for visuals. You can use this list as a guide, or fill in another type of use, if appropriate:*

1. **Archival Absence GenAI:** When no archival materials exist or are available.
2. **Archival GenAI Blend:** When blending authentic archival source materials with GenAI, such as to expand an aspect ratio or add or remove an object.
3. **Archival Augmentation:** When enhancing low-quality, incomplete, or limited archival assets, above and beyond standard or expected up-res'ing for purposes of delivery
4. **Cinematic Stand-In:** When depicting scenes that would otherwise require a b-roll shoot (for example, re-creations or re-enactments).
5. **Conceptual Visualization:** When using GenAI to represent abstract ideas, emotions, or theories.
6. **Interpretative Visualization:** When creating hyper-real or stylized versions of archival materials, ideas, people or events as part of a visual style..
7. **Satirical Reimagination:** When using GenAI to exaggerate, parody, or playfully reinterpret archival material, ideas, people or events in a humorous or critical way.
8. **Creative Speculation:** When imagining alternative historical outcomes or speculative versions of events.
9. **Privacy or Anonymity Protection:** When using AI to obscure identities or recreate likenesses.

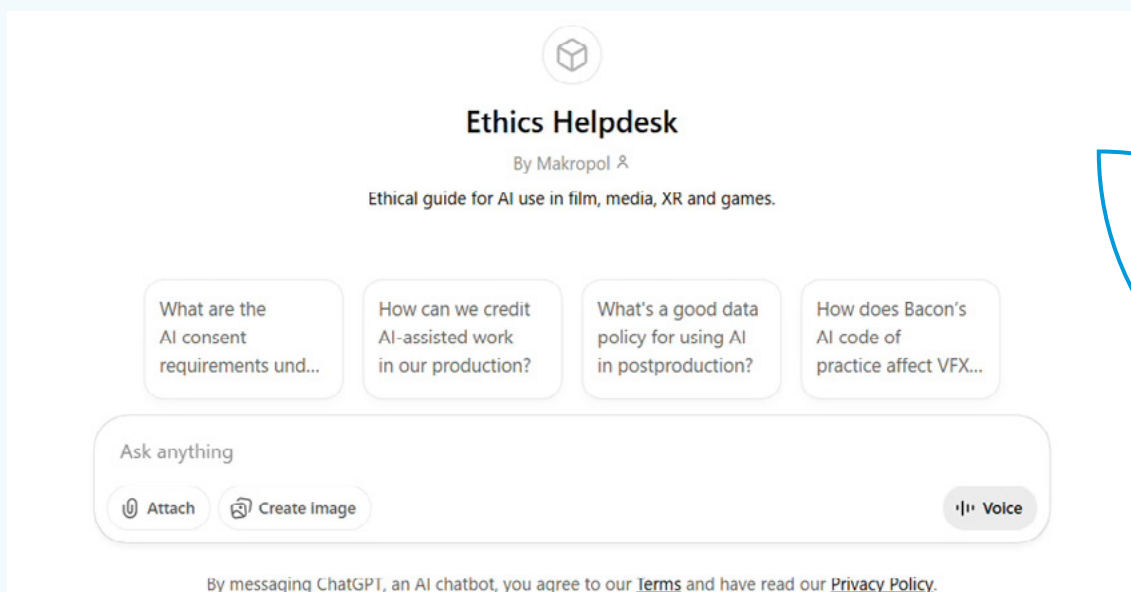
I found these suggested use cases for GenAI in documentary projects to be especially insightful, but all the APA's GenAI Toolkits and Best Practices guidelines are great references.

## Chatbots are a Poor Fit for Navigating Ethics and Moral Theories

ChatGPT has a [Custom GPT](#) feature that allows you to create custom versions of ChatGPT where you can combine custom instructions and extra knowledge, Damsbo and Winiwicz used this feature to create an [Ethics Helpdesk](#) chatbot prototype in order to see if it would be helpful and useful for creative technologists.

I remain skeptical of the use of LLMs both as chatbots and to automatically generate website references, because there is no good way to validate the outputs. Because LLMs don't actually comprehend anything, it is hard to know how reliably they incorporate customized data. You may be able to quickly stand up a chatbot and tune it with workshop transcripts

and references, but LLMs do not do a great job of reliably sourcing information back to original sources. Since the provenance of information is uncertain, it is difficult to discern whether custom GPTs are actually sourcing information that is used to tune it, or if LLM responses are largely dictated by the much larger set of original training data, or if it is just producing hallucinated or confabulated information, of which I found ample evidence. I'll be exploring these issues in the final section of this chapter.



Here is how Damsbo described his vision for this AI chatbot to help explore the ethical discussions around creative productions. He says,

*This is the Ethics Help Desk prototype. And what it is, is basically, imagine all the data points that are behind the page I showed you: the workshop transcripts we did, and other resources we could find, and then the code of conduct initial draft framework. All of that has been fed into this agent, and then it's been given the task of answering any question. Because what we see as the problem with this is, "Where does it end?" You can have a discussion, but where does it end in something useful? Something that filmmakers and creators and producers can use now. And the idea is to see whether this kind of tool could potentially not only work as a direct consultant for you. But in theory, be up to date with regulation, be up to date with precedent legal cases, be up to date on the platform about what kind of use cases are out there. So it's not only helping you. It could potentially also suggest whether you actually were within an audit, like whether you are within ethical standards. In theory, it could be a little bit more of an autonomous tool that doesn't require a huge team of auditors like there is of green productions, to actually assess whether your film is ethically created.*

In my testing of their Ethical Helpdesk chatbot, my opinion is that Damsbo is vastly overstating what these custom GPTs are capable of achieving.

However, there is an underlying issue here that can be understood by focusing on an interaction that happened during the workshop after Damsbo explained his vision for this chatbot. A philosopher in the audience wondered if the AI was using a specific type of moral theory. They asked, “Did you find out different ethical strands or streams of thinking and reasoning?” Damsbo responded by saying,

*Yeah, I think the most fundamental thing that we gave it is that it shouldn't consider something as either good or bad. Everything is a nuance of good, bad, or best. That every ethical question has a spectrum of risk. Because some things are not set in stone in terms of law. So if you proceed in some direction, you will have a lot of risks down the line. Or if you want to be very safe, you work in this ethical strand. So if you imagine like – [extended pause]*

The philosopher interjected by saying, “Yeah, yeah, yeah, but that’s interesting. You could say that is an ethical strand” And Damsbo responded by saying, “Yeah, okay, yeah.”

This exchange underscores that there are indeed a wide range of moral theories and ethical approaches, and the aspiration to create an automated ethical evaluation system would theoretically be influenced by the specific moral theory of the creator themselves. But how faithful an LLM would be to consistently follow a specific moral theory is another question considering how uncontrollably susceptible they are to contextual input.

In the final AI section we will explore various hallucinations and confabulations, and how it is likely that the training data may be completely subsumed by the foundational model.

### **Values-Based Realism as a Hybrid Approach for AI Ethics**

Before we move on, I think it’s worth elaborating on the spectrum of moral theories. I believe that the proposition of trying to automate AI ethics is a terrible idea, but arguing this has catalyzed me to think more deeply about potential better approaches to AI Ethics.

Much of my tone in this chapter has leaned towards an abolitionist approach to AI. This is because a rules-based (i.e. deontological), human rights approach must conclude that there are too many unethical aspects to AI to even consider using it at all.

But, I also believe it is important for artists to explore both the positive and negative potentials of the technology, and that there are some bounded use cases where it does make sense. So how can I reckon this ethically and morally?

I suspect that an ethical approach to AI will likely require a combination of ethical approaches. We will have to do our best to live into human rights values, but there are pragmatic compromises that point towards utilitarian approaches in order to do the greatest good for the greatest number of people.

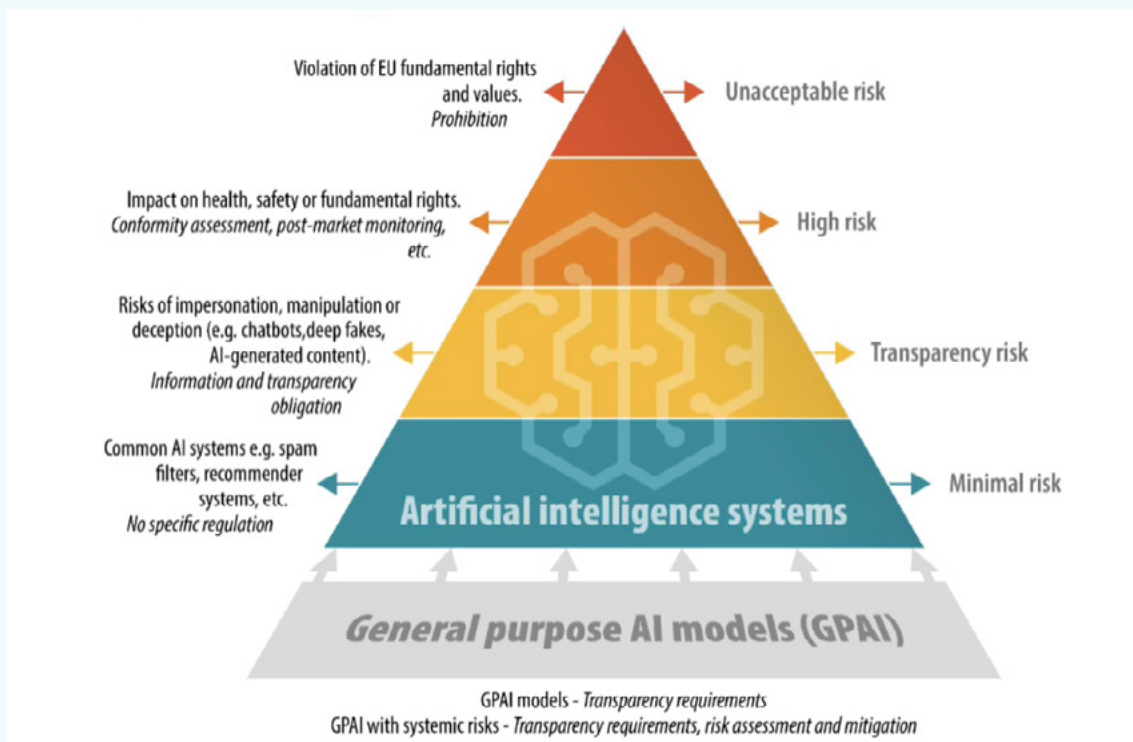
So what would be a better ethical approach for using AI in XR, film, and games?

By default, most usage of AI uses a form of utilitarianism in order to rationalize how the benefits of using it are producing pragmatic results that are useful, and the various harms are either out of sight and out of mind, or judged to be not as salient as the immediate benefit of using these systems.

Access Now's Daniel Leufer [explained to me in an interview](#) the limitations of utilitarianism as a default moral theory for AI, and why the EU has adopted a Human Rights approach to AI Ethics instead. He [says](#),

*What we were seeing a lot of at the time in these companies' self-generated AI ethics guidelines was more of a utilitarian approach. And human rights frameworks are more deontological. So rather than a utilitarian approach, which is going to be looking at "How do we: Maximize the benefit? Maximize the good? Minimize the bad? Ensure that there's a net benefit to applications?" With the human rights approach, you tend to be looking more at absolute – or at least principles that need specific criteria in order for them to be infringed upon or to allow exceptions.*

Leufer gave the example of proposed Automated Gender Recognition AI systems that could be used to control bathroom access, and how scholars like Os Keyes and Morgan Klaus Scheuerman have pointed out the systemic bias against transgender and non-binary people. The EU's AI Act creates a [pyramid of harm](#), with a tier of AI applications that present such an existential and unacceptable risk to a sufficient number of people that these applications would be completely banned from use.



EU AI act risk-based approach, Data source: [European Commission](#)

As an example, [Article 5 of The AI Act](#) bans AI systems that attempt the “use of biometric categorisation systems that categorise individually natural persons based on their biometric data to deduce or infer their race, political opinions, trade union membership, religious or philosophical beliefs, sex life or sexual orientation;”

Leufer elaborates on how this humanitarian approach helps to counter the amplification of systemic harms that comes from a utilitarian approach that is usually satisfied by working for the perceived majority of customers. He [says](#),

*You’ll often hear companies who push these things or governments who deploy them citing things like accuracy rates. And they’ll say something like, “This is 90% accurate. It’s 95% accurate...” If you’re coming at it from a utilitarian perspective, you might say, “If it’s 95% accurate, that’s great. Maybe it doesn’t work for a few people. But, you know, overall, this is a net benefit. This makes things seamless, whatever, for people who are trying to access it.”*

*But I think if you’re coming at it from a human rights perspective, or just a genuinely humane perspective, you go, “Who are the 5%? Is it a random selection of people? No. Is it someone like me? A cis het white guy? No. It’s a 5% of people – it’s the same group of people who face discrimination daily.” And here, I’m really pirating Os Keyes’ work here. It’s a subset of people who face discrimination on a daily basis in all sorts of other places: the job market, housing market, education, workplace, everything. And you’re discriminating against them.*

There are structural biases embedded within AI systems, and interactive and XR projects that integrate these automated systems within their projects may unwittingly propagate systemic bias that is fixed within the context of limited training data. As an example, if you are using computer vision in your project, it is worth seeing if it performs equally across a variety of different skin tones.

I recently saw an immersive, AI-driven project at a festival that created AI images of audience members. The makers shared with me that their system would sporadically produce overly sexualized images of women. In my observations I saw it happen once, and it happened to be with a black woman. However, Castleman & Korolova described this “adultification bias” in a paper [noting](#),

*We find that LLMs exhibit explicit and implicit adultification bias against Black girls, assigning them harsher, more sexualized consequences in comparison to their White peers. Additionally, we find that [text-to-image] models depict Black girls as older and wearing more revealing clothing than their White counterparts, illustrating how adultification bias persists across modalities.*

The real and intractable challenge is that these levels of systemic bias may stem from the training data sets of the foundational models themselves. There isn’t transparency for the

underlying architecture of foundational LLM models, nor is there transparency for the data used for training the models. This makes it much more difficult for academics to do systematic studies of the full spectrum of harm coming from biases within the data used to train LLMs. But whenever deploying these systems, artists have a role to play of both being aware of the limitations, but also potentially incorporating disclaimers of biases within the artistic experience itself. A lot of immersive art about AI has included the processes by which the AI was used, which provides a framework for artists to more fully demonstrate and contextualize these biases and harms.

As another canonical example, Joy Buolamwini was studying facial recognition systems at MIT when she discovered that these systems could not accurately recognize her black face. But it could detect a face when she put on a white mask. The documentary film *Coded Bias* does a great job of surveying a broad range of systemic bias from AI across various contexts, and within her book, *Unmasking AI*, she says,

*If the AI systems we create to power key aspects of society — from education to healthcare, from employment to housing — mask discrimination and systematize harmful bias, we entrench algorithmic injustice. We swap fallible human gatekeepers for machines that are also flawed but assumed to be objective. And when machines fail, the people who often have the least resources and most limited access to power structures are those who have to experience the worst outcomes.*

Later in her book, Buolamwini also advocates for a Human Rights and Civil Rights approach to AI by saying,

*The Rising Frontier in the fight for civil rights and human rights will require algorithmic justice, which for me ultimately means that people have a voice and a choice in determining and shaping the algorithmic decisions that shape their lives,  
that when harms are perpetuated by AI systems there is accountability in the form of redress to correct the harms inflicted,  
that we do not settle on notions of fairness that do not take historical and social factors into account,  
that the creators of AI reflect their societies,  
that data does not destine you to unjust discrimination,  
that you are not judged by the content of data profiles you never see,  
that we value people over metrics,  
that your hue is not a cue to dismiss your humanity,  
that AI is for the people and by the people, not just the privileged few.*

Using a theoretically-perfect, automated system that has encoded scalar utilitarianism that judges the use of AI on a scale of good, better, or best cannot take into account these broader human rights perspectives. They would be completely invisible to automated systems that are already perpetrating systemic harm to the most marginalized communities.

If you are using primarily a human rights-driven and deontological approach to AI, then it is very likely that you decide the potential harms outweigh the benefits of using these automating technologies all together. And the ethical dilemma is that most people are using a utilitarian set of ethics that dismisses or ignores these harms, which creates a pressure of inevitability where people who don't adopt these technologies are labeled as "technophobic."

However, there also may be use cases of AI where, although it may be imperfect and cause harm, overall the experience could be delightful and show possibilities for new forms of conversational agency, imaginal explorations, embodied gestures, emotional tonality, or emergent social dynamics. If artists show the affordances of these potential benefits, then it has the potential to cultivate more cultural and economic support for foundational models to include more diverse data sets that work for more and more of these marginalized communities.

One conceptual breakthrough for AI ethics may be to take a more pluralistic approach of "Value-Based Realism" that was first suggested by The President of Finland Alexander Stubb's in a 2024 speech, and was cited by Canadian Prime Minister Carney in his 2026 World Economic Forum speech. "Value-Based Realism" was introduced in the context of foreign policy, and it is a combination of the more idealistic and deontological human rights-first approach, but then falling back to a more pragmatic utilitarianism when dealing with relationships that don't live up to your values. Here's how Carney summarizes values-based realism:

*We aim to be both principled and pragmatic – principled in our commitment to fundamental values, sovereignty, territorial integrity, the prohibition of the use of force, except when consistent with the UN Charter, and respect for human rights, and pragmatic and recognizing that progress is often incremental, that interests diverge, that not every partner will share all of our values.*

And here is the original context of Finland President Stubb's introduction of the concept of value-based realism within a lecture entitled "World Order After 2022" at the University of Tartu in Estonia on May 29, 2024. He [says](#),

*I base my foreign policy on something I call "value-based realism"... What does it mean? It means that you rest, basically, on two pillars.*

*One is values. So you still believe strongly in the basic values... so human rights, fundamental rights, freedom, democracy, rule of law, protection of minorities, international institutions, and rules. You believe that there are collective global goods that you have to manage together within a clear international order. You stick to that. You don't give up that idea.*

*But then we come to the realism point. You are realistic that... not everyone is going to become a liberal democracy. Not everyone is going to become a functioning Republic. Not everyone believes in social market economy or freedom. Not everyone believes in liberal institutionalism or international liberalism. And that*

*means that you are going to have to compromise your values from time to time to be able to solve the big global crisis that exist. War at the end of the day requires compromise, whether we like it or not. Otherwise it's endless. Climate change necessitates compromise. Economy necessitates compromise. And all of this comes in my mind also to dignified behavior in diplomacy and international politics. So a respect towards the other.*

Similar to this, a value-based realistic approach to AI Ethics could be that it is always centered within the context of human rights, but when you need to explore practical and pragmatic use cases, something like scalar utilitarianism may be appropriate.

Scalar utilitarianism attempts to transcend the binary polarity of right and wrong, and instead create a spectrum of benefits and harm. Here's how Norcross describes it in his 2006 book chapter.

*The dominant consequentialist function from the good to the right, at least since Sidgwick, has been maximization: an act is right if and only if it produces at least as much good as any alternative available to the agent, otherwise it is wrong. According to this maximizing function, rightness and wrongness are not matters of degree. Consequentialists are not alone on this score. Deontologists concur that rightness and wrongness are not matters of degree. There is an important difference, though. In typical deontological theories, properties that make an action right and wrong – e.g., being a keeping of a binding promise, a killing of an innocent person, or a telling of a lie – are not naturally thought of as matters of degree. So one wouldn't expect the rightness or wrongness of an act to be a matter of degree for deontology. But this is not the case with consequentialism. Goodness and badness, especially in the utilitarian value theory, are clearly matters of degree. So the property of an act that makes it right or wrong – how much good it produces relative to available alternatives – is naturally thought of as a matter of degree. Why, then, is rightness and wrongness not a matter of degree? I will argue that, from the point of view of a consequentialist, actions should be evaluated purely in terms that admit of degrees.*

So in summary, perhaps a “value-based realism” approach to AI Ethics creates a hybrid approach where human rights are always centered first and foremost in any usages of AI systems. Being aware of the benefits and harms of AI systems will help to understand these various tradeoffs. And when you do decide to use AI, then perhaps scalar utilitarianism could be a harm-reduction approach that aims to maximize the benefits while minimizing harms in a more holistic fashion.

Again, I am suspicious of any system that attempts to automate these ethical issues, especially when these systems are already blind to their own ways that they amplify systemic biases. But this hybrid approach of ethics could be a viable way for artists to themselves navigate the thorny ethical dilemmas AI technologies present.

## The Harm of AI Hallucinations to End Users

In this final section, I will explore the fallibility of LLM systems using the specific example of the TESAI website prototype. I have now spent over 10 hours investigating the various website resources that were vibecoded by Damsbo, and I found several stark examples of AI hallucinations. Knowing that there are clear examples of AI errors, it's hard to put much trust or faith into any of the information offered there, even though some of it may be correctly synthesized by the LLM. But because there is so much reliance and faith being put into these LLM systems, I think it's worth unpacking some of the hallucinations that I found in order to draw some broader conclusions about the limits of LLMs, and to reiterate again why I believe aspirations to automate ethics is a folly.

During the session Damsbo and Winiewicz provided a link to [their website](#), which contains a number of resources about AI they aggregated for filmmakers. During the session, Damsbo said, "I've got to be honest with you. I used the tool called Manus AI that helps me make a webpage. It's brilliant. I was putting in all my data, and then telling it what I wanted. And then together we created a website." Someone then asked if he used Manus AI to do the research as well, and he responded, "Yes, but that was a different – I used a different AI to help with the research. But then also, the workshops were the biggest data points."

Manus AI may have saved Damsbo some time in putting together a website, but the site contains so many factual errors due to AI hallucinations that the time Damsbo saved gets off loaded onto anyone using it who is concerned with validating whether the information is true or not.

When you first visit their website, there is a disclaimer on the bottom, right-hand side of the website that says, "AI-generated (possibly user-edited) content - please verify carefully." There are also 52 resources listed with footnotes, but once I verified that multiple references were not accurate, I stopped using them. If any workshop data is being used at all, it is not attributed or cited. Considering that at least two different AI systems are being used, there's no way to accurately discern the provenance of information listed on the website. The end result is that it is difficult to identify what may be hallucinated and what may be legitimate.

As a concrete example, let's take a look at the content within the five sections of the "Stakeholder Concerns and Perspectives" taken from the last page of their website. This is purportedly the stakeholder concerns as expressed by directors, game developers, screenwriters, actors, and producers.

While each of the "Shareholders Concerns and Perspectives" do contain what look to be citations, actual scrutiny leads to more questions than answers. The DGA citation leads to a [very short press release](#) containing information about only one of the bullet points listed in the summary. The SAG-AFTRA citation oddly links to a [press release of a video game strike over AI in 2024](#) rather than the [landmark SAG-AFTRA TV / Theatrical Contracts](#) from November 16, 2023, which has the actual agreed-upon AI provisions that are much more pertinent. Are any of the summarized bullet points actually coming from the cited sources? Let's zoom

into the Game Designers / Developers Stakeholder Concerns Section, and check out the listed citation.

I read the entire cited article, [Everything You've Heard About AI In Game Development Is Wrong](#) and I can verify it contains only one out of the four bullets. But that one bullet is taken so far out of context as to be antithetical to it. In fact, it is a speculative, pro-AI piece about how "A creative person with no coding experience [can create] a functioning game with narrative depth through conversation alone."

**TESAI Stakeholder Concerns and Perspectives**

**Directors (e.g., DGA)**  
The DGA emphasizes AI as a creative tool to enhance, not dictate, the artistic process.  
**Key Concerns:**

- **Creative Control and Authorship:** Maintaining directorial vision and authorship in AI-assisted productions
- **Job Security:** Ensuring AI is not used to cut jobs or save money at the expense of human creative roles
- **Ethical Implementation:** Advocating for fair and ethical implementation of AI technologies

Reference: [31] DGA, (2025, March 19), DGA Continues to Speak Out on AI.

**Actors Guilds (e.g., SAG-AFTRA)**  
SAG-AFTRA has been a leading voice in advocating for protections against the unchecked use of AI.  
**Key Concerns:**

- **Job Displacement:** Fear that generative AI, particularly digital doubles and synthesized voices, will reduce the need for human performers
- **Unauthorized Use of Likeness and Voice:** Concerns over the creation and use of digital replicas without explicit consent, fair compensation, or control
- **Fair Compensation:** Demand for adequate payment for the ongoing use of digital assets
- **Creative Control:** Desire to maintain control over their image and performance
- **Intellectual Property:** Concerns about AI models being trained on their performances without permission

Reference: [32] SAG-AFTRA, (2024, August 16), SAG-AFTRA Strikes Video Games Over AI.

**Game Designers/Developers**  
**Key Concerns:**

- **Job Displacement:** Worry that AI will automate tasks like code generation, art asset creation, and narrative development
- **Quality of AI-Generated Content:** Skepticism about the quality and originality of AI-generated assets ("AI slop"), fearing loss of player trust
- **Creative Integrity:** Debate over AI's ability to create truly original art or compelling narratives
- **Ethical Implications:** Concerns about AI in game mechanics, artificially induced emotions, data privacy, and the need for ethical frameworks

Reference: [33] Medium.com, Everything You've Heard About AI In Game Development Is Wrong.

**Producers/Studios**  
Producers and studios navigate legal, ethical, and financial considerations.  
**Key Concerns:**

- **Legal Liabilities and Copyright Infringement:** Risk of lawsuits due to AI training on copyrighted material and the legal status of AI-generated content
- **Ethical Reputation:** The need to maintain public trust and avoid negative publicity from unethical AI use
- **Cost-Benefit Analysis:** Balancing efficiency and cost reduction against legal risks, reputational damage, and investment
- **Talent Relations and Union Agreements:** Navigating negotiations with guilds and unions regarding AI use, consent, and compensation
- **Data Security and Confidentiality:** Protecting sensitive production data from unauthorized AI access or use
- **Accountability:** Determining responsibility for errors, biases, or infringing content generated by AI systems

Reference: [36] Hollywood Reporter, (2025, August 6), Universal Pictures to Big Tech: We'll Sue if You Steal Our Movies for AI.

**Screenwriters (e.g., WGA)**  
The WGA has secured significant contractual protections against AI.  
**Key Concerns:**

- **Job Displacement:** Fear that AI could write or rewrite literary material, reducing demand for human screenwriters
- **Copyright Infringement and Training Data:** Strong concerns about AI models trained on copyrighted material without permission or compensation
- **Originality and Authorship:** Insistence that AI cannot be credited as a writer and that human writers retain creative control
- **Fair Credit and Compensation:** Demand for fair credit and compensation for their work
- **Mandated AI Use:** Opposition to companies requiring writers to use AI software

Reference: [34] The Guardian, (2023, October 1), How Hollywood writers triumphed over AI.

Damsbo, M., Winiewicz, P. (2025, Nov 16). Stakeholder Concerns and Perspectives. *TESAI - Towards an Ethical Standard for AI Use.*

Retrieved on March 5, 2026 via <https://tesai-cert-7dfqvlwy.manus.space>

The AI summary asserts that the game developer stakeholder concerns can be summarized as, "Job Displacement: Worry that AI will automate tasks like code generation, art asset creation, and narrative development." This, however, is a gross mischaracterization of the article in question, because, while it notes the loss of jobs for coders, it goes on to frame AI coding as a gain, as a "Creative Liberation" for creative types no longer bound by the shackles of a game industry that "has operated on a technical-first paradigm." Yes, there is fair worry expressed for the loss of coders, especially the junior coders. But the author goes on to extoll the benefits of "more games that center on artistic vision" for writers and a "Necessary Rebalancing" that will, presumably, see the rise of creative merit vs technical skill.

## Stakeholder Concerns and Perspectives

The integration of AI into audiovisual production has raised concerns among various stakeholders, primarily revolving around job security, creative control, intellectual property, and ethical implications.

Actors	Directors	Writers	Game Devs	Producers
<b>Game Designers/Developers</b>				
<b>Key Concerns:</b>				
<ul style="list-style-type: none"><li>• <b>Job Displacement:</b> Worry that AI will automate tasks like code generation, art asset creation, and narrative development</li><li>• <b>Quality of AI-Generated Content:</b> Skepticism about the quality and originality of AI-generated assets ("AI slop"), fearing loss of player trust</li><li>• <b>Creative Integrity:</b> Debate over AI's ability to create truly original art or compelling narratives</li><li>• <b>Ethical Implications:</b> Concerns about AI in game mechanics, artificially induced emotions, data privacy, and the need for ethical frameworks</li></ul>				
<small>Reference: [35] Medium.com. Everything You've Heard About AI In Game Development Is Wrong.</small>				

A reasonable human would not cite this article as the best argument expressing concern and worry about code generation job displacement for game developers. If anything, it reveals in the downfall of developers as holding back the creative potential of the now liberated, vibecoding writer. The first bullet point of the AI summary completely misses the larger context of what this article is actually trying to say.

The last 3 bullet points are completely made up with no mention in the cited reference. There is no mention of "Quality of AI-Generated Content: Skepticism about the quality and originality of AI-generated assets ("AI Slop"), fearing loss of player trust." There is also no mention of GenAI art or GenAI narratives in "Creative Integrity: Debate over AI's ability to create truly original art or compelling narratives." Finally, and no surprise, there's also absolutely no mention of "Ethical Implications: Concerns about AI game mechanics, artificially induced emotions, data privacy, and the need for ethical frameworks."

None of these points are mentioned in the cited source, which implies the section may have been completely hallucinated from the latent space of the LLM, with a citation added to mimic authoritative texts. It is possible that some of the text is accurately summarized from group discussions or prompts Damsbo fed into Manus, but there's no way to actually tell because all human traces have been erased on the site. The workshop transcripts are never cited directly, and as far as I can tell these sources of information could be completely hallucinated, but could also be sourced back to the foundational LLM model itself independent of the custom GPT training data. Without access to the source data that was fed into the system, it is hard to make firm conclusions. But LLMs have proven themselves time and time again to be unreliable narrators, and so reliance on them to generate independent research or engage in real-time chatbot conversations have little checks and balances for producing verifiable information.

I had initially given their website the benefit of the doubt since they created it with the perceived authority of citations, but after witnessing a key citation fail so spectacularly my

trust in it was completely broken. What, the reader may ask, is the trouble with false data being presented to support a well-intentioned and even credible imitation of a passionate manifesto for ethics in AI? Especially when the creators of the site purporting the manifesto are transparent the work ought to be fact checked? Well, if we cannot see traces to the origin of the information, how are we supposed to discern what is legitimately summarized and what is completely confabulated? If we cannot follow how an author arrived at their conclusions, or, indeed, whether there is an author at all, how can we agree or disagree with them/it? If a proposed system of ethics is built on LLM systems that do not recognize the system of ethics they have been trained on, much less how to discern fact from fiction, can it even be called ethical?

## Concluding Thoughts on AI

Clearly, I believe that automating ethics using LLMs is a terrible idea. LLMs don't understand the deep contextual information necessary to make nuanced moral judgements, in fact, LLMs do a poor job of any kind of reasoning because they don't actually understand anything they're outputting. Also, with the lack of empirical checks and balances, it can be very difficult to discern what information is completely confabulated versus what is accurately synthesized or summarized. Moreover, humanity has sought guidance on ethical considerations from the deepest thinkers of every age, and the idea that we might now consider outsourcing the difficult quandary of making moral judgments onto machinery trained by Reddit is nonsensical, to say the least.

A much better approach to AI Ethics is to choose a human rights approach first and foremost, but, recognizing this new technology is likely here to stay, making use of values-based realism, and leaning into a more pragmatic, consequentialist, or scalar utilitarian approach for utilizing AI technologies into an XR project. There is value in wrestling with the intractable nature of these moral dilemmas, and to understand the contextual tradeoffs and systemic biases of LLMs that the technology itself is blind to.

Artists can use AI technologies to promote new levels of human flourishing through novel experiential design, but also give people embodied experiences for the ways that LLMs fail - and use those failures to critique and speak back to our cultures. As time goes on, artists may even have a role in creating more ethically-produced AI systems themselves through the archival collection of source data or becoming more directly involved with training or tuning AI models as a mode of artistic expression itself. Immersive artists have unique vantage points to operate as both mediators and conveyors of this new technology, pushing the boundaries of what can be done with it as well as using it to dialogue with the culture, and to bring attention to the many human rights and algorithmic justice issues concerning AI.

# Some Concluding Thoughts from DocLab 2025 Artists

The theme of this year's IDFA DocLab was "OFF the Internet," which was informed by multiple artists reflecting on the lifespan of the Internet within their work. DocLab's retroactive curation model, where they declare a theme based on the work submitted, may be particularly salient in a time when artists decry the decentering of humanity the Internet heralded. From smart phones to social media to AI, the digital context collapse of our cultures has disrupted human connection in ways we must now reckon with. Artists attune themselves to broader collective zeitgeists through their creative processes, and it's worth listening to them as we try to orient ourselves in the midst of a quickly-changing landscape. They have real nuggets of wisdom to help guide our way.



Still images from: *Feedback, un musical antifuturista* by Claudix Vanesix and Collective AMiXR, DocLab 2025.

DocLab founder Caspar Sonnen [said in an interview](#) that "*Feedback VR* was one of the first pieces that we selected this year, and one that really was part of the works that inspired the [OFF the Internet] theme." *Feedback's* "Anti-Futurist Musical" tagline pushed back against the types of technological inevitability narratives we've seen from Big Tech companies who like to move fast and break things. *Feedback* went on to win the IDFA DocLab Award for Immersive Non-Fiction, and director Claudix Vanesix [said in an interview](#),

*We are collectively experiencing grief of the life as we knew it — just a few years ago. Like, even before the pandemic, there were lifestyles that we had. And now because of war and escalation of conflict worldwide and riots, we seem to be accepting that the life we had, it's not an option anymore. Like we have entered a new era, a new stage in our society.*

Vanesix described this entrance into a new era in November 2025 before a number of subsequent events happened that further support this narrative. The most recent being the United States and Israel attacking Iran at the end of February 2026, which was also foreshadowed by Canadian Prime Minister Mark Carney's speech in January 2026. [Carney named](#) the dissolution of the "rules-based international order" and claimed "we are in the midst of a rupture, not a transition." This rupture is visible across many different stratas of geopolitical spheres, economic spheres, and cultural spheres, but we also see it in the shifting tides of emerging big players within the landscape of Big Tech.

## **A Shifting Technological Landscape Impacts Artists and Storytellers**

Artists need to be aware of how tech is evolving in order to make strong choices about which technologies, companies, and devices they choose to work with. The last major tech platform shift happened in 2007 as primary computing devices started to move from personal computers to mobile smartphones. Apple's iOS and Google's Android now comprise [over 99% of mobile operating systems](#), and Apple went from the #11 biggest company in [2007](#) to the #1 biggest up until July of [2025](#), and Google (part of Alphabet) went from fifth to third. The lesson may be that the winners of the major tech platform shifts have a good shot at becoming the largest companies in the world, which could explain why so many companies are taking big bets on AI. No one wants to meet the fates of formerly dominant mobile platform players, like Nokia or Blackberry, who failed to recognize the significance of the smartphone revolution leading to detrimental business results.

In July 2025, NVIDIA surpassed Apple as the most valuable company in the world reaching a [market capitalization of \\$4 trillion](#). NVIDIA sells GPUs for AI training, which is the equivalent of selling shovels during the gold rush. Is this a shift in the balance of Big Tech power over to companies focusing on AI? Or is this a short-term speculative bubble that will soon pop? Key indicators may be whether AI software upstarts like OpenAI and Anthropic can show a path towards profitability, and go public. In the midst of global strife causing the disintegration of economic globalization and unexpected energy shortages this path is unclear. Current events, after all, are causing constraints on the very natural resources that AI depends on.

Most of the Big Tech companies are betting that AI is the next platform shift, and XR efforts are still around and informing AI, but they're not at the forefront. Meta [cut back on first-party VR game studios](#) and [closed down their enterprise XR offerings](#) in January 2026 in order to focus on AI wearables. Meta took an early risk that XR would be the next major platform shift, and it still may be part of a broader transition from 2D to 3D at some point. But AI looks likely to go mainstream before XR achieves broader market penetration. Meta was able to identify this, and leverage their XR experience to pivot to AI wearables once they saw consumer momentum with AI features for the RayBan Meta AI Glasses.

AI hype has also delayed gaming giant Valve's new stand alone VR headset [due to RAM and storage shortages](#) caused by the [speculative gold rush of data centers being built for AI](#). Gamers and VR storytellers waiting for the new Steam Frame headset will have to wait, but excitement is mounting because it will be the first to run on the open source operating

system of Arch Linux. This pivot may be an optimistic sign that computing can escape the duopoly fate of Microsoft Windows versus Apple MacOS on PC, and Apple iOS versus Google Android on mobile & XR. The closed, walled gardens of Apple and Google apply a 30% platform tax applied to every purchase, so Valve's shift could be an indicator of a return to the idealistic and free computing environment of the early days of the Internet. Valve's Steam store obviously still takes a 30% cut, but the Steam Frame will be the first XR device with a truly Free and Open Source Software operating system, and this will enable other Linux XR distributions to emerge.

This is especially so since Valve's pioneering work using open source systems for their gaming platforms does not end with the new headset. The entire Steam OS is now based on Arch Linux, and they are building emulators for Windows and Android to create an off-ramp for gamers to switch away from Windows and Android-based devices to Linux-based operating systems. This represents a revolutionary development towards people-powered operating systems that are a much-needed antidote to Big Tech's constricting operating systems, non-consensual integration of AI and cloud-based features, degraded levels of stability, and surveillance issues. Valve's development of Linux-based XR platforms has the possibility to revitalize the spirit of XR that has been throttled by Meta's legendary misadventures of supporting their own first-party XR apps over cultivating a viable and thriving XR ecosystem. This is a potential moment of renewal for XR to grow organically without undue interference from Meta and without pressures of venture capital dictating growth faster than what the market can bear.

It has been a while since the future has felt so uncertain, and these speculative battles will undoubtedly continue to shape the contours of the XR industry. However, where there is uncertainty, there are also possibilities. The current top Big Tech powers will likely change alongside technological shifts, and there are also cultural indicators of Big Tech's diminishing hold on our attention. Artists deployed many strategies in response to our time at DocLab 2025. The remainder of the paper is dedicated to themes that were particularly striking.

## Against the Constraints of Big Tech

Nathalie Lawhead created a piece in DocLab's competition for digital storytelling titled *individualism in the dead-internet age: an anti-big tech asset flip shovelware rant manifesto* that is a cross between an interactive walking simulator and a film essay. She calls it a "playable essay" that takes you on a spatial journey reflecting upon the enshittification of the Internet over its entire lifetime. Lawhead makes independent software as an artistic practice, and comments on the commodification of the Internet and the increasing barriers to entry. She talks about how software from indie game developers like herself are often marked as viruses, and that it is increasingly impossible to distribute her works outside of the context of platform store systems that enforce editorial control over the types of experimental experiences that she can create. She also comments on the slow degradation of the Internet, which has been referred to as the Dead Internet Theory as more and more bots, AI, and spam take over. In describing her own experience of AI, she said in an interview,

*Yeah, it's such an interesting thing because nobody wants [AI]. You know? And all the systems that we have right now with AI, especially new Windows features surrounding AI. We used to be upset at something like BonziBuddy, old desktop pet, because it was spyware. And it barely did even a fraction of the things that we are used to now when we just use Instagram. It's basically spyware.*

*So we've kind of become the frogs in the hot boiling water here where we keep compromising, and give them a little bit more... and it's completely eroded our ability to even withstand such trends as artists. Because now that these tools are even in the art tools that we use, like you can't even say, "No." Really.*



*Nathalie Lawhead's performance lecture of the work [Individualism in the dead-internet age](#) during the [IDFA DocLab Playroom: Connected Offline](#), November 2025.  
Photo: Roger Cremers.*

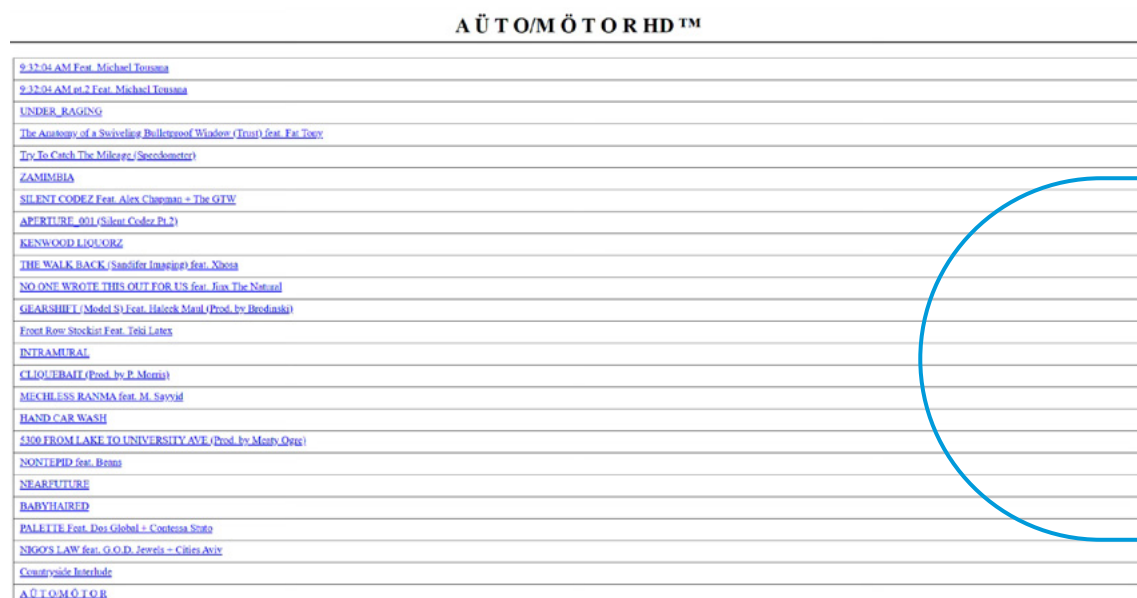
*And I think it's such a con to me because we have the power and we matter. And we are the reason why a lot of these platforms are wealthy. Because if we didn't participate on them, they would have nothing. But we have this strange dependency on them where we can't even say no anymore. And reject features like this. And reject this erosion of privacy. And I think AI is such a peak, crowning jewel of this mass consumerism because it's not even about content anymore. It's just about maintaining your attention and regurgitating shit at you that you watch and it doesn't even matter if it's real or not because it's just giving you slop.*

*I think there's a point where people will catch on, because people want better. And art matters. And creating it with intention matters. And I think the real issue*

here is that somehow certain people making these decisions are so rich and so disconnected from society, they really believe they can push it to a point where they get rid of all humans, and they'll be fine, you know? And I think we're at a point where a lot of this stuff is going to be collapsing.

You see a lot of discussions about the collapse of social media, because it's just not sustainable, just mentally. It's not sustainable for people to keep participating on these platforms, and keep putting stuff out just to keep being taken advantage of.

There are so many threads introduced here, but one to pick up on is how the value of social media companies is built upon the labor of users without financial compensation. Similarly, the extractive nature of tech companies like Spotify have gutted the music industry and consolidated wealth into the hands of tech CEOs rather than in the hands of the musicians themselves. Rather than survive on their music alone, musicians are treated like other "content creators."



Still image from *A Ü T O / M Ö T O R* by Albert Johnson, DocLab 2025.

Musician Albert Johnson wanted to create an alternative music experience inspired by a Web 1.0 aesthetic and the Sandbox Automatic hip hop, mail-order site. He imagined an immersive liner notes experience for his hip-hop album in what he describes as "a way for you to get in closer with the artists and understand their process a little more." He taught himself HTML, JavaScript, and 3D Math in order to create an interactive, web-based, immersive album experience for *A Ü T O / M Ö T O R*. Johnson said in an interview,

*In the world that we live in, if you make music now, you're just referred to as a "creator," which is a class of people, netizen, or something, that, you know, you're just expected to every day post things on the Internet with diminishing returns, and I feel that that is going to be on its way out...*

*I think that the future of music is these livable experiences so you can understand the music. And especially in the world that we live in right now where there's so much cognitive dissonance, and there's so much of a disconnect of someone struggling... that these things kind of get lost in the ether. So I think that this is the new way of consuming music.*

Johnson's Web 1.0 aesthetic for A Ü T O / M Ö T O R harkens back to the very beginning of the Internet before phone-based apps and before the app-driven market logic had constrained artistic experimentation for musicians. [He says](#),

*The reason I created the environments as websites was because when I first started on my practice, I wanted my project to be app agnostic. I did not want to have somebody allocate real estate on their phone. You know, because if we're thinking even four years ago to tell somebody, "Hey, take 10 gigs off your phone real quick and let me put my album on there, like people passing CDs out on the street. You can't just say, like, 'Delete that app,' you know?" So that's one of the main reasons that they're presented as websites. And also because I want the project to be as scalable as possible... So that's really my approach to that. Because I feel that as VR artists and as 3D artists that create conceptual things like this, format is always a limitation or always there's a barrier to format.*

Johnson is going back to fundamentals of developing experiences using interoperable open standards that escape the proprietary lock-in of non-backwards compatible platforms. There is also a nostalgia for the early days of the World Wide Web that mirrors the feelings he wanted to evoke by virtually revisiting important geographies in his life that no longer exist. [He says](#),

*Just so happens that most things in Web 1.0 were really just white, black, and blue. Like, that's all you saw. So that does give off that vibe. But the project in general is about these feelings that we can't get back, and about visiting places that aren't there.*

This type of experimentation with interoperable and open standards-based means of production is a direct resistance to Big Tech's vendor lock-in strategies. It provides a viable escape plan to reclaim more agency and control over our digital destinies that have either been invisibly shaped by algorithms, or directly influenced or controlled by the major Big Tech companies themselves. This is a part of the growing resistance to Big Tech, and it could be that immersive art, immersive stories, and immersive experiences provide an antidote to the increasingly alienating, dissociative, and hostile social media ecosystem.

If we revisit the letter featured in the introduction from Jeroen van Loon's *Life Needs Internet 2010-2025* project, we can see how it emphasizes the ways the Internet has morphed into an increasingly antagonistic place for many people. The anonymous letter writer says,

*For me, the Internet has recently become a hostile and oppressive space, instead of the free and egalitarian place I grew up with... No matter how much I try to run away from it in search of the true reality, I can't. It's as if its absence will destroy my entire reality. And at the same time, its existence is slowly destroying me. And now I live with all the wars and occupations, elections and coups, billionaires and influencers, artificial intelligence and bots, and inhumane humans, ever so hanging over my head. And now I run away from the Internet into reality, not the other way around.*

Whilst the early days of the Internet proclaimed an emancipatory liberation of thoughts, ideas, culture, and people around the world, the mid-way point of the evolution of the Internet saw the development of a walled-garden mindset with the iPhone launch in 2007, which led to app-based subscriptions and surveillance capitalism business models that have primarily enriched the biggest companies in the world. Also, AI has been trained on information shared within the spirit of the public commons of the Internet, but now has been weaponized into LLM-driven bots, spam, and scams that make existing on the Internet a threat to your digital identity and overall mental health. This is all feeding into the impulse to “run away from the Internet into reality,” which could bode well for immersive experiences as audiences crave visceral connections to other people who can help tether them to what is real. This could lead to XR projects designed to more deliberately revitalize civic society, but also lead to more immersive public art projects.

### **Perception Art and Grounding Audiences in the Experience of the Real**

Celine Daemen's *Nothing to See Here* was prototyped as a public art project to be installed in liminal spaces like train stations to encourage spontaneous discovery that could transform the mundane context of commuting into a magical portal of serendipity. She [says](#),

*We really wanted to make something for a public space... After making these virtual reality operas that were always presented in more of a theatrical space or a museum, it would be great to just get outside and present something in the wild.*

This piece clearly demonstrates what Caspar Sonnen and the DocLab team have coined as “Perception Art.” Sonnen has tried to convince a number of interdisciplinary artists that don't fit neatly within either film genre of fiction or non-fiction to participate in IDFA DocLab, and they discovered that the phrase “perception art” is a more appropriate and persuasive catch-all. Perception art refers to this emerging genre where artists focus on modulating the embodied experience as a core feature of the piece itself that transcends what we typically think of as a “documentary.” He [says in an interview](#),

*Artists explore different technologies and new technologies that we don't know yet how they work, and how they affect us as a viewer or as a creator. A lot of the artists that we really love and have been featuring over the years are artists that really specialize in playing with our perception. And they don't necessarily fit neatly into a completely fictional work, or into a completely documentary – tra-*

ditional documentary work. But they are works that acknowledge that they are messing with you as an audience. But they're still inviting the audience to bring something of themselves. Or they are still bringing reality into the work. A lot of these artists instead of falling neatly between "Is it truth?" or "Is it fiction?", "Is it fact?" or "Is it make believe and fantasy?" They take reality as part of the experience, and then try to distort it. But doing so facing the audience honestly, almost like a magician does. Like, a magician is something else – acknowledges gravity and then messes with it. I think that's what we see when we look at some of our favorite artists like Anagram or what we see what Ontroerend Goed is doing, the immersive theater group that we're showing a new work from this year, or Celine Daemen, who's bringing a new immersive piece to the program. All of them are not necessarily doing fiction. They're not necessarily doing documentary. They're doing something that – yeah, for us "Perception Art" felt like a really good term to describe what those artists are doing.



Installation view of *Nothing to See Here* by Celine Daemen at IDFA DocLab 2025.  
Photo: Roger Cremers

Sonnen names Daemen's *Nothing to See Here* piece as a paradigmatic example of this emerging genre of Perception Art. When asked about this new moniker, Daemen [says](#),

*Casper puts it quite right when he calls it "Perception Art." At least I think of the piece a bit as a kind of instrument... that in a way also reveals this structure – like the way that we perceive reality through your perception, you kind of shape reality. So we often think of reality as something that is this kind of absolute truth. There is this one reality, and we all agree on it. But in fact, I think that's not really true. And I think with our embodied relationship to reality, and the way that we move through the world and use our bodies to make sense of where we are, and what's happening around us, we continuously shape, very presently, shape what we believe that is true – what we believe that is reality.*

The emphasis of our embodied experiences of the truth calls back to Donna Haraway’s concept of “situated knowledges” discussed in the chapter on AI, and how this incomplete but subjective perspective placed on a spectrum of power and geographic position is much preferred over the claims towards the objective, “view from nowhere” we get from LLMs that collapses necessary context. It speaks to the deeper questions about AI that will likely persist around “What is uniquely human?” versus “What parts of human labor can be accomplished by a machine?”

But also fundamental questions of “What is truth?” versus “What is delusion?” are amplified right now due to artificial intelligence undermining the integrity of shared understanding. Photoshop and algorithmically-driven social platforms had already deteriorated media as a source of ground truth, but we’re entering an era where we can no longer trust video or spoken works as undeniable due to deep fakes and generative video.



Still image from *Under the Same Sky* by Khalil Ashawi, Sami Sultan and Hail Khalaf, DocLab 2025

One unfortunate result is that AI has delegitimized genuine photographic and video evidence of serious potential war crimes and genocide in Gaza. This is one of the reasons why the *Under the Same Sky* director Khalil Ashawi turned to 360-degree video to document the devastation and human rights violations in Gaza. They won a Special Mention for IDFA DocLab for Immersive Non-Fiction for showing the power for how cinematic VR could restore deeper context to a story that has suffered from so much context collapse. Palestinian journalist Sami Sultan is featured in this documentary, and [he said in an interview](#),

*Using VR was very helpful to debunk the Israeli story that it's fabricated... But VR shows you the front, the back, the right, and the left of the scene. So you basically debunk the entire story that the Israeli army is saying it's fabricated.*

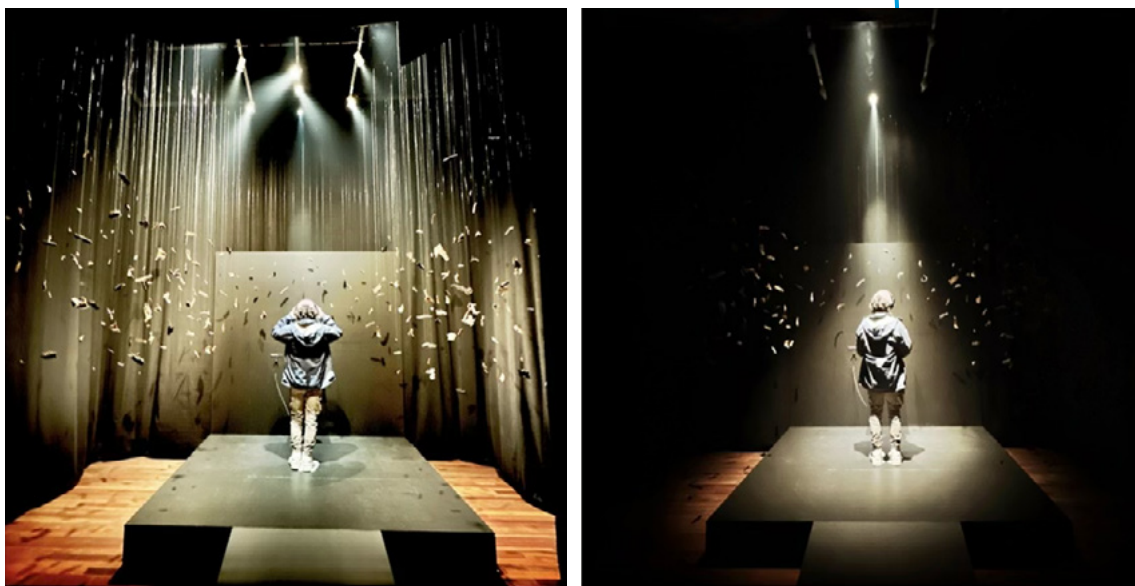
Legitimate 2D photographic and video evidence is already being denied by institutions of power as being fabricated, and while some pushback can come from forensic analysis, this is not guaranteed forever. Currently, GenAI can't produce convincing 360-degree video content via LLM-based models, mostly because of the lack of extensive volumetric video to be trained upon. This places 360-degree video and immersive cinematic content within a unique epistemological place of privilege for the moment as previous methods of proof have completely eroded away.

War photographer Karim Ben Khelifa saw that the images he produced were just being consumed within the context collapse of social media feeds, and that they were not producing witness or any meaningful change with the Western audiences he was targeting. He reflected on this within his poem called "Unscrollable" that was shared in the introduction to this paper. Here again are a couple of relevant passages,

*There is something obscene in the way we consume war now.  
It arrives not with the weight of history or the stench of blood,  
but as a fleeting image on a screen...*

*And a war that is not felt  
is a war that can be ignored.*

*The tragedy is real for those who endure it.  
But unreal for those who consume it.*



Installation view: of *In 36,000 ways* by Karim Ben Khelifa at IDFA DocLab 2025.  
Photo: Karim Ben Khelifa

Khelifa has turned to immersive art installations and immersive storytelling in order to have audiences feel the story in their body. He gathered hundreds of pieces of shrapnel from the warzone in Ukraine to create his latest XR piece of *In 36,000 Ways*.

In this piece, audience members walked into a theatrically-staged, enclosed room with a raised platform. Audiences are instructed to stand at a certain spot, to put on a pair of headphones, and to pick up the razor-sharp piece of shrapnel in front of you sitting on a scale. Picking it up triggers a shift to spotlight lighting that evokes a freeze-frame of a bomb exploding with you at the center. You hear your own heartbeat over the headphones, detected by a thermal camera pointing at you, and you also feel your heartbeat through a butt-kicker haptic device underneath your feet. Audio narration begins to play, describing how modern warfare uses up to 36,000 pieces of shrapnel inside munitions that are lethal within 500 meters of a bomb strike, often indiscriminately impacting civilians. All of this whilst holding a piece of shrapnel in your hands that carries that implicit threat to harm and kill. It is a poetically powerful piece that shows how XR is evolving beyond VR headsets and into a broad spectrum of immersive tech to enable rich experiences in the hands of storytellers. Khelifa [said in an interview](#),

*You know with In 36,000 Ways, I have €170 of technology. The scale is €10, the sensor is €10, and the butt-kicker you feel under you is €150. So it's just about putting a concept and things can be very simple, and yet very efficient.*

Khelifa's piece also reflects on the broader and concerning trend of the increasing disregard of human rights. He saw evidence of human rights being deprioritized with shrapnel-infused munitions, but also within the context of the conflict in Gaza. He [said](#),

*We need to speak from the heart. And we need to reconvene our values. One of the terrible things with the conflict in Gaza is that people like me feel like we've turned to Europe or the Western world for the values it told us it was holding: human rights, equality. And you realize with the conflict with Gaza that is not true... So there is spineless leadership that tell us human rights – but that don't apply to that [situation in Gaza]. And same goes for international justice. We cannot lose that. We will lose so much of our lives, and our values if we lose this.*

These haunting warnings were echoed by Palestinian journalist Sultan, who was featured in *Under the Same Sky*. When asked, "What do you hope for in terms of the situation in Gaza? And what would you like to see happen?" He [responded](#),

*Unfortunately, what I'm wishing for is something that is taken for granted by the majority of the world population. Nobody should be wishing for them, which is the right to live, the right to educate, the right to eat, etc. This is like the basic core human rights that nobody should be wishing for nowadays.*

*It's sad that we are in a day that we wish for basic human rights to be met. I wish for justice for the Gazans, and I wish for all of the human rights groups, all of the international organizations, all of the International Law institutions to be able to deliver justice to the people of Gaza. The people of Gaza are lively. They love life. They want to live. And they deserve to have a better future.*

The complete abandonment of human rights by certain Western powers as a top priority is a chilling development. Prime Minister Carney named the dissolution of the “rules-based international order,” and it led him to a hybrid moral theory of “values-based realism” that aspires to maintain what he says is “our commitment to fundamental values, sovereignty, territorial integrity, the prohibition of the use of force, except when consistent with the UN Charter, and respect for human rights.” The “value-based” portion is the underlying deontological commitment to things like human rights, and the “realism” portion refers to how pragmatic and utilitarian tradeoffs are made in constrained contexts when circumstances don’t allow for an idealistic expression of our deepest values.

As nation states turn to hybrid moral theories to create a coherent foreign policy centered on human rights, technologists will hopefully take a similar path that prioritizes human rights and takes a harm reduction approach to their usage of AI. The pragmatic short-term, utilitarian gains of using AI will usually be more immediately visible and quantifiable than the systemic harm that is sometimes harder to specify, and therefore is more out of sight, out of mind. Therefore, it is also key to have inclusive teams working on these systems as a first line of defense as well as extensive user testing across a broad spectrum of demographics. Without a commitment to human rights, then our own usage of AI technologies can potentially be propagating systemic harm.

Artists may also have a unique role to play in exploring the possibility space of these potential harms. The scales are heavily tipped towards more pragmatic approaches to AI, but artists have the power to provide direct experiences to people about the fallible nature of these LLMs and the potential harm they can create. Hopefully, that’ll give more space for human-rights first approaches to AI that slowly bend the arc towards the principles of Algorithmic Justice as specified by Joy Buolamwini.

### **Bearing Witness Produces Catharsis**

On 25 March 2026, the United Nations General Assembly voted to adopt a resolution that emphasised “the trafficking of enslaved Africans and racialised chattel enslavement of Africans as the gravest crime against humanity by reason of the definitive break in world history, scale, duration, systemic nature, brutality and enduring consequences that continue to structure the lives of all people through racialized regimes of labour, property and capital.” Argentina, Israel and the United States were the only countries to vote against this resolution.

There is a deep desire to deny and erase the horrible legacy of slavery within the United States, and director Dr. Maisha Wester is on the frontlines of the battle to preserve this true history. She is an associate professor in African American and African Diaspora Studies who has a research specialty in “racial representation in Gothic literature and horror film studies, and social and political appropriations of Gothic and horror tropes.” She decided to combine her interest in Gothic horror with the unique affordances of video games in order to provide an immersive context for her students to learn about the horrors of slavery through open world exploration and a curation of scholarly documentary evidence. She also shows examples of black excellence despite all odds in order to make the difficult subject matter

bearable, and also to remind the audience that human flourishing is still possible within the worst imaginable conditions. The result is a very moving, unique, and compelling experience called *Coded Black*, which took home the Special Mention for IDFA DocLab for Digital Storytelling for 2025.



Still image from *Coded Black* by Maisha Wester, DocLab 2025.

Here's an excerpt of the synopsis for *Coded Black*:

*One morning a young girl wakes up on the plantation where she's being kept as a slave and sees that her sister has disappeared. This marks the terrifying starting point of a dark, atmospheric desktop game about the history of anti-Black racism in the US and the UK... Alongside its educational aspect, this intentionally uncomfortable game provides space for personal reflection. But there are triumphs, too, along with the horrors, and heroes and successes in both worlds.*

When asked how her work fits within the trend of the Black Horror genre currently gaining popularity due to work from Hollywood directors like Jordan Peele, Misha Green, Nia DaCosta, and Ryan Coogler, Wester expanded the lineage beyond this current moment and described how it could be traced back to slave narratives from Frederick Douglass. She [says in an interview](#):

*The work that they're doing actually isn't new. Right. You've had black writers using the Gothic to speak to the real horrors of existence as a racialized, oppressed subject. So you can trace this all the way back to slave narratives...*

*There's this long tradition in which black authors are saying, "No, we don't have to make up horror. We don't have to imagine monsters. There's already a monstrous*

*system that creates and turns the world into a very real, living nightmare.” So essentially what Coded Black does is, again, it participates in this tradition in terms of resituating not just history, but the current systems of racial oppression, anti-Black violence, systemic domination, resituating them as a real horror versus aesthetic horror. Right?*

*Aesthetic horror, scholars have noted, is, you know, that constructed horror, the horror we seek out. We know the tropes. It is not a horror that haunts. It’s a horror that can be cathartic. Because we control it, ultimately. We can choose to close our eyes and not see it. But we ultimately decide to go and see these stories. Real horror isn’t chosen. It finds you. And it haunts, because it arises unbidden out of nowhere.*

*So Robert Solomon uses the example of 9/11 as a moment of real horror, because he had been in those towers two weeks earlier. And he was a frequent visitor there. And if his schedule had been a bit different, he might have been there during that attack. Right? And so watching those scenes of the towers collapsing as a point of real horror because... “There but for the grace of God go I.” Right? That could be you. That could have been you. And could still be you. And that realization haunts. And it returns unbidden and there’s no way to fix it. There’s no catharsis. There’s no relief from it.*

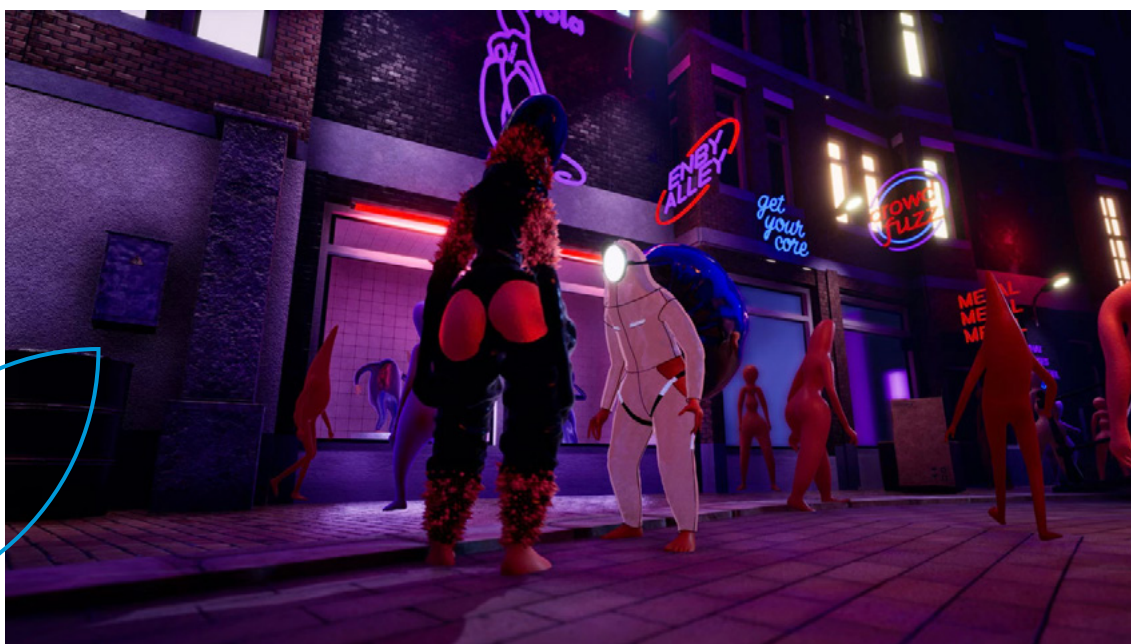
*Now, Solomon’s talking about an unusual and extraordinary event. But we’re talking about existence as a black body in a racially oppressive, racially structured society that is overly-constructed and informed by necropolitics. Everyday existence is a point of real horror. I read an excerpt the other day that argued that the depression you feel as a black person, the paranoia you feel as a black person, the anxiety you feel, these aren’t symptoms of a larger, mental health disorder. This is survival mechanisms, and the consequence of living as a black subject, and a necropolitical target in *The Global North*.*

Coded Black transforms the abomination of slavery, which is now broadly considered to be the “gravest crime against humanity,” into a compelling digital storytelling experience that blends traditions together from open world gaming, cinematic horror, scholarly literature, comprehensive world building, and ties it all together with the infusion of undeniable facts.

Dr. Maisha Wester’s work demonstrates that when atrocities are haunting and inescapable, the solution isn’t to turn away or deny them. Artists like Wester are naming these horrors, and providing an opportunity to bear witness and feel the emotions that come as a result of the resulting intergenerational trauma. By allowing audiences to become present and bear witness to these stories, it catalyzes a process of healing through the simple act of acknowledgment and acceptance, which is the first step towards taking further action. Returning to the UN General Assembly resolution, it reads, “we come together in solemn solidarity to *affirm truth* and pursue a route to healing and reparative justice.” (italics mine)

The Poet Laureate of Barbados, Esther Philips concluded her speech to the UN General Assembly by [saying](#),

*“There are spirits of the victims of slavery present in this room at this moment, and they are listening for one word only: justice. Because for them and for the world, there can be no peace without justice – reparatory justice – and that call is answered only when words are turned into action. The question is, what will you do?”*



Still image from *Unimaginable Red* by Vitor Freie and Monique Grimord, DocLab 2025.

## Pleasure is Revolutionary

*Unimaginable Red* is another video game shown in the DocLab Competition for Digital Storytelling. It used speculative worldbuilding to imagine a future for Amsterdam’s red-light district if it were transformed into an anti-capitalist zone with a gifting economy where the currency was freely sharing pleasurable experiences. From their synopsis:

*This artistic and sensual game is set in an imaginary, parallel version of Amsterdam’s red-light district, which has declared itself an autonomous island, ruled by pleasure. Players wander through the streets and alleys, reveling in the free-spirited atmosphere of the neighborhood. Alluring fetish flowers bloom, which you can collect in an ever-expanding backpack. You can share the euphoria of these flowers with eager passers-by, which results in mutual pleasure and a gently vibrating console.*

During the De-Isolation & Civic Society Discussion, someone shared the paradoxical work of “The Pleasures of Surveillance” by scholars Julia Chan and Stéfy McKnight. It catalyzed too many inquiries to be resolved in the moment, but Chan and McKnight point to the pleasure activism movement that is “re-examining pleasure as a way to reclaim agency and resist oppression,” and also how pleasure can cultivate “friendship, intimacy, resistance, sexual

pleasures, affective embodied experiences, and artistic exploration.” It is worth highlighting that *Unimaginable Red* also interrogates the role of pleasure at this moment in time. Co-director Monique Grimord [says](#),

*Well, it’s an alternative, fantastical, wonky version of the Amsterdam red-light district. Nothing is realistic in the sense that the characters are these sort of walking sex toys. You, in the game, are a kind of a public servant in charge of managing the pleasure flow of this alternative red light district... I think we sort of started with these sort of fetish pillars, or “pleasure pillars” we called them. But they really are angles of different fetishes. And we wanted to give space to alternative ideas of pleasure, or just a really varied idea of pleasure., and even including pleasure that is not necessarily explicitly erotic. You know, this is like hedonism. This is just pleasure for pleasure’s sake.*

Co-director Vitor Freire shared how key collaborator Grace Turtle would emphasize to the team how pleasure is political, and he [says](#),

*Even though there’s still a lot of stigma in the topics, this game is also very connected to this idea of understanding how pleasure in itself is revolutionary – connecting to the political layer of that, but without being too brainy. It’s a very sensual, whimsical experience inspired by a place that has a heritage and a history of attracting people to seek pleasure. And we just hold space to that idea, and wanted to unlock other ways of existing in this area using games as a medium.*

The author of the book *Pleasure Activism: The Politics of Feeling Good*, adrienne maree brown, shares her own view on the role of speculative worldbuilding, the role of our bodies, and imaginations as tools for resistance. She says in her introduction,

*I believe that all organizing is science fiction — that we are shaping the future we long for and have not yet experienced. I believe that we are in an imagination battle, and almost everything about how we orient toward our bodies is shaped by fearful imaginations. Imaginations that fear Blackness, brownness, fatness, queerness, disability, difference. Our radical imagination is a tool for decolonization, for reclaiming our right to shape our lived reality.*

In the midst of all of the horror in the world, it’s important to recognize the role of speculative imagination in pieces like *Unimaginable Red*, and also the role of pleasure as a tool for resistance. There’s a cultural legacy of these ideas within the heritage of Amsterdam’s own red-light district, and this piece playfully mashes up the core ideas of pleasure into a speculative and futuristic anarchist history that imagines a world based on mutual exchange and communal relationships rather than economic transaction.

One of the most compelling immersive narrative games at this year’s DocLab was *Lesbian Simulator*, which used a playful style to convey deep joy. The delightful art and lively inter-

actions covered experiences of discrimination and homophobia, but the center of gravity for the experience always came back to why being a lesbian is so fun. Director Iris van der Meule [talks about this balance in an interview](#),

*I was also thinking, “Hey, I also don’t want this work to be traumatizing for queer people themselves.” Because what if I make this work? And it’s like, “Hey, this is what it’s like to be a lesbian. And then it’s all like sad, miserable things.” That’s not fun for a queer person to see. So already early on, I started to realize, “Hey, I actually also want to show the beauty of being queer, and the fun parts of being queer...” to show like, “Hey, we’re all just humans. Most of us fall in love. We have a lot of things in common.” So I also wanted to put in elements that for the queer community are recognizable, and for everyone that are fun. So there’s like a rave that you can go to and you have to flirt with girls, which is difficult – probably also for straight people, you know, not only for lesbians. But also the part of exploring your sexual identity. Yeah. And there was just a lot of room to create this sort of representation / Easter Egg jokes for the queer community as well – to make them feel seen. And that’s I think when that balance came – I wanted the end thought that you would have after this experience to be like a happy thought, and not like, “Oh, being gay is awful.” No, it should be: “Being gay is fun! But this is also the reality.” So maybe we can work on this together as a community. Yeah.*



Still image from *Lesbian Simulator* by Iris van der Meule, DocLab 2025.

Lesbian Simulator uses embodiment and identity as the backbone of the experience. You get to choose your lesbian character avatar, pick a lesbian name, and you’re assigned a lesbian girlfriend as well as an astrological sign. There are lesbian tropes and in-jokes embedded throughout the experience that cultivated the feeling of initiation into lesbian culture. The usage of embodied interactions to amplify the narrative were particularly strong,

specifically the coming out scene that asks participants to yell, “I am gay!” in a crowded public exhibition hall used these affordances to great effect. It really demonstrated the pressures lesbians and LGBTQIA+ folks regularly face.

Balancing cinematic pacing with interactive minigames is a priority for van der Meule whether she’s preparing it to show it in a festival exhibition context or making changes to eventually launch it on Steam. Michael Golembewski wrote an article for the recently launched Immersive Impact Review titled [“Between Worlds: Recognition Without Endurance in Cultural XR”](#) that elaborates on the fundamental cultural differences between the distribution channels of the festival circuit and the gaming platform. There are different expectations from an audience at an immersive festival and the gaming community on Steam. van der Meule aspires to target the gamer demographic on Steam, which means that there are additional features she’s planning to add in order to make it replayable. She [says](#),

*I also designed Lesbian Simulator in a way that I eventually want to put it on Steam and I wanted it to be replayable. And not that people will play it 10 times, but maybe two or three times to figure out like, how can I get all the points? And how can I get all the different scenes, like how can I get all the little stories that I missed the first run? So that’s also a bit still in that level of like, Okay, the first time you will never get it right because it’s a lot. There’s a story, there’s a whole world that you go through. But the second time you’ll get better and the third time you’ll be better...*

*My main goal was to design it for that Steam audience. But of course, you also want to do it to festivals and we want to bring it to museums and schools. So that’s why the narrative changed a bit, and I let a couple of interactions go and made it more cinematic. I think it has a nice balance now, but for the Steam version... We need to think about some balancing and there was also some elements not in here yet... which are collectibles, because I think that’s also a big Steam thing and also encourages you to play it again. So there would be like little Pokémon type cards, things that’s called Celebrity Crush Cards that have famous lesbian people on them that would also be hidden. So that could increase your score.*

Finding the appropriate distribution channel for immersive stories and immersive art has been an ongoing challenge, but the emerging independent networks for location-based entertainment have started to close the gap between how these projects are received within the context of cultural institutions on the festival circuit versus how they reach broader audiences.

What is clear is that there has been a maturation in the techniques and methods for immersive storytelling, immersive art, immersive gaming, and the emerging forms of “perception art.” Amidst the harsh realities of the moment and the uncertainty of the future artists have the power of their creative imagination to plant the seeds for a better reality, and to invite us to bear witness, become present, and feel the feelings associated with the broad range of stories about the human experience.

IDFA DocLab provides a unique opportunity to experience artistic voices from around the world doing just that. The dream of creating a civic society articulated at the summit in 2025 was in many ways not just expressed, but demonstrated.

In closing, here's *Coded Black* director Dr. Maisha Wester's final thought, "I hope many of you that are interested in social justice won't just play the game, but will think about like, 'Oh, well, if this woman, who was not a gamer, had no sense of game design could sort this out, maybe I can contribute to social justice.' Maybe I can do it better." She was then asked, "Because you want to play the games too, right?" She responded enthusiastically, "Exactly! Right? Convince me around climate change. Convince me around the anti-war effort, right? Give us the games to help us make a better world."

### **About the author**

[Kent Bye](#) has been covering the immersive industry since 2014 on his *Voices of VR* podcast. His archive contains over 1700 published interviews with artists, technologists, and scholars in the field.

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