

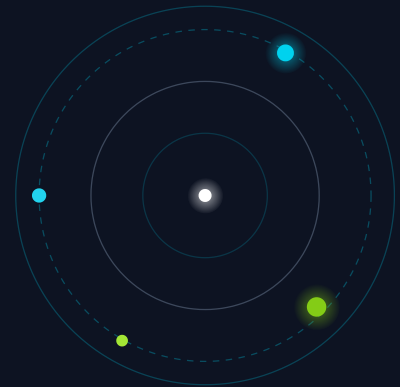
AN ECOSYSTEM AND GOVERNANCE SERIES

The Convener's Table

TOPIC & FOCUS

Spatial Media, XR Learning & Standards

How spatial media, XR learning tools and AI meet the standardization landscape across ISO/IEC, IEEE and the Metaverse Standards Forum, and how open platforms and use cases can move interoperability forward.

**FEATURED GUEST**

RK

Prof. Rolf Kruse

Professor of Digital Media & Design • University of Applied Sciences Erfurt, Germany

"I always saw it as an extension to reality, not as something that is separate from the real world."

— PROF. ROLF KRUSE, SESSION 02

ABOUT THE SERIES

Welcome, everyone, to The Convener's Table—the live interactive series brought to you under the umbrella of the Metaverse Standards Forum.

The series is hosted by Makki Elfatih, CEO at Hkdolts, MSF Board Member and Co-chair of the Ecosystem & Governance Working Group.

The Convener's Table was created from a simple yet critical realization: the Metaverse will not be built by any single platform, algorithm, or walled garden. It is being forged at the intersection of open standards, academic research, spatial media, and human-centered design.

In each session, the series invites the visionaries, the researchers, the standard-setters, and the architects who are laying the foundational bricks of a shared digital future. Together around the table, they unpack the tough technical and ethical questions and explore how to build a truly open, interoperable, and inclusive spatial web.

Each guest conversation moves through three threads:

THREAD 01

Their journey

THREAD 02

The operating reality of what they're building right now

THREAD 03

How they're reading the shift toward Gen AI, physical AI, and robotics

Nothing to prepare formally — guests are simply asked to come ready to talk.

Whether watching live or tuning into the recording, everyone is welcome at the table.

• Session at a Glance

64 min

SESSION DURATION

6

ATTENDEES

24931ISO/IEC METAVERSE
SERIES**2**MSF INITIATIVES
DISCUSSED

Guest: Prof. Rolf Kruse. Host: Makki Elfatih (MSF Ecosystem and Governance). Attendees included Nelly Tacheva (Tangra), Joe D Williams (Web3D), Miguel Seabra Melo (Silicon Notation) and Grig Bilham. Second session of the series.

• Key Insights & Frameworks

01 / SPATIAL MEDIA

From Static Architecture to Adaptive Space

Trained as an architect, in VR since the early 1990s at Fraunhofer. The core question is unchanged: how people perceive and interact in real and virtual space. Few trained architects bring that knowledge to virtual worlds; game designers do more.

02 / VISION

Metaverse as Overlay, Not Escape

The Metaverse is seen as an extension of the real world, an overlay enabled by smart glasses and wearables. Real-world quality and shared places matter, not polygons alone.

03 / XR LEARNING

Blockers Are Infrastructure, Not Technology

Research now comes from teaching domains, not computer science. Obstacles include Wi-Fi, headset availability, data privacy and security, skepticism, and content that is not portable or updatable across hardware.

04 / PEDAGOGY

Project- and Experience-Based Learning

Lecture-style teaching is a 19th-century model. XR supports project-based and experience-based learning. Students should drive what they need, and technology should augment teachers, not replace them.

05 / AI IN TEACHING

Document, Reflect, Build AI Literacy

AI tutor trials support project-based courses. AI has not helped grading for varied projects, and the final decision stays with the instructor. Students may use AI if they document and reflect on it.

06 / STANDARDS

Bridge Between Formal and Open Bodies

ISO/IEC SC24 and MSF now have a liaison. ISO/IEC 24931: Part 1 about to be published, Part 2 on framework and architecture in progress, Part 3 on use cases needs input.

• Strategic Matrix

CATEGORY	KEY DISCUSSION POINT	ACTIONABLE TAKEAWAY
Spatial media	Architecture turned adaptive and communicative; game designers, not architects, dominate virtual world design.	Bring spatial design expertise from architecture and urban planning into virtual environment design.
Education	Infrastructure, hardware availability, privacy and security checks, and non-portable content hold back XR learning. States buy headsets without suitable content.	Procure content and platforms before hardware; require interoperability and update paths for educational XR.
Embodiment & robotics	Visual embodiment (avatars, presence) is established; physical embodiment is not. Robotics and autonomous AI in universities are pilot-stage; concerns about autonomy are shared.	Keep humans central; pilot first. Explore hybrid use cases linking two physical places in one shared communication space.
Generative AI	AI offers accessibility, translation and creative gains, and raises questions about what to teach. Rolf built immersive projects with AI without hand-writing code.	Require students to document AI use and reflect on it; be transparent about AI-assisted workflows.
Assessment	Written, comparable exams limit experience-based learning; project work resists standard grading.	Define goals and progress measures for experiential learning, with observational data visible to groups.
Open platforms	Mozilla Hubs is no longer supported but still run by the guest's team; open source and web-based approaches preferred. Web of Worlds may become an official MSF open-source initiative.	Support Web of Worlds; add an educational profile so learner data and achievements travel between platforms (proposal for ISMAR, Bari, October).
Standards landscape	ISO/IEC SC24 plus a separate committee for identity, privacy and education; MSF-SC24 liaison and AG23. ITU also has a virtual worlds group. Standards are paywalled.	Use MSF to watch the landscape and avoid contradictory duplicate standards; kick off the MSF-ISO liaison meeting.
Use cases	Part 3 of ISO/IEC 24931 needs definitions of Metaverse use cases. VDC (Germany) is building a classification scheme.	Contribute MSF use cases and a project-based virtual lab use case across universities.

• Open Questions from Q&A (Grig Bilham)

TRUST

Verification & Attestation Layer

Web of Worlds works in most cases, but trust, verification and attestation, as in standard web transactions, are what is missing.

ARCHITECTURE

Metaverse Inside a Metaverse

Unreal Engine 6 and Verse may enable nested worlds; worth testing whether it supports true interoperability between nodes.

SEMANTICS

Shared Schema for Behaviors

Interoperability needs an agreed, extensible schema. Khronos interactivity extension (glTF) embeds behavior in the asset itself.

SMART CITIES

World Description Languages

Look at CityVerse and the OpenVerse EU project taxonomy for structural descriptions of the real world.

EDUCATION

Observational Fidelity

Groups could learn together from shared visual or numerical observations in a virtual lab; grading remains the hard part.

NEXT MEETING

Web of Worlds Group

Grig to present gaps in the current Web of Worlds map at the following Monday's meeting.

• Standards & Initiatives Referenced

[ISO/IEC JTC 1/SC24](#)
[ISO/IEC 24931 \(Parts 1-3\)](#)
[MSF-ISO liaison / AG23](#)
[IEEE](#)
[ITU virtual worlds group](#)
[Web of Worlds](#)
[Open Metaverse Browser Initiative \(OMBI\)](#)
[OpenAR Cloud](#)
[OpenVerse \(EU\)](#)
[Khronos glTF interactivity extension](#)
[Mozilla Hubs](#)
[ISMAR 2026, Bari](#)

• MSF Follow-ups & Next Steps

- Web of Worlds: continue toward official MSF open-source initiative status; Rolf's educational-profile proposal to be presented at ISMAR in Bari in October.
- MSF-ISO/IEC liaison kickoff meeting to be scheduled soon; Part 3 of ISO/IEC 24931 (Metaverse use cases) proposed as a joint topic.
- Use cases: Rolf offered a project-based learning virtual lab spanning two universities or sites (with a robotics element); the education group will provide further input when time allows.
- Coordinate with VDC colleagues in Germany on their use case classification scheme and the ISO use case methodology standard.
- Review CityVerse, OpenVerse taxonomy and Khronos interactivity extension as inputs for a shared semantic schema; Grig to present Web of Worlds gaps at the next group meeting.