



KOREA-EU HORIZON EUROPE CLUSTER 4 RESEARCHER CONSULTING FORUM · BRUSSELS · SEPT 2026

Space Tourism as the Ultimate Testbed for Virtual Worlds Hardware

Target call: HORIZON-CL4-2027-04-HUMAN-01 — Advanced and Innovative Hardware Components for Virtual Worlds (RIA)

Myung Ja Kim, Ph.D.

Founding Director, AirStas — AI Research Center for Space Tourism & Sustainability (KASA)
Distinguished Professor, Sejong University · Distinguished Professor, Sunway University

WHO WE ARE

AirStas — Korea's Space-Tourism AI Research Center

First incorporated association under the Korea AeroSpace Administration (KASA)

AI, XR and human-factors research for space tourism and sustainability, with partner institutions across Korea, Malaysia, Thailand and Macau.

100+

SSCI journal articles (majority Q1)

Top 2%

Stanford Most-Cited Scientists,
2020–

USD 8M+

competitive research funding
secured

IF 10.1

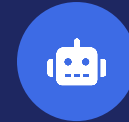
Associate Editor, JHTM (Q1)

RESEARCH PILLARS



Neuro-cognitive measurement

EEG / BCI user validation



AI & data analytics

Deep learning, NLP, AI agents



Space & XR tourism

Extreme-environment scenarios



Sustainability & ESG

SSH, ethics, societal impact

Selected projects & EU collaboration experience



NRF flagship grant — Principal Investigator

“Risk and Commercial Human Presence in Space: Focusing on Space Tourism” — National Research Foundation of Korea, KRW 813M (≈ USD 0.6M), 2024–2027.



MEDUSA-BioSpace — Horizon Europe proposal

Consortium proposal in preparation with European space-research and industry partners (DE · FR · UK), targeting CL4-2027-04-HUMAN-01 — submission Sept 2026.



NEURO-SPAXR — Korea–Türkiye mobility project

TÜBİTAK–NRF 2026 Mobility Call with Süleyman Demirel University — the working core of the HUMAN-01 consortium.



BK21 Stage 4 education platform

Sustainable Smart Tourism Hospitality Education Platform, Ministry of Education / NRF Korea — KRW 7B programme, 2020–2027.

One priority call, two supporting options

PRIORITY

HORIZON-CL4-2027-04-HUMAN-01

Advanced and Innovative Hardware Components for Virtual Worlds · RIA · Virtual Worlds Partnership

The call asks for hardware validated in an illustrative societal / industrial scenario — that scenario is what we bring.

HORIZON-CL4-2027-02-DIGITAL-EMERGING-52

New approaches for Human/AI collaboration for the workforce of the future (RIA, two-stage)

Under review as secondary target

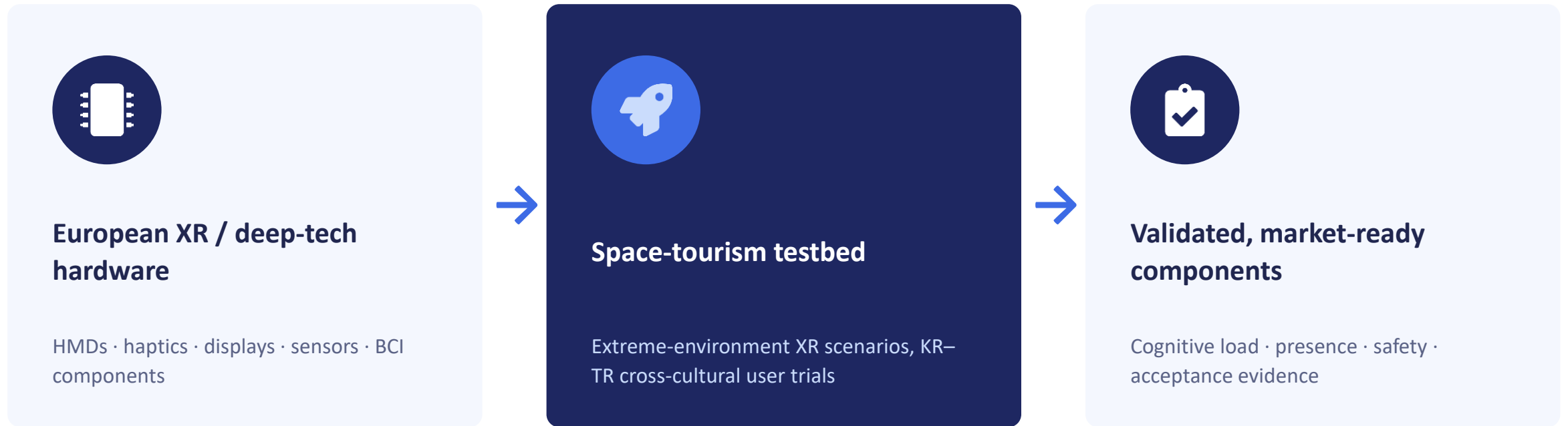
HORIZON-CL4-2027-04-DATA-03

Decentralized, federated and sustainable AI data processing (RIA)

Open to joining as participant

The most demanding validation scenario available

Space tourism is an extreme human environment: sensory overload, high cognitive load, safety-critical interaction, zero tolerance for hardware failure. Hardware that proves itself here is proven for every consumer and industrial virtual-worlds market beneath it.



Four work-package-ready capabilities



EEG / BCI cognitive & affective validation

32-channel EEG infrastructure for non-invasive BCI hardware trials — cognitive load, presence and safety, with a Korea–Türkiye cross-cultural design.



AI-as-Actor framework & XR scenario design

Modelling AI agent–human interaction inside virtual worlds; scenario authoring for hardware stress-testing.



SSH · ESG · sustainability work package

Ethics, user acceptance, societal impact assessment and ESG performance indicators — WP design and leadership.



Requirements → validation → exploitation

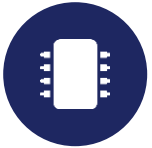
User-requirements definition, empirical validation and dissemination/exploitation across the full project cycle.

A working Asia–Europe backbone, ready to build on

AirStas (Korea, KASA)	Coordinator candidate	Scenario provision, EEG/BCI validation, AI-as-Actor, SSH/ESG WP lead
Süleyman Demirel University (Türkiye)	Associated-country partner	XR & service design, XR scenario authoring, 32-ch EEG/BCI infrastructure — active collaboration via NEURO-SPAXR (TÜBİTAK–NRF 2026)
Sejong University (Korea)	Academic partner	Complementary research capacity, Korean user panels
Sunway University (Malaysia)	Academic partner	Southeast-Asian validation site and user diversity

Plus an extended Asia network for exploitation and user studies: Prince of Songkla University (Thailand) · MUST (Macau) · EU proposal consulting: PNO Innovation

European hardware partners to complete the consortium



XR hardware developers

HMDs, haptic devices, advanced displays, sensing components — industry or RTOs in member states (DE · FR · IT and beyond)



Neuro-interface component makers

Non-invasive BCI hardware seeking rigorous user validation with an existing 32-channel EEG pipeline



AI developers & integrators

AI-agent and virtual-worlds software teams to pair with the AI-as-Actor framework

Role sought: 1st — Coordinator · also open to Technology & Validation Partner (WP Leader) under a European hardware coordinator.



Let's validate Europe's virtual-worlds hardware at the edge of human experience.

Consortium Session 1 & 2 · Individual consulting · 1:1 matching — come find us.

Myung Ja Kim, Ph.D. — Founding Director, AirStas

myungjak@sunway.edu.my · mj_kim@sejong.ac.kr

Partner team on site: Prof. Osman S. Sesliokuyucu — Süleyman Demirel University (Türkiye)