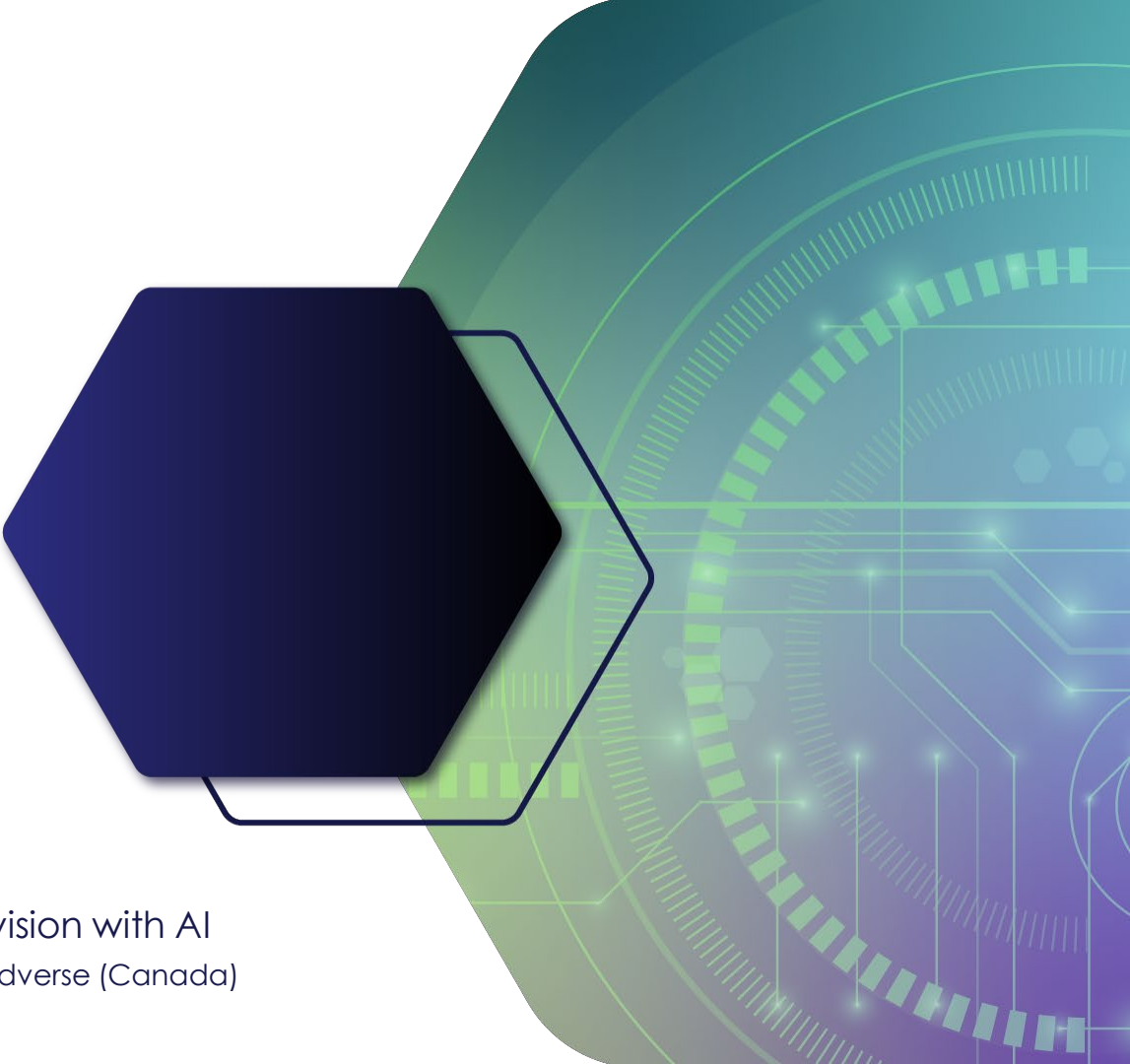




HYPERVISION 5.0

Smart Manufacturing 5.0 hypervision with AI
Collaborative R&D project idea led by 3dverse (Canada)



ORGANISATION PROFILE

Name: 3dverse Technologies Inc. – Montreal, Canada (founded 2021)

Personnel / size: Deep-tech SME of 13 specialists in real-time 3D rendering, cloud architecture, XR and industrial business development. Founded by a serial entrepreneur together with former Microsoft and Apple engineers.

Products / services: The 3dverse platform – a cloud-native, interoperable real-time 3D operating system for digital twins (Platform-as-a-Service):

- Zero-install native streaming of 3D to any device (desktop, tablet, phone and AR/VR headsets, etc)
- Real-time multi-user collaboration on the same live twin
- API-first architecture built on 100+ scalable microservices
- Open standards (OpenUSD, glTF, IFC) and AI / computer-vision ready

Technical areas: Industrial digital twins, real-time 3D & cloud rendering, XR, IoT data fusion, AI integration.

R&D project expertise:

- Government of Canada contract under the Innovative Solutions Canada (ISC) program to develop a real-time 3D digital twin platform
- Industry 4.0 collaboration with ALTEN ("Mini Plant 4.0" real/virtual assembly-line twin, SIDO Lyon)
- Technology ecosystem including NVIDIA, Microsoft and Siemens

PROPOSAL INTRODUCTION (I)

Vision: Develop, together with manufacturers, a new industrial world model on top of the existing 3dverse real-time 3D platform: a live twin of the plant that simulates production in real time, predicts its behaviour and optimises the process before any change reaches the shop floor – validated on real production lines.

Motivation: manufacturing challenges to solve with the industrial partners

- Unplanned downtime and quality drift are detected too late (predictive maintenance AI)
- Changeovers, line reconfiguration and new products are tested on the real line, causing costly stoppages
- Data is siloed across PLC, SCADA, MES, ERP – today's twins visualise but cannot predict or plan

Content: new R&D built on the 3dverse platform

PROPOSAL INTRODUCTION (II)

Expected outcome:

- Real-time simulation of 2–3 partner production lines, synchronised with live production data
- Industrial world model validated to predict line behaviour (downtime, throughput, quality)
- Reusable connectors to production systems (OPC UA, MES/ERP, AAS)
- Optimisation and operator-guidance tools validated in real manufacturing environments (target TRL 7)

Impacts:

- Target KPIs at pilot sites: –20% unplanned downtime, –30% changeover / ramp-up time, –15% energy use
- Line changes and new products tested virtually first, with lower risk and cost
- Each partner exploits the results in its own market: manufacturers in their plants, technology partners and integrators as new offerings

Schedule: Start Q2 2027 (subject to call timing) – End Q4 2029. Duration: 30 months.

PARTNERS

Current consortium:

- 3dverse Technologies Inc. (Canada) – coordinator; R&D for real-time 3D simulation and the world-model platform

Partner search: role in the project

- **Manufacturers (large or SME):** bring the manufacturing challenge, data and pilot lines for validation – robotics, automotive, aerospace, machinery, electronics, process industries
- **Research centres & universities:** world models, machine learning, simulation, human factors
- **Automation & IoT companies:** PLC / OPC UA, MES/SCADA, robotics and sensor integration
- **AI & data companies:** predictive maintenance, computer vision, industrial data analytics
- **System integrators:** roll the solution out to other plants and regions

Countries: Any EUREKA / SMART member country; particular interest in Europe.

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