

# **The Capital Race Behind AI's Expansion:**

*Building a Faster, Defensible  
Decision Infrastructure*

# Today's speakers



**Manuel Carmona**

PMI-RMP®-MBA • Director, EdytrAlning Ltd

Independent consultant, trainer, author, and PhD researcher at the University of Westminster, specialising in AI, project risk management, and quantitative risk analysis. Over 25 years of international experience coaching thousands of practitioners in probabilistic modelling and Monte Carlo simulation. Author of Artificial Intelligence and Risk Analysis in Projects (Routledge).



**Jason Lefever**

Director, Solutions Engineering, Lumivero

Strategic solutions leader who challenges organizations to rethink how they connect strategy, risk, and execution. Jason leads Lumivero's global solutions engineering team, helping enterprises unify disparate data into one dynamic ecosystem, revealing cross-functional dependencies and exposing how risk shapes strategic outcomes.

# Agenda

## 1. The Capital Race

Why AI's expansion is compressing the time leaders have to make capital decisions.

## 2. Fireside Chat

Jason and Manuel on how leaders make invest, scale, pause, and terminate decisions—drawing on defense and risk quantification.

## 3. AI Segment

How AI is restructuring processes—not just accelerating tasks—with proprietary AI and control as key considerations.

## 4. SharpCloud Showcase

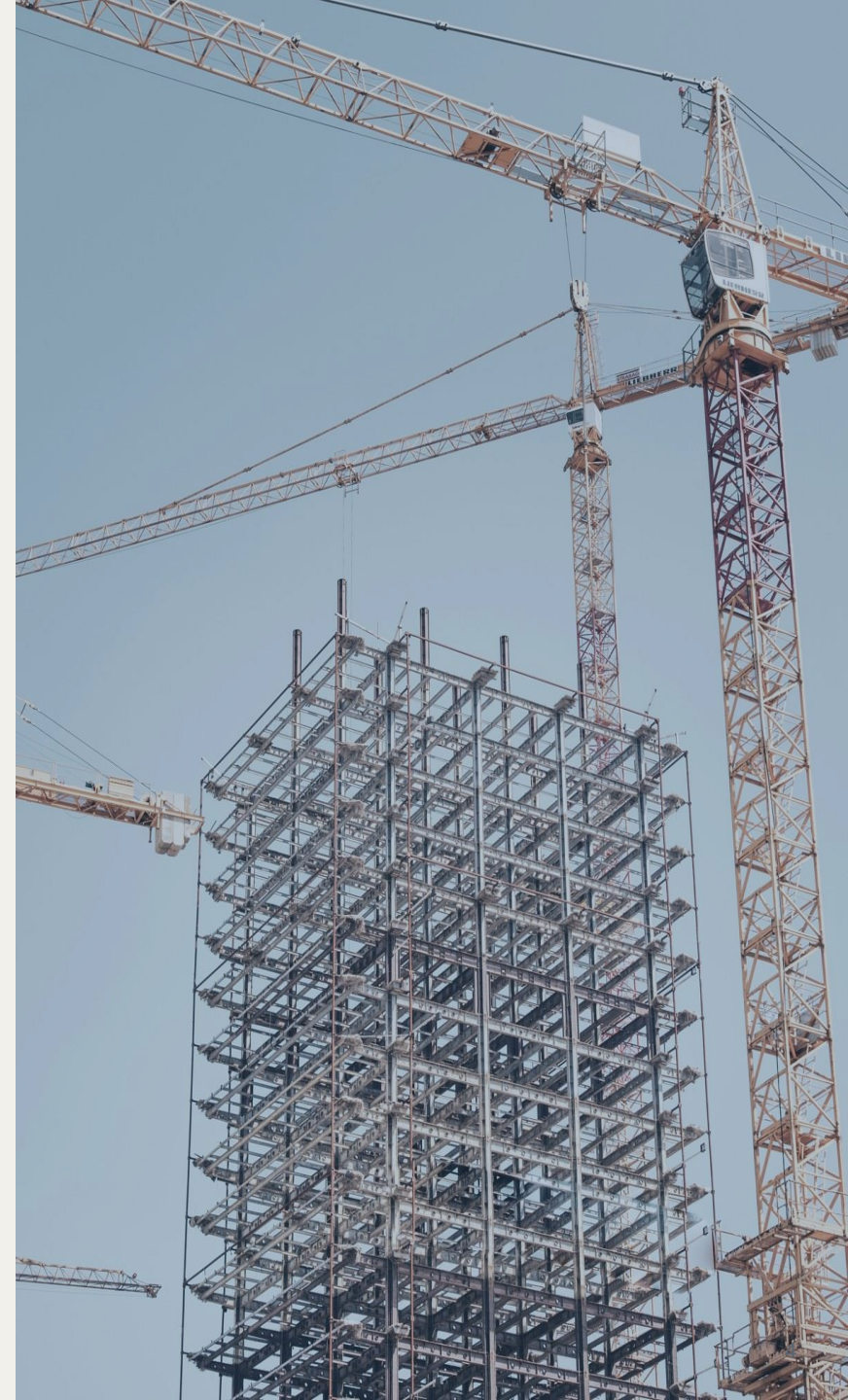
A connected view of portfolios, dependencies, and scenarios for better decision-making.

# AI is driving one of the **largest waves of capital investment** in decades.

- Data centers
- Semiconductor fabs
- Grid modernization
- Defense manufacturing
- Critical minerals

## **All expanding at the same time.**

Behind each is a race to develop, qualify, and deploy the technology, components, and capabilities that make it possible.



# Data Centers

**\$700B**

Capital expenditure from the five largest hyperscalers in 2026—nearly 6x their 2022 spending

**\$400B**

Capital expenditure from all largest tech companies in 2025

# Semiconductors

**\$60B - \$64B**

TSMC's 2026 capital budget

**\$1.3T → \$2T**

Global semiconductor market:  
2026 to projected 2030.  
That's not growth. That's a  
structural shift.

Data Center Knowledge, "TSMC's Capex Surge Signals AI Infrastructure Still Scaling" (reporting

TSMC's July 16, 2026 earnings call)

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# Grid and Energy

**100GW**

New grid capacity needed by 2030 (50% from data centers)

**45+ GW**

Possible power shortfall. The infrastructure meant to supply these programs could be what stops them.

Applied Digital Corp., Form 10-K FY2026 (SEC filing)



# Defense Spending

**€454B**

EU defense spending 2026

**47% Increase**

since 2022. \$2.89T global  
defense spending in 2025

European Defence Agency, *Defence Data 2025–2026* report (published July 16, 2026)

SIPRI data, reported in Breaking Defense, "Buoyed by European rearmament boost, global military spending jumps to \$2.89 trillion" (April 7, 2026)

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# Critical Minerals

**6%**

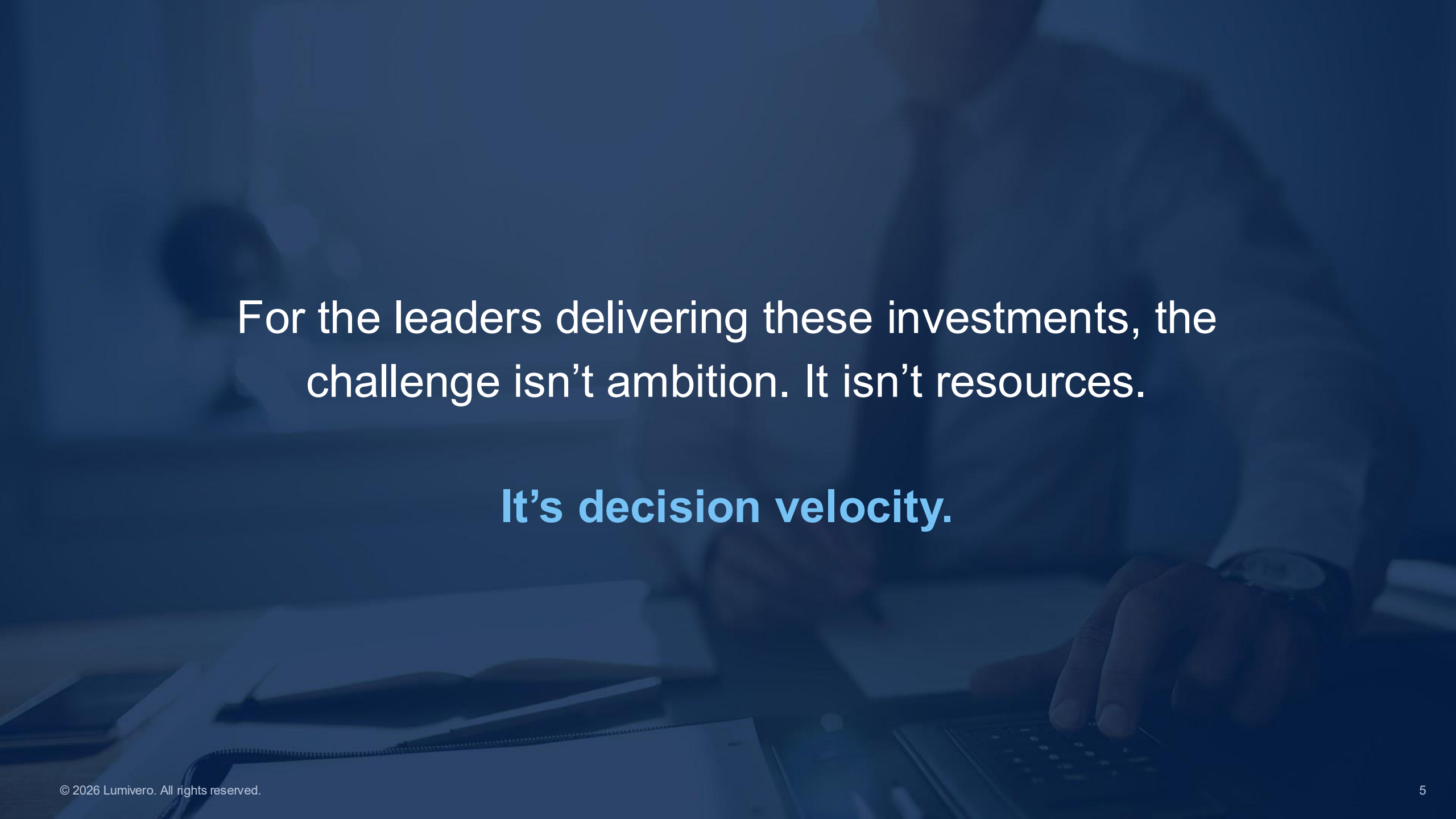
increase in EU industrial  
metals demand by 2027  
(driven by rearmament)

**2% → 6%**

Defense's share of Europe's  
metals consumption. The  
defense narrative directly  
drives the critical-minerals  
supply chain.

Goldman Sachs research, reported in Euronews, "Five industries benefiting from Europe's defence spending boom" (May 29, 2026)



A blurred background image of a business meeting. In the foreground, a person's hand is visible, wearing a watch and typing on a laptop keyboard. In the background, another person is partially visible, looking towards the camera. The overall scene is dimly lit with a blue tint.

For the leaders delivering these investments, the  
challenge isn't ambition. It isn't resources.

**It's decision velocity.**

# 79%

of megaprojects overrun on cost

# 52%

overrun on schedule

*Source: McKinsey & Company*

## The stakes were already high. The clock just got faster.



Trade-offs across cost, schedule, risk, and strategic priority now shift faster than most planning cycles allow.



Static business cases lock in assumptions that are stale before the next steering committee.



Every acceleration or pause must be defensible to boards, regulators, and capital partners.

## Trusted worldwide to deliver clarity and confidence

At Lumivero, we empower organizations to make faster, more confident decisions by **unifying portfolio project risk management, predictive modeling, and scenario planning** into one comprehensive solution.



Monte Carlo simulation in Excel for modeling uncertainty and quantifying risk exposure.



Portfolio risk management with enterprise-grade dashboards, alerts, and audit trails.



Interactive decision visualization for understanding risk dependencies, trade-offs, and impact.

Trusted by 27,000+ customers worldwide

**babcock™**



**Deloitte.**

**HATCH**



**GENERAL DYNAMICS**



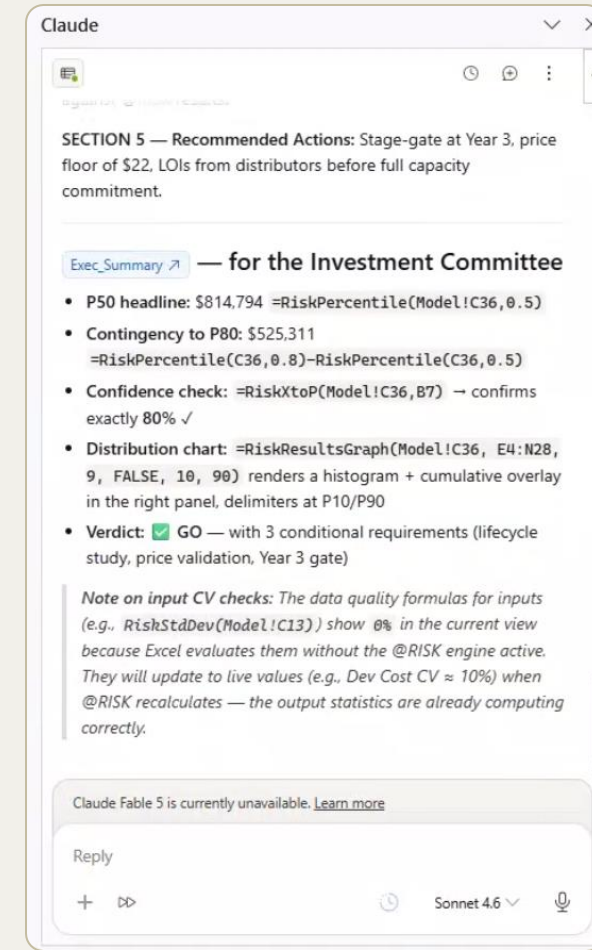
@RISK AGENT – AVAILABLE IN BETA

# AI-driven speed meets Monte Carlo rigor

@RISK Agent runs inside Excel through an MCP connector — your proprietary model logic and data never have to leave your environment to get AI-assisted analysis. The model interprets; the human still decides.

## What it does:

- Model review & suggestions — reviews a risk model and suggests improvements to structure and assumptions.
- Natural-language Q&A — analysts can ask questions about their model in plain English instead of digging through formulas.
- Simulation interpretation — explains Monte Carlo simulation results in plain English.
- Iterative model refinement — supports back-and-forth refinement of the model as new questions come up.
- Executive report generation — turns simulation output into an executive-ready report.

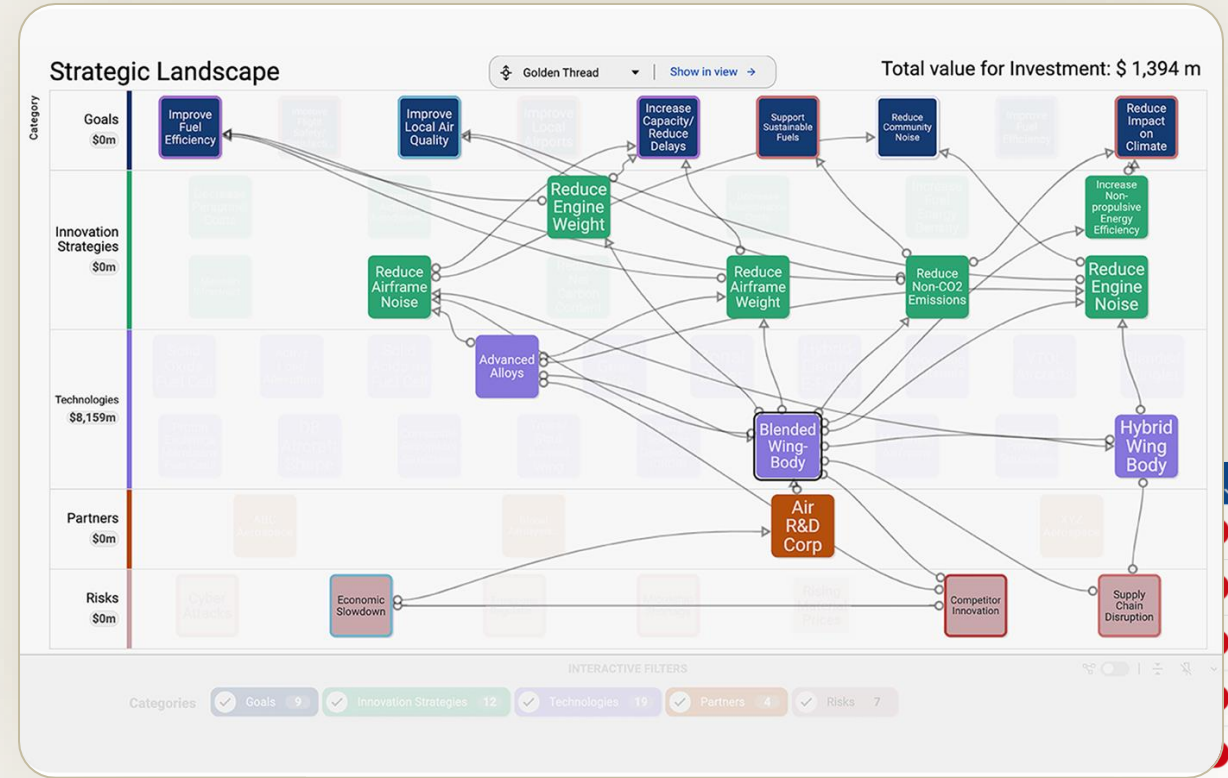




# SharpCloud

SharpCloud helps project controls teams see their portfolio as a connected system – visualizing how goals, programs, risks, and outcomes relate to each other in real time.

- ✓ Connected portfolio visualization
- ✓ Risk-to-decision traceability
- ✓ Live dependency mapping
- ✓ Integration with existing tools



Part of Lumivero's Decision portfolio, alongside the tools you already know. Get a demo →



@RISK



Predict!



|                          |   |       |                                   |             |                |        |
|--------------------------|---|-------|-----------------------------------|-------------|----------------|--------|
| <input type="checkbox"/> | ⚡ | T-110 | Warehouse BIG Fire                | 4 Feb 2026  | Very High (19) | Medium |
| <input type="checkbox"/> | ⚡ | T-238 | Windows don't match specification | 4 Feb 2026  | Very High (19) | Low    |
| <input type="checkbox"/> | ⚡ | T-327 | Groundworks problem               | 4 Feb 2026  | Very High (19) | Medium |
| <input type="checkbox"/> | ⚡ | T-328 | Planning Approval Delayed         | 4 Feb 2026  | Very High (19) | High   |
| <input type="checkbox"/> | ⚡ | T-102 | Key Supplier Bankruptcy           | 4 Feb 2026  | High (15)      | Low    |
| <input type="checkbox"/> | ⚡ | T-111 | Major Cyber Attack                | 4 Feb 2026  | High (15)      | Medium |
| <input type="checkbox"/> | ⚡ | T-124 | Contamination & Spillage          | 27 Jan 2026 | High (15)      | Medium |

# Thank you

*Questions and answers*

**Manuel Carmona** Director, EdytrAlning Ltd

**Jason Lefever** Director, Solutions Engineering, Lumivero

Want to see how SharpCloud applies to your own portfolio? Request a demo at [lumivero.com](https://lumivero.com)

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