

Geospatial World Forum
2026

From Data to

Geospatial + BIM + Digital Twins for
Resilient Infrastructure
Decisions



The infrastructure Blind Spot

50%

— McKinsey's operations research on predictive maintenance

Predictive maintenance can reduce downtime by up to 50% and cut costs by up to 40%

- *Data lives in three separate places*
- *No one looks at all three at once.*
- **This is the infrastructure Blind Spot.**

Three Technologies. Zero Connection.



GEOSPATIAL

Knows WHERE the risk is

Real-world context: flood zones, climate exposure, terrain risk, population density. The WHERE of every threat.



BIM

Knows WHAT the asset is made of

Design Intelligence: Age, material, load capacity, design life, last inspection. The WHAT behind every structure.



DIGITAL TWINS

Knows HOW it is performing right now

Dynamic Behavior: Real-time sensors, stress patterns, anomaly detection, live performance data. The HOW of every asset.

Each view is correct. Each view is incomplete. Together, they are the full picture.

- *Nobody sees the full picture*
- *Failures surprise us*
- *Resilient infrastructure stays out of reach*

This is not a technology problem. It is a connection problem.

Resilient Infrastructure : 4 Pillars

Connected data:
GIS, BIM, and
operations in one
environment

Real-time
analytics and
scenario
simulation

Climate risk and
hazard modelling
embedded in
every plan

Digital twins
supporting every
stage from
design to
operations



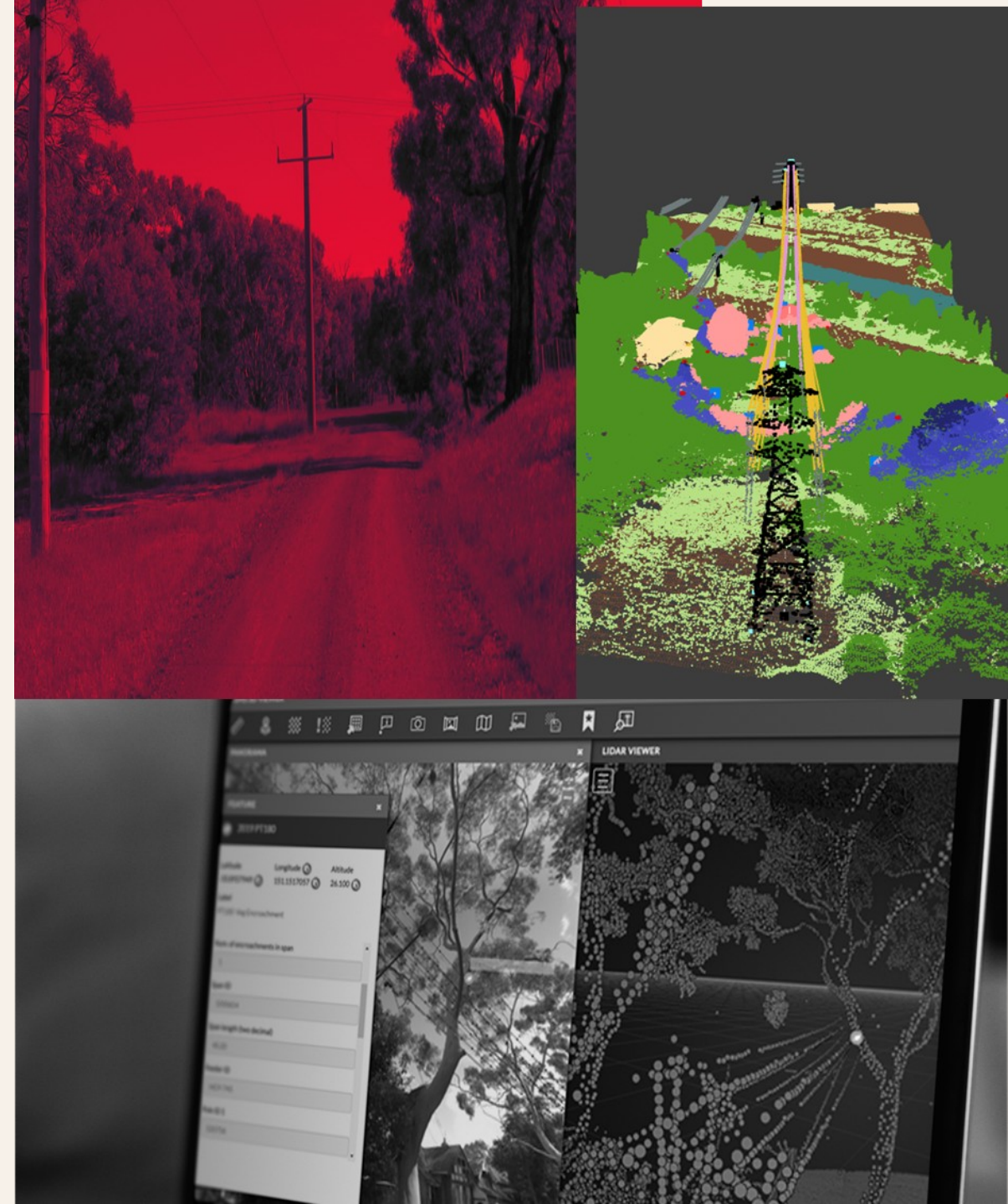
Altavec : Where All Three Worlds Meet

Geospatial + BIM+ Digital Twins become one continuous intelligence.

- **'It captures reality at scale** — drones, LiDAR, aerial and ground sensors.'
- **'It builds living digital twins** — models that update in real time, not static snapshots.'
- **'It processes in the cloud** — results in hours, not weeks.'
- **'It detects climate threats early** — vegetation risk, hazard zones, encroachments.'
- **'It finds defects before failure** — AI inspection that is multiple times faster than traditional methods.'

TECH
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Altavec AIMS Modules : Closing the loop



One platform. One decision engine. Built for resilient infrastructure.



AIMS VAA

- This is predictive maintenance.
- Drones and ML detect defects automatically, in under 24 hours.



AIMS Clearance

- Identify and flag risks corridors before they cause outages
- Hazard-aware, climate-resilient operations



AIMS 3D

- Creates immersive digital twins and runs scenario simulations.
- You can model it — before it happens.



AIMS Zero

- Operations intelligence layer — connecting everything into one view
- Real-time alerts. Live asset health. Zero surprises.

Together, these modules keep the digital twin alive.

Altavec : Closing the loop

WITHOUT CONNECTED DATA

Inspection results: several weeks

Climate threats discovered after failure

3 teams, 3 views, 0 collaboration

Decisions on incomplete data

System is reactive: fix what broke

VS

WITH ALTAVEC

Defect detection: within few hours (AIMS VAA)

Risks flagged weeks before failure (AIMS Clearance)

One platform, one view, every team (AIMS Zero)

Decisions on the complete picture (AIMS 3D)

Predictive: prevent what might break

The Infrastructure We Build Today Must Survive 2050



With Altavec, we can:

PREDICT — climate risks, hazard scenarios, asset vulnerabilities

PREVENT — outages, downtime, safety failures

PERFORM — at the speed that resilient infrastructure demands

*THE MOST RESILIENT INFRASTRUCTURE IS
INFRASTRUCTURE THAT KNOWS ITSELF.*



Scale at Speed™