CatDT

CatDT is a compositional Digital Twins engine for supply chains and logistics networks in the nearshoring ecosystem, implemented as an enterprise software platform

The problem

- **Supply chains** are fragile, opaque, and built from disconnected, monolithic systems.

- Companies lack reliable tools for scenario testing, failure prediction, or network design

CatDT: The solution

- Turns logistics assets, flows, disruptions, and decisions into modular building blocks

- **Core capabilities:** Predictive simulation, network design and optimization.

Market and opportunity:

North American supply chains are undergoing a generational redesign. Digital-twin spending is rising, but current tools lack compositional architecture. CatDT aims to be the infrastructure layer for next-generation supply-chain modeling.

Early adopters: mid-market operators, manufacturers, 3PLs, industrial parks.

Long-term targets: J.B. Hunt, Hub Group, GMXT, Amazon, Google Supply Chain, major integrators.

Competitive advantage:

- Compositional semantics - Coherence, modularity, scalability
- Designed for new-network creation, not legacy patchwork
- Mathematically rigorous + modern engineering

Business Model

- **0–12 months:** Pilots + modeling engagements.
- **12–24 months:** SaaS (per-flow or per-node).
- **Long-term:** Enterprise licensing + partnerships.

Team

Juan Orendain, PhD in mathematics and systems-modeling expert. Two other PhD level mathematicians. Prototype development (Julia/Python) underway. Initial conversations with Mexico–US operators. **Contact:** juan@catdt.com