

FORGE HYPERLOOP

One network. Zero distance.

The world's logistics infrastructure has not fundamentally changed in 70 years.

\$33T

Global trade, 2024

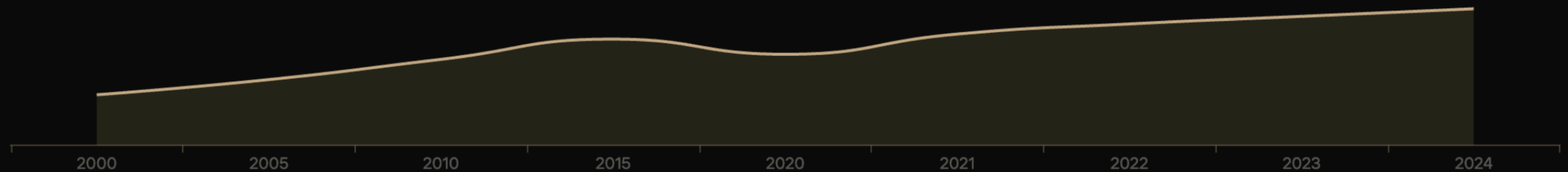
602g

CO₂ per tonne-km, air freight

30 to 45 days

Ocean transit, Asia to Europe

24 years of growth. Zero fundamental change.



Air freight CO₂ growth 2000-2024 (IATA)

Pharma companies lose entire shipments to a single degree of temperature deviation. Automotive lines lose \$2.3 million per hour when supply chains stall. The cost of slow logistics is measured in trillions.

What if cargo crossed continents in hours, not months, for less than the cost of air freight, with zero emissions?

Not a proposal. A trajectory.

The physics is proven. The technology exists. The window is open.

HARDT HYPERLOOP

Full system test completed, September 2025

CHINA T-FLIGHT

623 km/h in a vacuum tube, February 2024

POSCO

PosLoop355 steel in production, purpose-built for hyperloop

EU FRAMEWORK

Mandated by 2030. EUR 6.1M already allocated.

Every major component exists. The missing piece is someone who will build the network.

Cargo first. Intercontinental corridors. Then the world.

MAGNETIC LEVITATION

Zero rolling friction. Japan SCMaglev: 603 km/h.
China T-Flight: 623 km/h. Levitation power per passenger: 2 to 5 kW at speed.

VACUUM TUBE

Drag drops 1,000x at 100 Pa. A pod at 1,000 km/h experiences 37 Newtons of drag. Equivalent to cycling in still air.

THE NETWORK

Every node added multiplies the value of every existing connection. Metcalfe's Law applied to physical infrastructure. Each new corridor makes every existing route more valuable.

MODE	TRANSIT TIME	CO ₂ / TONNE-KM	COST / KG
Ocean	30 to 45 days	8 g	~\$1.00
Air	1 to 3 days	602 g	\$4 to \$8
Forge Hyperloop	Hours	~0 g	\$1.50 to \$3

PHASE 1: ASIAN SPINE



The busiest trade corridor on Earth.

4,700 km

Entirely overland, no ocean crossings

5

Top global cargo hubs connected

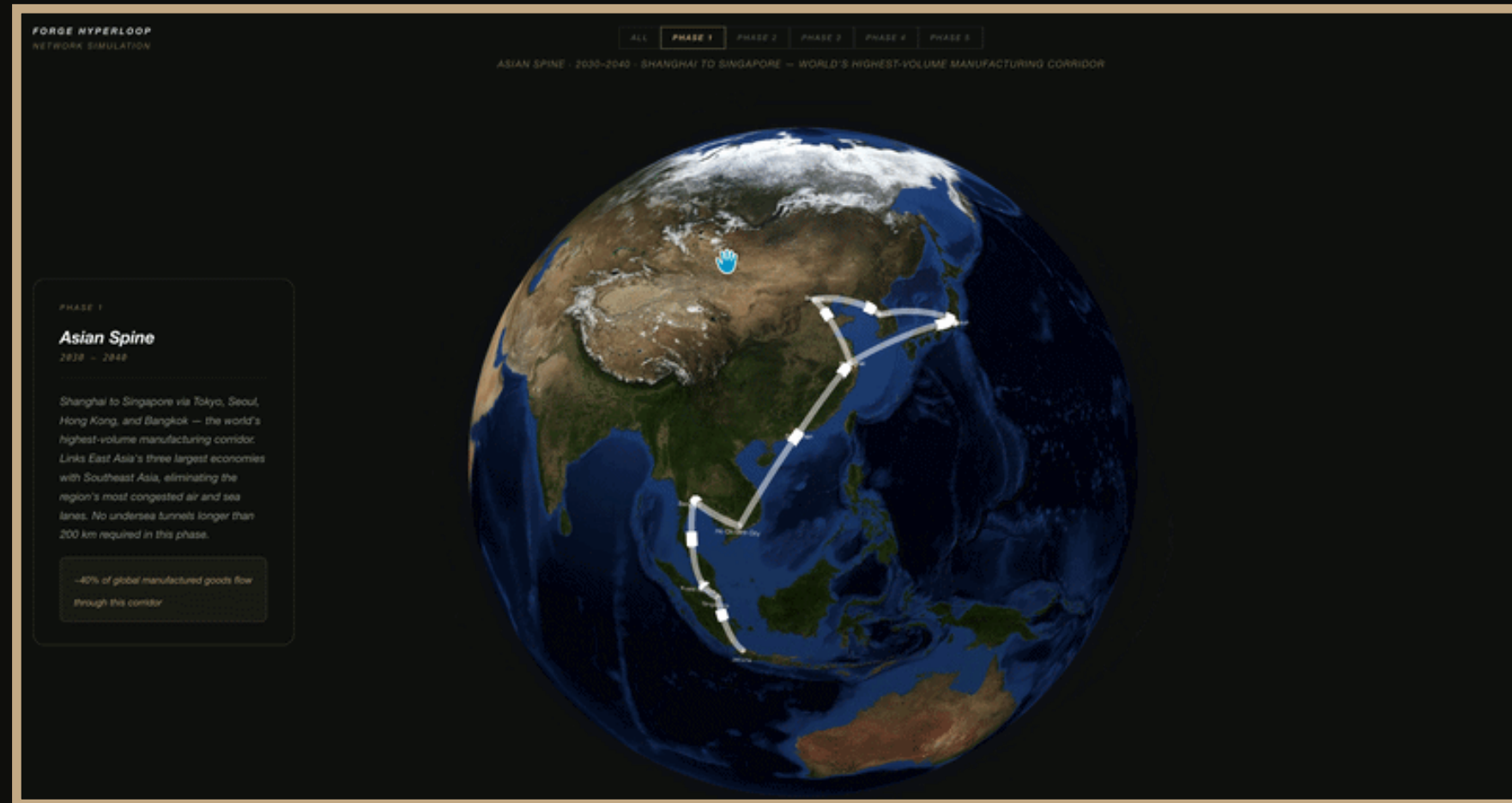
~30%

Of global trade passes through this corridor

\$150 to \$180B

Estimated build cost

Phase 1 generates revenue from cargo before a single passenger boards. Electronics, pharmaceuticals, semiconductors. The supply chains that run the world run through this corridor.



<p>Phase 1</p> <p>Asian Spine</p> <p>2028-2033</p> <p>4,700 km</p>	<p>Phase 2</p> <p>Asia to Europe</p> <p>2033-2038</p> <p>11,000 km</p>	<p>Phase 3</p> <p>Americas Spine</p> <p>2038-2045</p> <p>10,000 km</p>	<p>Phase 4</p> <p>Transatlantic</p> <p>2045-2055</p> <p>7,000 km</p>	<p>Phase 5</p> <p>Full Integration</p> <p>2055+</p> <p>One planet</p>
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Every node added multiplies the value of every existing connection. Metcalfe's Law applied to infrastructure.



FH - ORIGIN I

A physical vacuum chamber, built by hand

30 days

Built from scratch

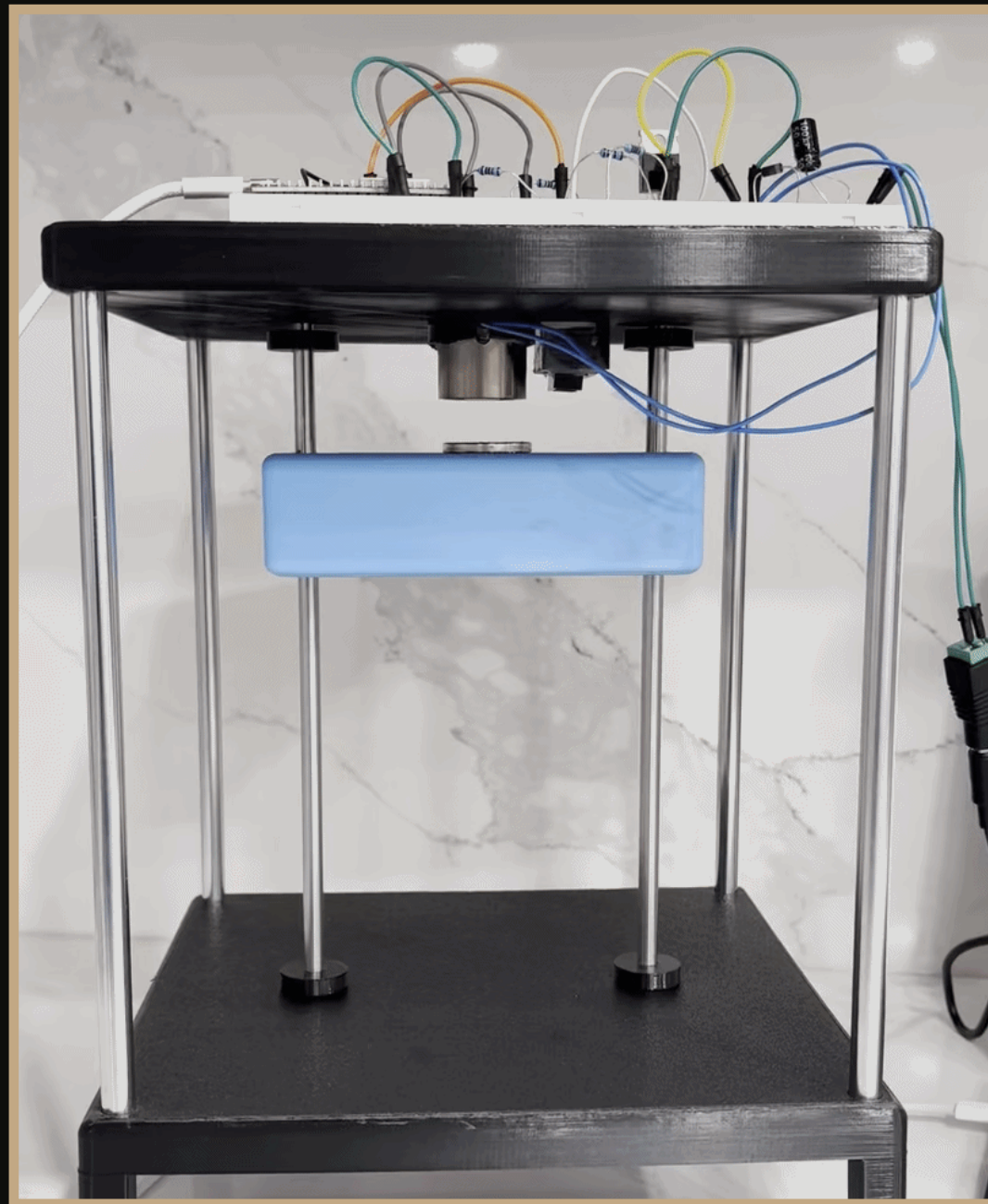
99.9%

Vacuum achieved

1,000x

Drag reduction at operating pressure

Forge Hyperloop started here.



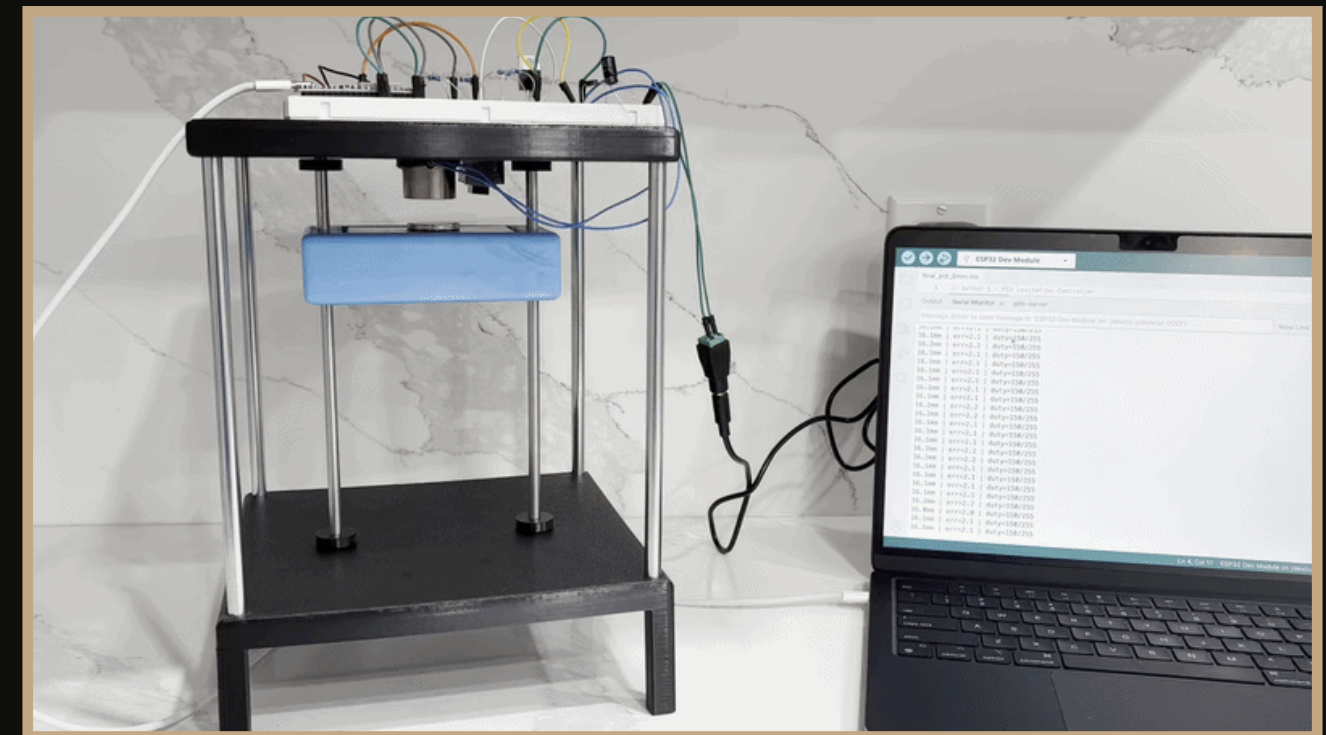
FH - AETHER I

Magnetic levitation: Proven by hand.

ESP32 · C++ · PID Controller · EMS · IR Sensor

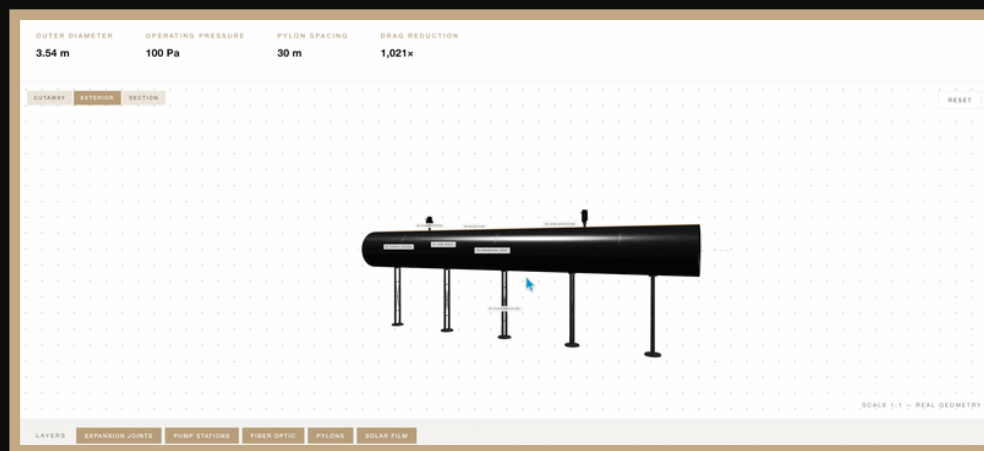
This is not a simulation. This is not a render. Forge Hyperloop Aether I demonstrates the same electromagnetic suspension principle that will hold a cargo pod in a vacuum tube at 1,000 km/h.

Levitation height: 20mm



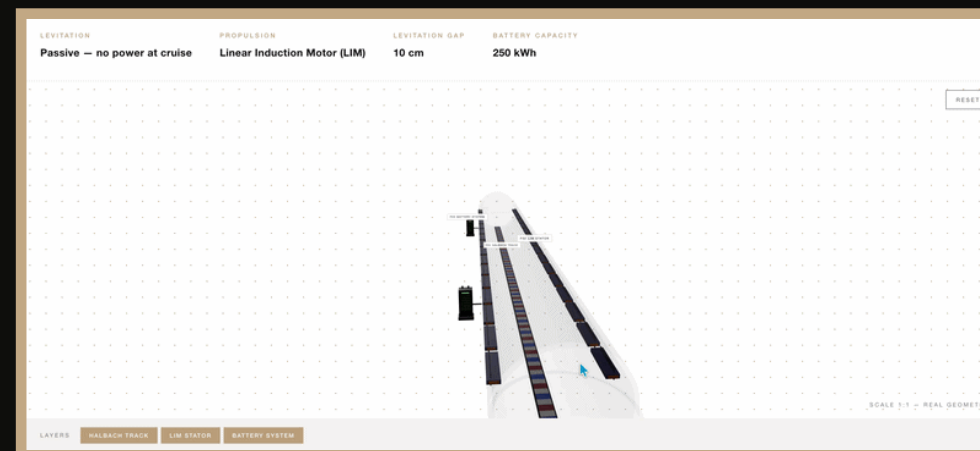
DX-I

The blueprint is complete. The physics is proven. The only remaining variable is capital.



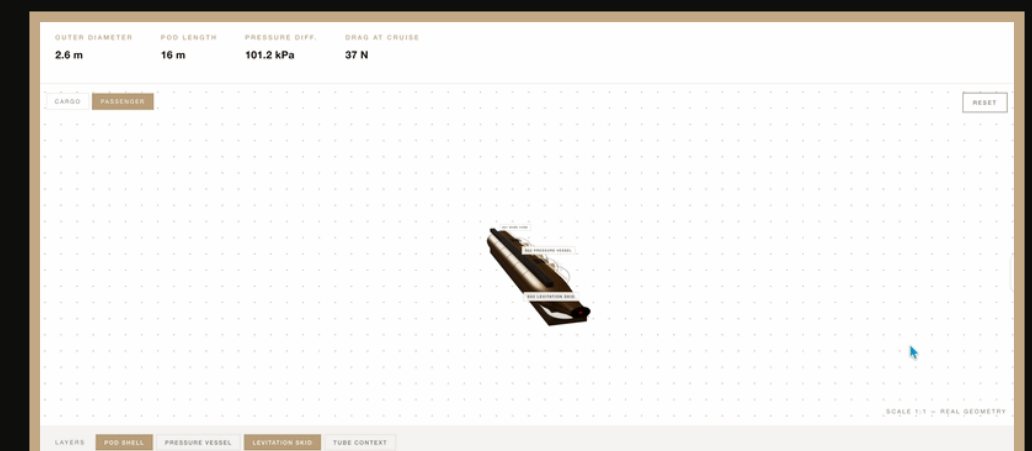
CONDUIT

Proves the vacuum tube at scale. Every detail of tube pressure, seal integrity, thermal expansion, and pump station spacing modeled. The biggest bottleneck in hyperloop engineering, solved in simulation.



FLUX

Proves the maglev and battery system at scale. Models what electromagnetic suspension looks like holding a pod through a full-length tube. Energy flows, levitation power curves, battery system architecture.

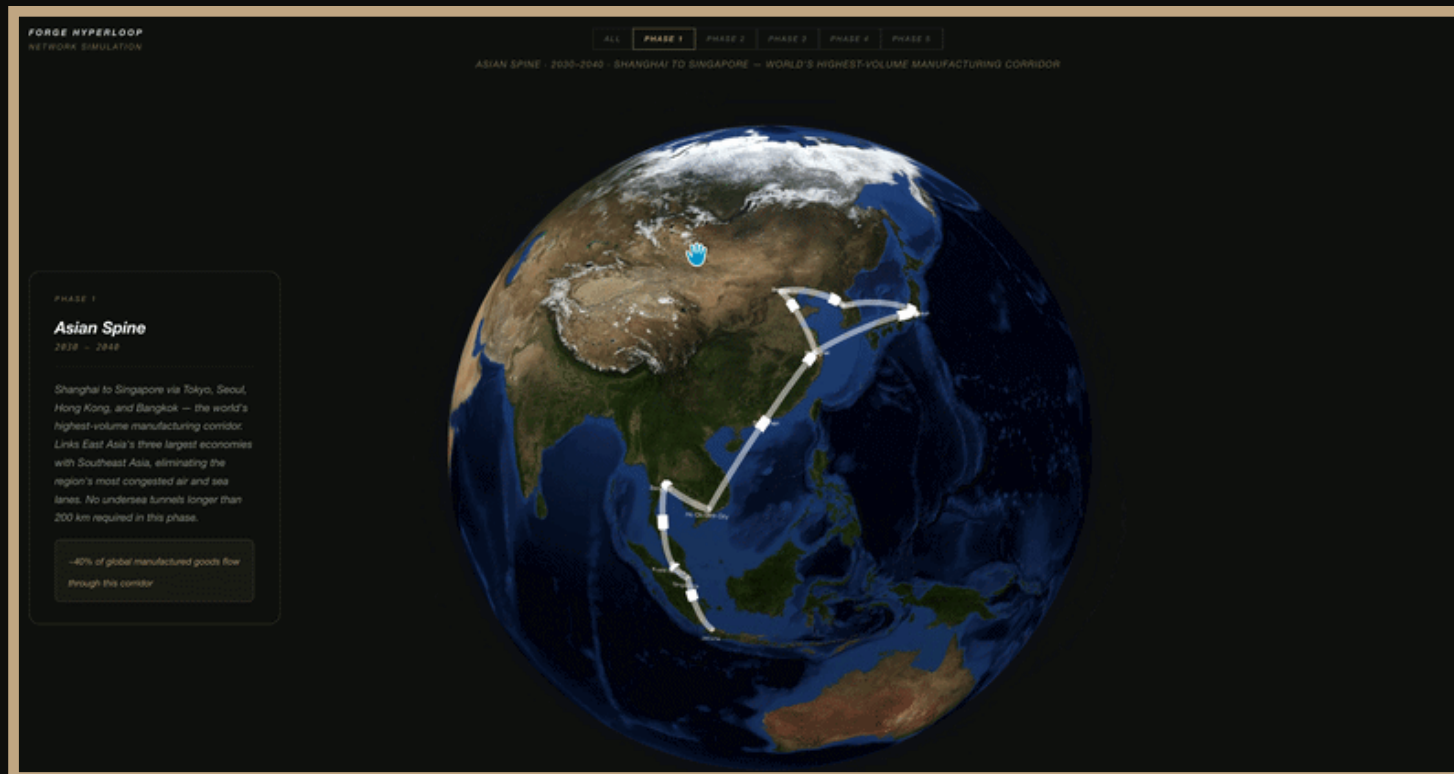


SHELL

Proves pod structure, materials, and aesthetics at scale. How cargo and passengers actually traverse the system. Material cost breakdowns, pod cross-sections, interior configuration. The full physical design.

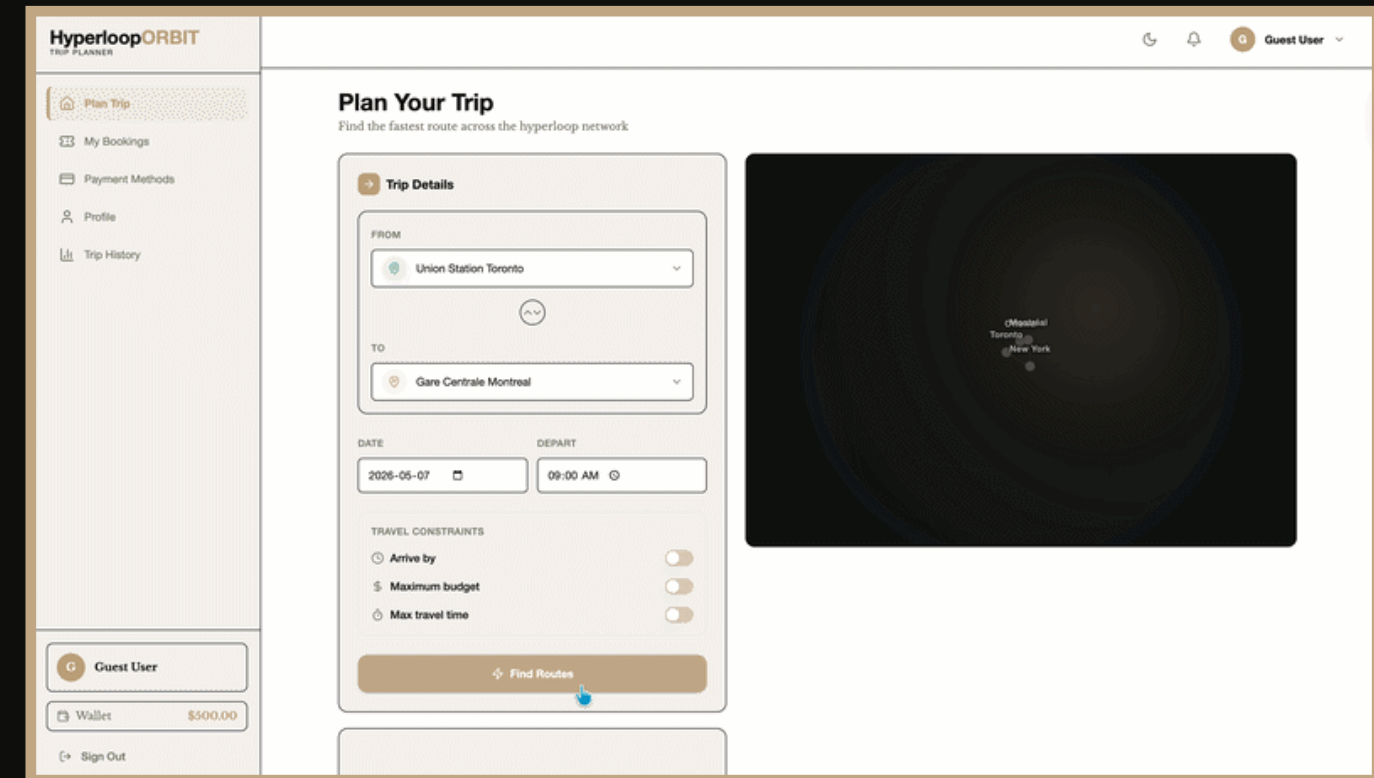
There are no remaining physical barriers.

Two live tools. One complete picture.



NETWORK

Live 3D simulation of all five Forge Hyperloop phases. 37 cities, 6 continents, 44,700 km. One plan to connect the Earth.



ORBIT

How real people use the network. Route planning, transit times, pricing. The future, navigable today

The blueprint exists. The tools are live. The builds are real.

Infrastructure is not a startup. The return is 50 years of economic throughput.

\$91B/year

Revenue at full network maturity

\$8.25B/year

Phase 1 and 2 alone, at 1% of global goods trade

\$50/tonne

Cargo toll, fraction of air freight cost

~0g

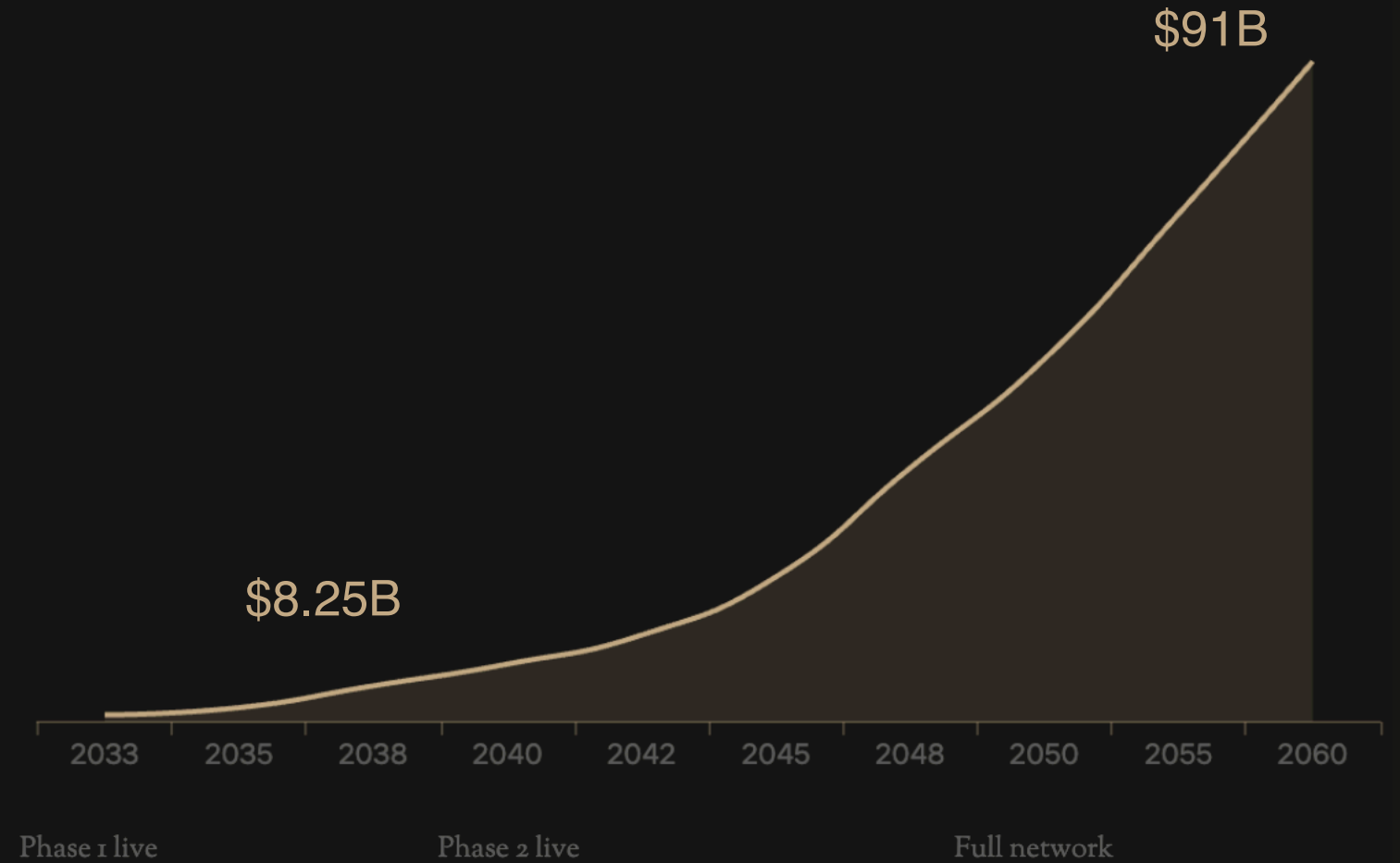
CO₂ per tonne-km on renewable grid

3 to 7x

GDP multiplier on transport infrastructure (World Bank)

<1%

Of global logistics market needed to justify the full build



Illustrative revenue trajectory, network-effect model.

The cargo customers exist and are already paying more for worse.

The market is wide open. Virgin proved the domestic approach was wrong. Forge targets the intercontinental gap.

Virgin Hyperloop One	Forge Hyperloop
MARKET FOCUS Targeted US domestic ports and wrong corridors.	MARKET FOCUS Targets the intercontinental gap.
THE COMPETITION Competing with trucks at \$2/km.	THE COMPETITION Replaces slow Ocean freight (30-45 days) and expensive Air freight (\$4-\$8/kg).
VALUE PROPOSITION You do not need hyperloop to beat trucks.	VALUE PROPOSITION Delivers in hours with near-zero emissions at \$1.50 to \$3/kg.
CERTIFICATION & TESTING \$450 million burned on one human test at 172 km/h.	CERTIFICATION & TESTING Cargo does not require passenger safety certification.
STRATEGY & OUTCOME Zero commercial contracts; Shut down December 2023 after a late pivot to cargo.	STRATEGY & OUTCOME Cargo generates revenue first to fund the eventual passenger build.

The technology wasn't the failure. The market was.

"You can't seal a tube at scale."

AI fiber-optic monitoring already covers 2.5 million miles of US gas pipelines. PosLoop355 steel is in production. Expansion joints proven in industrial cryogenics. The gap is integration, not discovery.

"The geopolitics are impossible."

Phase 1 is entirely overland Asia. One of the most active infrastructure investment zones on Earth. The first corridor needs one government and one route. The EU has already mandated a regulatory framework by 2030.

"Virgin Hyperloop already failed."

Wrong corridors. Virgin targeted domestic US ports and competed with trucks. Forge targets the 30-day ocean freight route and competes with container ships. Pets.com failed. Amazon did not.

\$10T

Global logistics market. Less than 1% capture justifies the full build.

Five phases. One planet.

The technology is ready. The economics work. The trade corridors are identified.

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