

## MULTIMODAL FREIGHT DISRUPTION INTELLIGENCE

# LogiRhein Live

*Eliminating blind spots across the Rhine corridor  
with real-time disruption intelligence.*



● Barge



● Rail



● Road

FR · DE · CH · NL · Rotterdam to Basel · 285M tonnes / year



## THE PROBLEM

# €2.8 billion lost. One river. No warning.

285M

tonnes / year  
on the Rhine

€2.8B

losses in 2018  
low-water event

-20%

container throughput  
projected by 2050

40%

modal share  
by waterway

*When the river drops, every operator reacts independently — and too late. **The cascade is predictable. The response never is.***

Source: CCNR Annual Report 2024 · ScienceDirect (2024) Rhine container disruption study · Haskoning (2024)

# Three modes. Four countries. Zero shared intelligence.

## Barge operators

Track Kaub gauges individually. React when it's already too late. No predictive layer across the corridor.

## Rail (SNCF / DB / SBB)

Operate national systems. Surge demand from barge disruptions hits them as a surprise, not a forecast.

## Road / trucking

Receive overflow freight with no advance notice. Last-mile pricing chaos during disruption windows.

- No product connects all three modes across FR/DE/CH/NL as a single intelligence layer
- Existing tools (Pegelonline, VNF) give current water levels — not 2–4 week predictive forecasts
- Port operators at Strasbourg, Basel, Rotterdam work with different systems and different languages
- RiverSat (EarthDaily) addresses single-mode water level forecasting only — no modal cascade intelligence

## THE SOLUTION

# LogiRhein Live

Multimodal disruption intelligence — 2 to 4 weeks ahead.

### EO LAYER

#### River width proxy

Sentinel-1 SAR + Sentinel-2 optical. Cloud-independent, free, 5-day revisit. Rhine water extent continuously monitored.

### CLIMATE LAYER

#### 2–4 week forecast

ERA5 reanalysis + Copernicus C3S seasonal forecasts. Precipitation anomaly over Rhine basin. Days-to-critical calculation.

### MODAL LAYER

#### Cascade modelling

SNCF/DB/SBB open APIs + road freight indices. Models cross-modal overflow demand before it materialises.

### AI LAYER

#### Plain-language briefs

LLM generates trilingual (FR/DE/EN) daily disruption briefings and rerouting recommendations per cargo type.

*“Rhine water likely to reach critical threshold at Kaub in 11 days. Basel–Rotterdam barge capacity projected –35%. Rail surge window: Aug 14–28. Recommend pre-booking DB cargo slots now.”*

# Five layers. Built in order.

From data foundation to dashboard — one pipeline, end to end.

LAYER 0 · BUILT FIRST

Physical infrastructure  
& data foundation

**PostgreSQL**  
MMSI, positions, draught

**S3 storage**  
Satellite imagery cache

**Docker environment**  
API + database containers

LAYER 1 · BUILT SECOND

Observer logistics  
observatory

**MapLibre GL JS**  
Open-source map engine

**WebSockets**  
AISStream.io live feed

**Hub'Eau gateway**  
River level API

**Sentinel Hub and Copernicus**  
EO data acquisition

LAYER 2 · BUILT THIRD

Data enrichment &  
anomaly detection

**Geo-processing**  
Geofencing port terminals

**Data fusion**  
SAR × AIS correlation

**Hydro constraint checker**  
Low-water alerts → rerouting

LAYER 3 · BUILT FOURTH

Intelligent  
resolution

**AI / LLM layer**  
Reasoning + language bridge

**Root cause analysis**  
Weather / event correlation

**Resilience modelling**  
“What-if” lock closures

**Rerouting engine**  
Recommendations

LAYER 4 · BUILT LAST

LogiRhein Live  
dashboard & UI

**Frontend**  
C# .NET + MapLibre globe

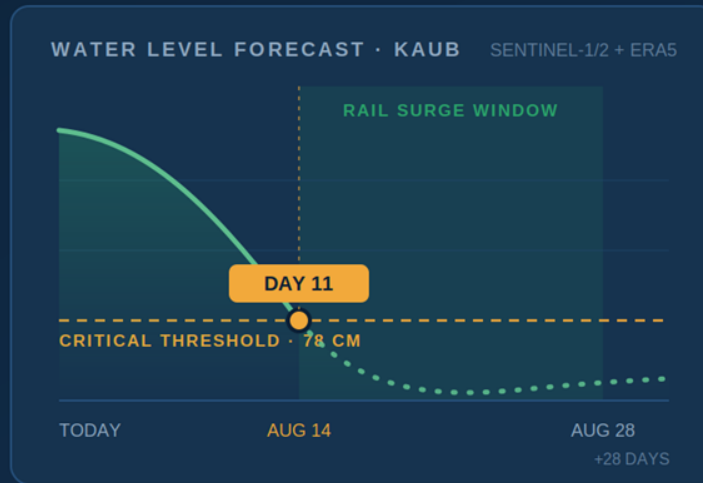
**Live briefing**  
Trilingual AI brief (FR/DE/EN)

**Telemetry monitor**  
Barge status, alerts

**Simulation panel**  
Rerouting control

TODAY'S BRIEFING

“Rhine water likely to reach critical threshold at Kaub in **11 days**.  
Basel–Rotterdam barge capacity projected **−35%**. Rail surge window: **Aug 14–28**. Recommend pre-booking DB cargo slots **now**.”



DAYS TO CRITICAL

**11** days · Kaub gauge

BARGE CAPACITY · BASEL–ROTTERDAM

**−35%** projected

RAIL SURGE WINDOW

**Aug 14–28** SNCF / DB / SBB

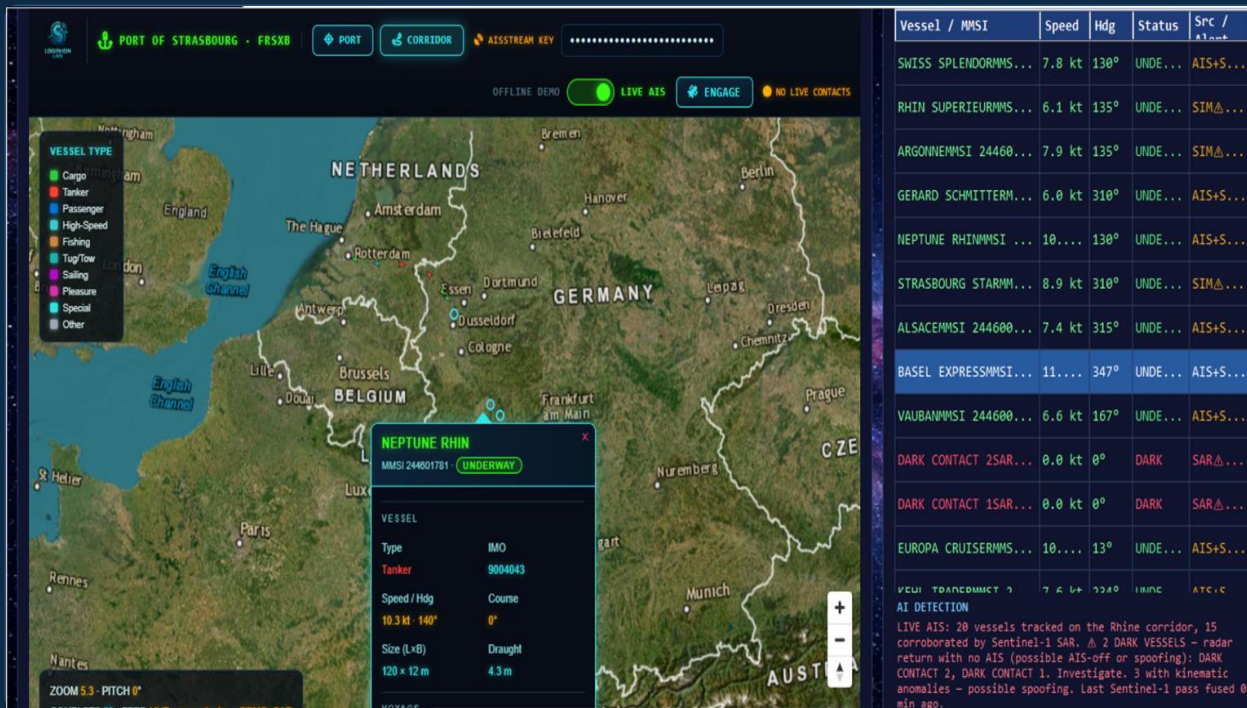


RECOMMENDED ACTION

**Pre-book DB cargo slots now — before the surge window opens**

Confidence: HIGH

# Live corridor tracking — already running.



## WHAT YOU'RE SEEING

- Live AIS vessel tracking across the Rhine corridor
- Sentinel-1 SAR corroboration — dark-vessel and spoofing detection
- Port de Strasbourg ↔ Rotterdam voyage data, per vessel
- Built on the open stack: MapLibre + AISStream + Sentinel Hub

# Who pays, and how much.

SEGMENT 1

## Port logistics operators

Contargo, Danser, Bolloré, Port de Strasbourg terminals

Disruption forecasts for berth scheduling and rail slot pre-booking.

**€800–2,000 / month**

~400 Rhine operators

SEGMENT 2

## Industrial shippers

BASF, Dow, Solvay, ArcelorMittal — Rhine-dependent supply chains

A single disruption can halt production. Budget sits with the Supply Chain VP.

**€20K–80K / year**

~200 large Rhine shippers

SEGMENT 3

## Freight forwarders

DB Schenker, Rhenus, Bolloré — multimodal freight brokers

Reroute cargo across modes at short notice; currently paying spot premiums.

**€300–600 / month**

~5,000 EU IWT firms

**ADJACENT REVENUE** Data licensing to commodity traders and financial analysts — Rhine disruption moves energy and chemical derivatives markets.

# Three revenue streams. One data pipeline.

## 01 SaaS subscription

- Free: public dashboard, 7-day water history
- Pro €300–600/mo: 14-day forecast, AI briefs, cargo alerts
- Enterprise €2K–8K/mo: full API, custom rerouting models

€1.2M ARR at 50 enterprise clients

## 02 Data licensing

- Aggregate disruption forecasts to commodity traders
- Insurance underwriter risk feeds
- Financial analytics firms — Rhine moves energy markets

€200K–500K recurring at scale

## 03 EU grant funding

- Copernicus downstream grant (ESA BIC Grand Est)
- CEF Transport Reflow Call — €1.1B, opens June 18, 2026
- TERRA Horizon Europe extension (ISU consortium)

€150K–300K non-dilutive runway

Data acquisition cost: €0 · All Copernicus / open-source · CEF Transport Reflow Call opens June 18, 2026 — closes October 6, 2026

## THE ROADMAP

# From sprint to scale.

*Demo first, pilot fast, then own the corridor.*

### PHASE 1 · NOW

## Sprint

Q2–Q3 2026



WE ARE HERE

- Working MVP live on GitHub Pages
- Kaub alert subscription demo
- Factory 2026 + AS26 course pitch

### PHASE 2 · NEXT

## Pilot

Q4 2026



- Contargo Strasbourg pilot agreement
- CEF Transport Reflow grant application
- Sentinel-2 Rhine water layer in production

### PHASE 3

## Product

2027



- AI briefing engine (Gemini API)
- Rail API integration (SNCF / DB/SBB)
- Trilingual dashboard launch
- CCNR data partnership formalised

### PHASE 4

## Scale

2028+



- Full modal cascade model live
- **3 enterprise clients → €1M ARR**
- Data licensing to financial clients
- Rhine–Danube corridor expansion

**BEACHHEAD STRATEGY** Own the Rhine corridor first — then expand across European waterways, starting with the Danube.

## THE INVESTMENT

# Pre-seed: €500K to validate the platform.

### ALLOCATION

Software & AI development	€120,000
Founder salary buffer	€100,000
Business development & pilots	€40,000
Cloud infra & data feeds	€35,000
Sales, legal & setup	€55,000

Total pre-seed budget **€350K – €500K**

### EQUITY STRUCTURE

**13.5%**

offered equity

**€3.70M**

post-money valuation

Founders ownership	81.5%
New investors (pre-seed)	13.5%
Employee option pool	5.0%

**FROM INVESTORS** Lead investor aligned with our deeptech logistics thesis · commercial introductions to supply-chain VPs and port operators · grant advisory for Copernicus and CEF calls.

**Thank you**  
**Q/A**