THE FUTURE OF FREIGHT RAIL HAS ARRIVED.

INTRAMOTEV

ABOUT US

The leader in next-generation rail technologies

Founded

2020

HQ

St. Louis

Employees

45

Factory footprint

67k sqft

Recent highlights

Autonomous battery-electric railcars

One product, three on-demand modes of operation:

Independent movement

Freedom from locomotives born in the 1950s with autonomous or remote movement powered by electric drivetrains. Perfect for A to B material movement of any commodity.

No green premium here – just significant value creation and return for our customers.

Switching traditional railcars

Ability to couple into traditional railcars for spotting or switching cars.

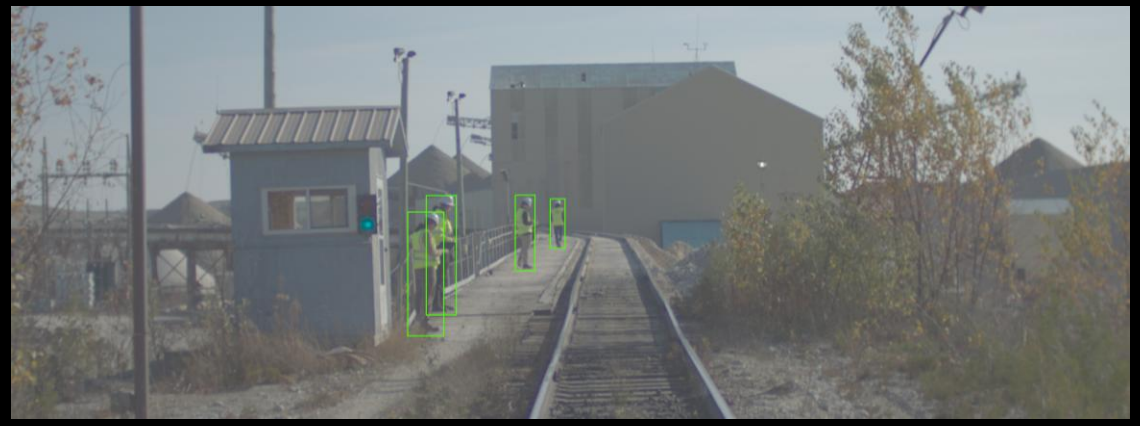
Current vehicle generation can pull up to 10 fully-loaded 286,000lbs railcars on a flat grade, with capability up to 25 cars under development.

Recycling energy in unit trains

TugVolts can ride in unit trains as distributed power (DP), reducing fuel costs and emissions with regen braking, shortening stopping distances, and replacing expensive DP locomotives to be used elsewhere.

DEPLOYMENT SUMMARY

TugVolts are moving freight – a lot of it



Tonnage hauled (as of 10/2)

283,360 t

Tonnage Run Rate (as of 10/2)

1m tons / yr

Carloads moved (as of 10/2)

4,048 cars

Miles per car (as of 10/2)

5,383 miles

TUGVOLT FEATURES

A robust and capable solution for material movement

Remote or autonomous

Remote controlled via tablet interface with live feeds, or dispatched on pre-built mission sets and routes

Fully battery-electric

Battery-powered high-performance electric motors available in a variety of configurations and pack sizes

Dump packages available

Remote or autonomous dumping available when required

Advanced sensory perception

A sensor suite with cameras and machine vision, lidar, radar. Full connectivity and GPS location tracking.

Resilient and reliable

Built for extreme conditions and rough operating environments, fully thermally managed power systems

Sustainable and safe

Zero-emissions at the vehicle level to protect the climate, short stopping distances and intelligence to protect your workers and community

BENEFITS

Efficiency and flexibility to meet capacity

More reliable material moves

Independent movement means cars can serve movement needs on-demand without dwell or drain on other crews or assets

Lower operating costs

30 – 80% typical reductions in OpEx due to lower maintenance and fuel costs, plus more efficient use of crews with remote or autonomous operation

Reduced fleet sizes

Higher asset utilization allows moving more freight for customers with fewer railcars and no locomotives

Zero vehicle-level emissions

Sustainability and decarbonization without the green premium

OPERATIONAL INSIGHTS

Insights and Integrations

System Data

Data from the TugVolt system can be made available for integration with operations including:

- Live camera feed from train
- Train operation times, speeds, waiting times
- Reliability and availability
- Predictive maintenance data on trains and track

Operational and environmental integrations

TugVolt systems are capable of being integrated seamlessly with the physical operations infrastructure:

- Automated dumping, hatches, or gates
- Customized safety parameters including geofencing, speed limits, and blue zones
- Radio-controlled switches

NEXT STEPS

Business case and incentive evaluation

1. NDA + data gathering through operational intake form

Gather data necessary to run full business case and operational simulations for each potential use case:

- Volumes and tonnages
- Cycle times
- Base case cost inputs
- Infrastructure needs

2. Intramotev runs financial analysis and full operational simulations

Operational analysis to understand sizing of transportation system to needs, leading to project financial analysis. Identification of available federal, state, and local grant or tax incentives. Full financial model Includes estimated CAPEX, OpEx savings vs. base case, and ROI outcomes.

3. Review jointly and validate incentives

Review operational summary, business case and financial analysis, grant incentives and other outcomes. Determine next steps of project evaluation.

INTRAMOTEV

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