

FROM SHARED VISION TO HIGH IMPACT

PARTNERSHIP WITH PURPOSE

Dock to Door Coalition + VIRGINIA TECH



The Dock to Door (D2D) Coalition is facilitated by the Virginia Tech Transportation Institute (VTTI). VTTI conducts research to save lives, time, and money while working to protect the environment.

As one of seven premier research institutes created by Virginia Tech to answer national challenges, VTTI is continually advancing transportation through innovation and has affected public policy on national and international levels.



Research Divisions

- Data & Analytics
- Freight, Transit, & Heavy Vehicle Safety
- Technology Development & Deployment
- Technology Implementation
- Vehicle, Driver & System Safety

Research Centers

- Sustainable & Resilient Infrastructure
- Sustainable Mobility
- Global Center for Automotive Performance Simulation

DOCK > DOOR

An aerial night view of a busy port. Several large container ships are docked at the pier, with their decks filled with colorful shipping containers. Numerous gantry cranes are positioned along the docks, some with their lights on. The water reflects the city lights and the port's illumination. In the background, a city skyline is visible across the water.

Dock to Door Coalition
**Advancing supply chain resiliency and sustainability through
partnership, research, and innovation**

We envision a world where goods move seamlessly and reliably from dock to door
through a fully connected and resilient transportation system.

Mission

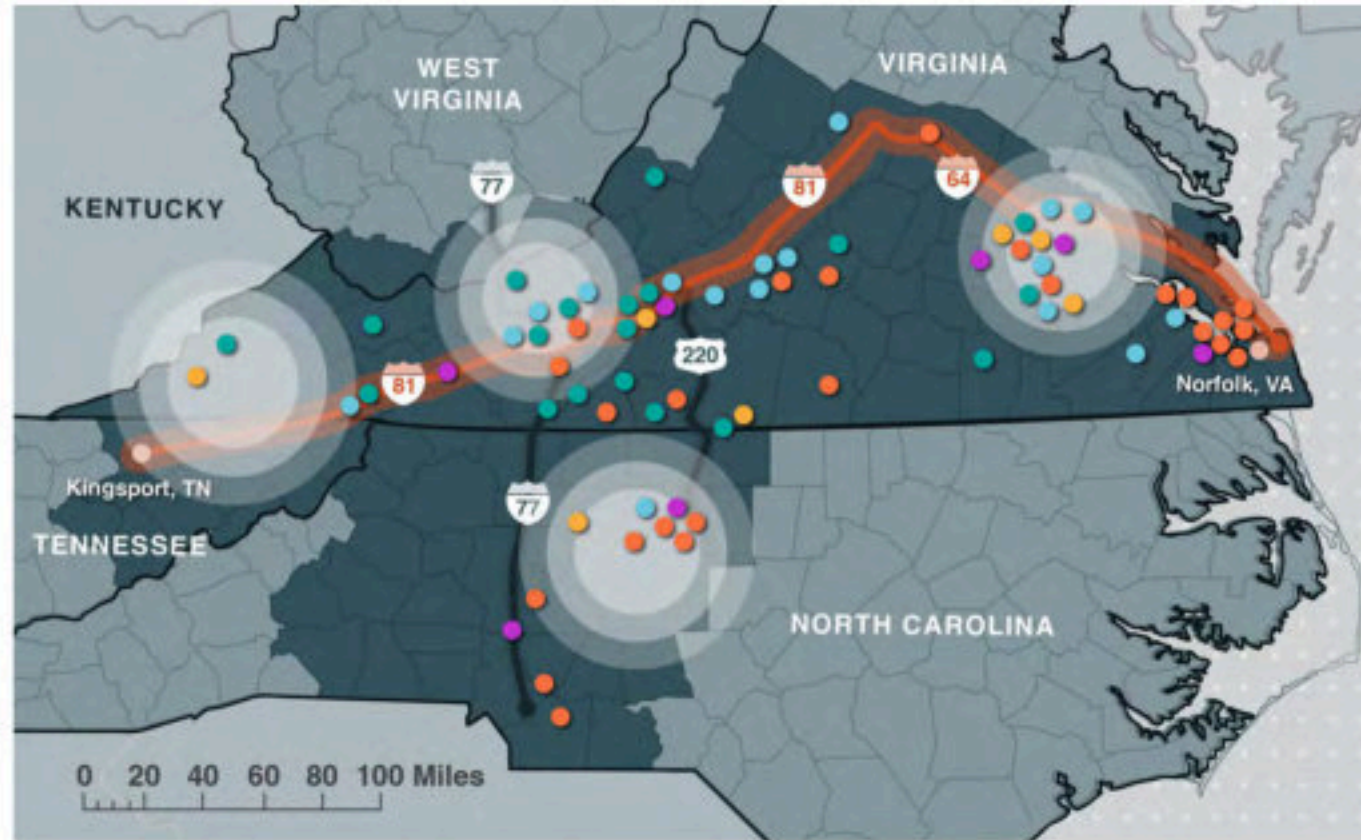


Develop an integrated approach for modern freight transport by galvanizing members to confront and resolve critical and problematic supply chain issues.

757 COLLAB ADVANCED Logistics Systems AEROPROBE Revolutionizing Technology amazon freight AMERICAN TOWER CORPORATION ANRA APPALACHIAN POWER An ASP Company AUVSI AT&T



Our Regional Impact Map



Key Program Areas

We accomplish our mission through our program areas which serve as catalysts to realizing our vision, supporting our core commitments, and engaging our partners.



**Connected &
Automated
Vehicles
throughout the
Supply Chain**



**Energy Efficient
and Resilient
Technology in
Freight**



**Workforce
Development &
Community
Engagement**



**Data Sharing
Platform for
Freight Flow,
Connectivity
& Visibility**

Connected & Automated Featured Projects

- Automated Freight Deployment Working Group
- D2D Workforce Training Program for AV Freight Enhanced Inspection Needs



ITS  AMERICA

 VIRGINIA
TECH

T-Mobile

TORC

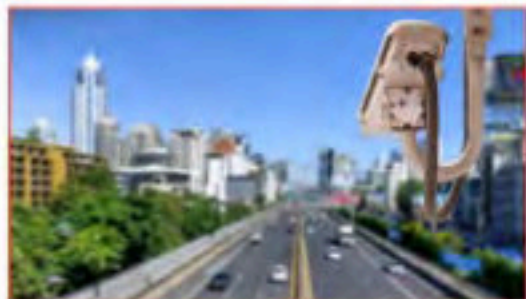

cavnue

 MITSUBISHI
ELECTRIC
Changes for the Better

 VDOT


North Carolina
Agricultural and Technical
State University

Energy Efficient & Resilient Freight Technology



- Dock to Door partners generate ground-truth insights to inform sustainable freight efforts (grid, infrastructure deployments, decarbonization strategies, stakeholder engagement, evaluation, replicability)
- Building the conditions that allow for scalable and coordinated pilots for alternative fueling infrastructure (e.g., Propane, Bio-Diesel, Hydrogen, Electric Charging)
- Address shortages in a trained workforce to build & maintain infrastructure and vehicles

EERFT Program Area Working Groups

- Addressing Common Myths about Sustainable Freight Vehicles (2025)

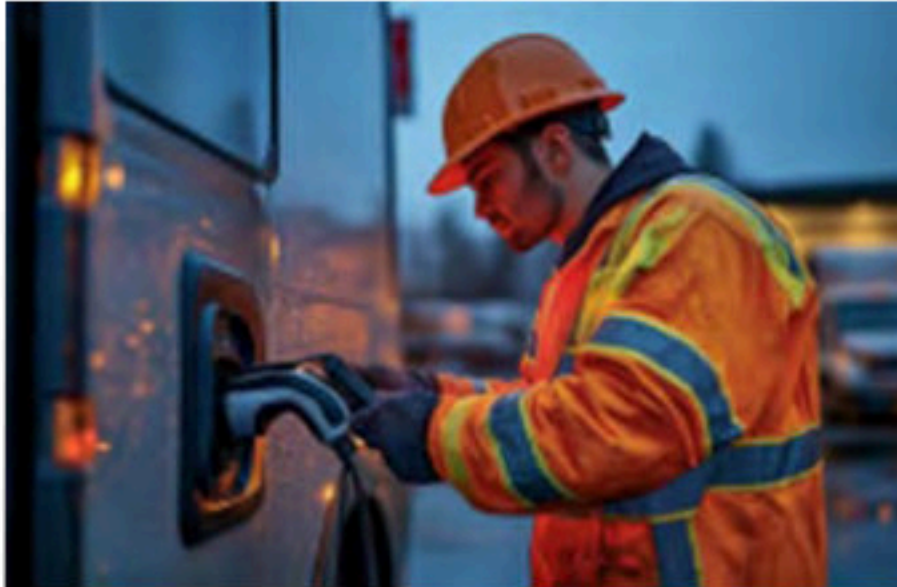


- Regional Narrative Working Group (2026)



D2D STEM Education & Engagement Pilot Program

Connecting Classrooms, Communities, & Careers

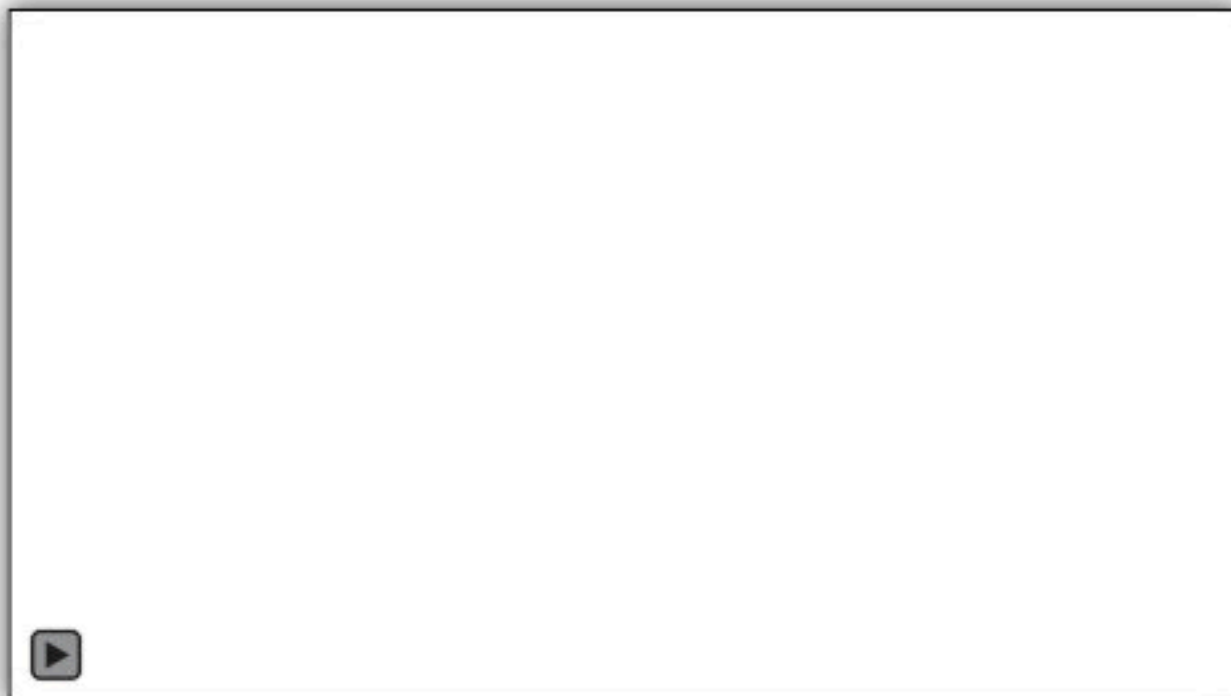


V O L V O



D2D STEM Education Pilot

- Regional employers supported an “Adopt a Classroom” Campaign to help build the future talent pipeline
- Funded 6 classrooms EV Battery STEM curriculum
- Post-Curriculum Event students showcased what they learned with local community colleges, and local employers with “Touch a Truck” displays
- 370+ visitors of students, parents, and teachers to discover their own regional pathway to future jobs





BY PARTNERS, FOR PARTNERS

Working Hand in Hand with Virginia Tech
Solving Supply Chain Issues

Data Sharing Platform for Freight Flow, Connectivity & Visibility



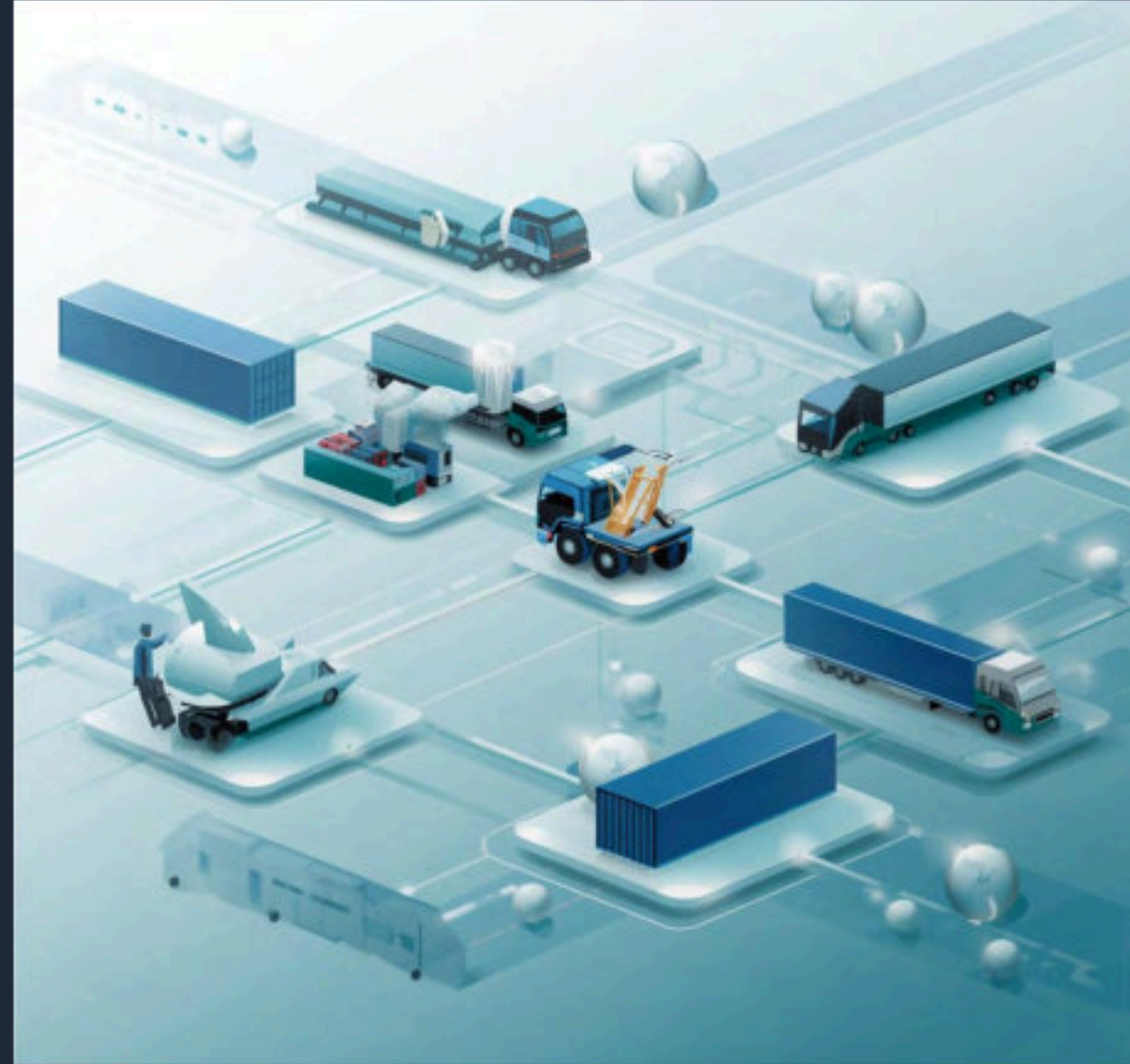
Mac McCall

Program Area Lead

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Hermes Assistant

A **functional prototype** designed to unite supply chain stakeholders through a federated data exchange technology that enhances real-time visibility across the supply chain.





Current inefficacies lead to economic opportunities

Fragmented visibility, disconnected systems, limited coordination across firms, modes, and jurisdictions. These issues drive detention, dwell, missed handoffs, and reduced predictability that cannot be solved by any single actor.

THE TRUE COST OF **DETENTION**



10 Trucks | 500 Stops Per Truck/Yr | 2x20ft Containers

39% of stops in detention

1.4 hrs

average driver
wait time

\$66.65

per hour
detention cost

2,730 hours lost

Hours that could have
been moving goods.

**Freight &
Logistics
Providers**

YOU'RE LOSING

~\$181,955

in annual detention costs

THE TRUE COST OF PORT DWELL TIME



3-4 Days

Truck Bound Dwell Time

4-7 Days

Rail Bound Dwell Time

Container Rate w/ Unloading Fees = **\$843.53**

Every day a container sits idle at the terminal costs efficiency in terminal orchestration.

Dwell time compounds across companies, resulting in lost capacity to move more containers through the port.

20 Containers per Company
(10 Trucks with 2x20ft Containers)

Port Authorities

YOU'RE LOSING

~\$433,038

per company in annual revenue

For every **1 full day** of wait time

Why is VTTI Taking This on?

There is not a technology gap; it's a governance and coordination gap that markets alone can't fix.

- ❖ Fragmented data and misaligned incentives have operational consequences.
- ❖ Market solutions naturally optimize for local and proprietary outcomes.
- ❖ Broad data surrender creates trust concerns.
- ❖ Built-in partnerships.



We are a neutral third party acting to improve cross-sector, multijurisdictional, and multimodal collaboration by increasing intermodal freight flow visibility.

What is Hermes Assistant?

Functional Prototype of a Federated Data Exchange Platform with an engaged, cross-sector deployment base.

- ❖ **Supervised peer-to-peer exchange**
Data moves directly between participants under defined rules.
- ❖ **Neutral third-party governance**
Common standards, permissions, and oversight without market distortion.
- ❖ **No central data repository**
Each organization retains control of its own systems and data.
- ❖ **Participant-controlled sharing**
Organizations decide *what* to share, *when*, and *with whom*.



Hermes Assistant enables real-time coordination and visibility across supply-chain participants without centralized data custody.

Who Engages over 5 Years



\$45.9M

Freight & Logistics

Optimize routes and improve asset utilization for efficiency.



\$105.4M

Port Authorities

Enhance terminal orchestration for reduced congestion and delays.



Shippers & Manufacturers

Achieve better stock management to prevent costly stockouts.



Public Sector

Gain insights for infrastructure planning and reduce bottlenecks.



Economic Development

Showcase regional logistics advantages to attract potential investments.



Technology Providers

Drive demand for connectivity and innovative software solutions.

Building Virginia's Supply Chain Visibility Ecosystem through a Phased, Collaborative Approach

- Regional Collaboration
- → Business Growth
- → → Economic Resilience



Get Involved!

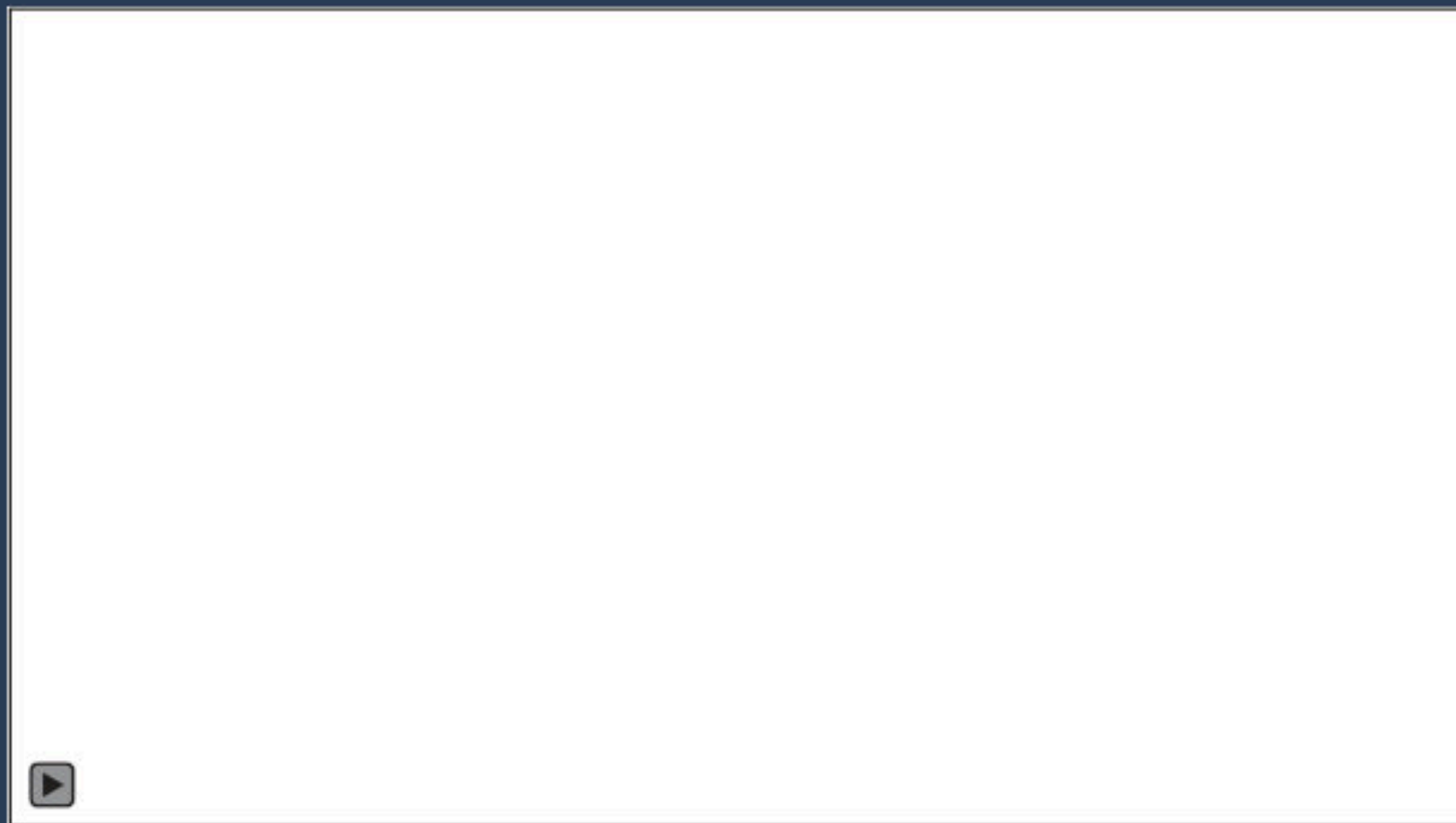
Join as a partner | Contribute use cases | Shape governance | Explore integration

Contact Mac McCall : mmccall@vtti.vt.edu

Partner-Up with Hermes Assistant!



1-Minute Intro



Get Involved!

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<https://www.docktodoor.vtti.vt.edu/>

