Patti Beck, Bi-State Development Senior Director of Media & Public Relations
314-982-1524 (O) 314-486-9091 (C)

Link to Session

TECHNOLOGY IMPACTING MOVEMENT OF FREIGHT ACROSS THE GLOBE CONTINUES TO ADVANCE

[ST. LOUIS, MO/May 13, 2024] The latest milestones for a series of high-tech solutions impacting the global movement of freight on rail and waterways were highlighted during the opening session of FreightWeekSTL 2024, an annual event hosted by the St. Louis Regional Freightway. Innovation Day at FreightWeekSTL featured Dr. Noel Hacegaba, Chief Operating Officer of Port of Long Beach; Jason Carter, Founder & Chief Executive Officer at UNCOMN; Corey Vasel, Co-Founder & Chief Technology Officer at Intramotev, and Uri Yoselevich, Founder and CEO of DockTech.

Supply Chain Information Highway

Carter and Hacegaba kicked off the virtual panel session with an overview of the partnership between UNCOMN, a technical consultancy headquartered in the St. Louis region, and the Port of Long Beach, the nation's second busiest container seaport. The Port of Long Beach handles approximately 9 million container units each year carrying cargo valued at more than $200 billion. The two companies partnered to create a Supply Chain Information Highway that gives beneficial cargo owners the ability to access, analyze and integrate data from freight moving through the nation's largest ports in a way that helps improve in-transit visibility. Their partnership began in 2021, when the Port of Long Beach was seeking a prototype to give shippers the ability to track and trace containers and shipments along all aspects of the supply chain. That prototype was completed in 2023, and over the past year, significant advances have been made.

According to Carter, the partners completed a BCO (Beneficial Cargo Owner) Command Center – which is a portal that enables beneficial cargo owners to have visibility over all their containers flowing through the Port of Long Beach for the first time. They also rolled out a public track and trace capability where containers flowing through the port can be tracked, as well as a port operations dashboard, allowing the Port of Long Beach to analyze and understand metrics associated with port operations and share that data with key stakeholders. Additionally, they were able to complete an integration with the Department of Transportation's Flow (Freight Logistics Optimization Works) Initiative to help them understand the capacity of the nation's critical infrastructure.

The intent is to make these technologies available to ports across the nation, and partnerships have been formed with beneficial cargo owners, six other port authorities and other stakeholders to help make this happen. The State of California also recently awarded the Port of Long Beach nearly $8 million. Hacegaba says that funding will go a long way in supporting ongoing efforts to address glaring gaps in the supply chain and providing the needed data to optimize operations, drive velocity, reduce delays and reduce costs.

"Everything we have done in collaboration with UNCOMN has been done with the input, advice and guidance of the customer and the end users, and that's what really differentiates this technology," said Hacegaba. "Over time, the Supply Chain Information Highway is going to be a national solution where each port authority will be an on-ramp to a coast-to-coast corridor where data is going to be accessible."

Looking to the future, the Port of Long Beach and UNCOMN will continue to grow the Supply Chain Information Highway's reach. The partners are working to develop an agnostic reservation system that would allow the trucking industry to make appointments across the port complex, which is technology that does not currently exist. Work is being done to expand the BCO dashboard to also include exports. Funding has been received to collaborate with the Port of San Diego on non-containerized cargo, which will mark the first formal port-to-port collaboration within the

Supply Chain Information Highway. Funding has also been granted to support green initiatives through green speed data and green corridors, so customers can come to the Supply Chain Information Highway and understand that their cargo is flowing in the most efficient and optimized way to support the environment.

“The Supply Chain Information Highway was born out of fragility of the supply chain that was highlighted during the COVID crisis, and it gained momentum because people recognized the vision that Noel was casting was perfect for the kind of collaboration needed to create a resilient supply chain,” said Carter. “The recent closure of the Port of Baltimore is just another example of why that resiliency is needed.”

Autonomous Rail Cars

Vasel provided updates on progress made with Intramotev’s TugVolt and ReVolt, two self-propelled, battery electric vehicle platforms that are built on top of existing rail equipment and infrastructure. Both were developed by the St. Louis-based technology startup to create a new set of tools and equipment for railroad users and operators to better compete for modal share with the trucking industry. Vasel said while rail is still very effective at moving large volumes of goods at low costs, customers have shown that they'll pay a premium to get the speed, visibility, precision and flexibility that comes with trucking.

The TugVolt is a self-propelled, battery electric rail car that enables freight to move with the flexibility of a truck, without breaking the existing model of rail operations. The primary market for the TugVolt is shippers that are already using trucking or small trains for short haul. With its ability to be autonomous and controlled remotely, customers can see significant capital and operating expense savings. Vasel cited as an example an Intramotev customer that operates a river port with rail infrastructure in place and that had been using 35 round trips daily from a contract trucking company.

“Prior to discovering the TugVolt, they were considering purchasing a locomotive and seven rail cars to get that down to one trip a day, but that would’ve come with roughly a $5 million CapEx (Capital Expenditure) hit,” said Vasel. “The TugVolt allows them to achieve a fraction of that capital spend and recurring costs with just a single retrofitted rail car making seven round trips a day.”

Over the past year, Intramotev has doubled its workforce. It recently received an order for three TugVolt vehicles that will be deployed to a company in northern Michigan this summer.

The company is seeing similar success with its ReVolt, a fully electric modified rail car intended to act as a locomotive support vehicle. It is not autonomous – instead, it is wirelessly linked to the lead locomotive and takes commands directly from that locomotive. By inserting ReVolts throughout the length of a train, a portion of the kinetic energy that is typically produced by braking is converted and stored in the onboard batteries of the ReVolts. When the train is back to an accelerating operation or climbing a hill, the ReVolts assist in pushing, reducing the power required by the locomotive, as well as the associated diesel costs. Intramotev recently delivered its first ReVolt to Iron Synergy's Cumberland Mine in southwestern Pennsylvania, and Vasel says it's the first of its kind in the world. The vehicle has been running since early March and is helping reduce Iron Synergy’s diesel consumption and emissions, while collecting valuable data to optimize cycle times and other operations.

Intramotev will submit its application for a Federal Railroad Administration (FRA) waiver later this year to prove that its vehicles are safe and can operate freely on the North American Rail interchange. Another focus over the next few years will be prioritizing deployments with customers that have significant scale and diversifying the types of deployments. Vasel also discussed how these two platforms help reduce traffic congestion and the amount of greenhouse gases released into the environment, noting that every ton mile moved by rail is 9.5 times more energy-efficient than an equivalent ton mile moved by truck.

Digital Twin Technology

Progress being made on the Digital Twin technology developed by Israel-based startup DockTech was also highlighted. Using AI, the innovative technology creates a virtual representation of the seabed of ports and waterways and provides real-time information to shippers and port operators. During last year’s FreightWeekSTL

conference, the technology had just been launched, and it is now helping ports and terminals maximize cargo capacity, safety, and sustainability of their operations.

DockTech is currently operating in numerous ports around the globe but is mainly focused on North and South America. The company works with port authorities, terminals and the U.S. Army Corps of Engineers (USACE).

Over the past year, DockTech launched a first-of-its-kind project with the USACE in the Ohio and Mississippi Rivers to validate and quantify the value for mariners that are shipping goods through this channel and better understand the water levels at different points of the year in an effort to help ships navigate the waterways safely. The crowdsourced bathymetry (CSB) technology can also allow vessels on the water to pick up essential data that might be crucial to first responders and others in the event of a natural disaster, such as a hurricane, or emergency situations such as the collapse of a bridge. DockTech also launched a new product this year to help tugboats avoid grounding by understanding how much water they have beneath them. The company is reaching new markets and is now live in Ecuador, Peru and Germany.

“We address what we see as the most critical link in the supply chain,” said Yoselevich. “Ports and river ports have become really essential to the global economy, and I believe it is really important, as a nation, to handle inefficiencies that occur in ports.”

Looking to the future, DockTech’s goal is to establish a global partner base to further insights. The company is also part of a working group that is trying to understand what future regulations of the industry will be, especially when it comes to CSB, for which no regulations currently exist. Another offering DockTech is currently experimenting with and will soon make available, is the monitoring and reporting of air quality, water quality and other aspects that might be important to a port. The company is also working on a cost-effective solution to help vessel owners share data samples anonymously and securely to help ensure safer waterway operations.

The “Innovations Gain Momentum” virtual panel session was moderated by Mary Lamie, Executive Vice President of Multimodal Enterprises for Bi-State Development, which operates the St. Louis Regional Freightway as one of its enterprises.

“These companies have the very real potential to make the movement of freight more efficient, whether that freight is moving through the St. Louis region or other global freight hubs,” said Lamie. “The additional milestones they have reached over the past year are impressive, and we also enjoy learning about the role the St. Louis region is playing in delivering these technology solutions to the entire world.”

FreightWeekSTL 2024 continues through May 17 and will feature several virtual panel sessions with industry experts and leaders in freight, logistics, transportation and more. The week-long freight and logistics expo is being delivered by the St. Louis Regional Freightway and Bi-State Development. To learn more or to register for the remaining panel sessions or view past sessions for FreightWeekSTL 2024, visit www.freightweekstl.com.

# # #

About St. Louis Regional Freightway

A Bi-State Development enterprise, the St. Louis Regional Freightway is a regional freight district and comprehensive authority for freight operations and opportunities within eight counties in southwestern Illinois and eastern Missouri, which comprise the St. Louis metropolitan area. Public sector and private industry businesses are partnering with the St. Louis Regional Freightway to establish the bi-state region as one of the premier multimodal freight hubs and distribution centers in the United States through marketing and advocacy for infrastructure development that supports the movement of freight. To learn more, visit thefreightway.com.