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Written Testimony to Support the Hearing Before: US Senate on Commerce, Science, and Transportation Subcommittee on Transportation and Safety

Testimony of: Blockchain in Transport Alliance (BiTA) | <https://bita.studio>

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Chairman Fischer, Ranking Member Duckworth, and members of this Subcommittee, thank you for holding this timely hearing.

I'm grateful for the opportunity to submit written testimony for the Committee's hearing on "Examining Technological Innovations in Transportation," and for allowing me to appear today on Capitol Hill.

I look forward to the opportunity to share my thoughts regarding the massive opportunities associated to the digitization of analog and legacy processes across the supply chain and transportation sectors, including blockchain's impactful role.

Numerous emerging technologies are transforming the surface transportation realities for operators and users of over-the-road trucking and rail industries in the United States -- moving from antiquated analog systems through the exploration of technologies, including artificial intelligence, blockchain and machine learning, to cite a few.

This process of digitizing the data associated with supply chains that leverage the services of transport providers on the nation's roads, highways, interstates, railways and sea and air routes holds the promise of greatly improving commercial efficiencies, but may also help produce more resilient data systems that impact the safety and security of our conduits of commerce.

One of the biggest drivers of digitization in the freight industry today is the rapid deployment of blockchain technology to solve some of transportation's biggest headaches. Blockchain is the tip of the spear in the fight to digitize some of the most antiquated systems and practices used in the transportation/logistics/supply chain sectors.

Among the major catalysts for digitization are the value-driving benefits that can be realized by increasing trust between counterparties.

One of the technologies that can enhance trust between counterparties is distributed ledger technology, often referred to as “blockchain” and sometimes as “the Blockchain.”

So what is blockchain? Is it a currency? A code? A server? In reality, blockchain is simply a type of database, functioning as a ledger in which transactions are stored as blocks of data that are recorded in a protected manner. The introduction of new data, or the modification of existing data can only be done with the agreement of those individuals or organizations on that ledger. That agreement is needed before previously recorded data can be changed, overwritten or deleted.

While cryptocurrencies like Bitcoin, Ethereum, and a wide spectrum of alt-coins leverage blockchain technology to record transactions, it is important to recognize that blockchains are not cryptocurrencies.

Blockchain is, however, an ideal technology for security because it is an immutable distributed ledger. This ledger records every transaction or change. Transactions cannot be obscured, hidden, or erased after the fact.

So how will this technology be useful within the context of over-the-road transportation in the United States?

Take the customs process. It's slow, with components often reliant on the transference of paper documents and the use of fax machines – a situation ripe for human-induced error. By leveraging technologies like blockchain, and through the digitization of analog processes required to leverage blockchain in a meaningful way, it may be possible to mitigate data-driven situations before they become problems.

For instance, consider the romaine lettuce scare the United States experienced in 2018. Dangerous e. Coli bacteria was introduced into the nation's food supply. Moving through the supply chain, that contaminated lettuce was used in fast-food and white tablecloth restaurants and in homes across the United States. Whether used in a salad, or as a topping on cheeseburgers or tacos, the lettuce was eaten by unsuspecting consumers.

This situation resulted in deaths, many consumers were sickened and financial hardships occurred. Even though the contaminated romaine lettuce was a small percentage of total romaine lettuce in the market, all romaine lettuce was pulled from grocery store shelves and restaurant coolers.

The dangerous bacteria infiltrated the agricultural supply chain, and because of legacy and analog processes, the contaminated lettuce's provenance was not easily identified by regulators. They faced an arduous task to identify the contaminated produce. Because that data could not be quickly determined, regulators were left with no other choice but to remove the product from U.S. commerce.

If the lettuce had been registered on a blockchain, track and trace would have been relatively easy. Many of those sickened might not have been. The time and cost of the investigation would have been less. That is the power of blockchain.

Digital ‘breadcrumbs’ indicating the who, what, when, where and why of a supply chain, enhanced through the use of technologies including blockchain may provide an opportunity to catch challenges before they become a crisis.

The real-life example used involved romaine lettuce, but it could be baby formula – as recently occurred in China – or the agricultural inputs associated with antibiotics.

Looking back we should consider ourselves lucky; a breakdown in an arcane process led to deaths and illnesses, but it could have been much, much worse – and the next outbreak of contaminated foods or faulty products may lead to serious harm for millions of U.S. citizens.

It’s my honor and privilege to be here today representing the Blockchain in Transport Alliance, most commonly referred to as BiTA.

Our mission is to help educate stakeholders, advocate for the adoption of innovative technologies, and through collaboration among member companies and organizations, and their talented staff members, to establish standards around the data components that comprise the world’s supply chain and transportation technologies.

Since its inception in 2017, BiTA has moved expeditiously to identify use cases where the standardization of data would be beneficial for parties involved in supply chain and transportation. And it’s important to realize that this work is not being done in silos or by a group of interested “techies.” BiTA is comprised of hundreds of member companies representing more than \$1 trillion in revenue annually. The membership base spans the spectrum from technology companies like Google, IBM, Microsoft and Salesforce, to some of the world’s most important conveyors of goods like BNSF, Delta, FedEx, J.B. Hunt and UPS, and all types of companies and organizations that either leverage their services or provide ancillary products and/or services.

These companies together are generating standards that will drive innovation in the digitization space for decades to come. BiTA has moved, faster than anyone expected, to release its first standard this February, and has three more in the pipeline that we expect will be unveiled later this summer.

In normal times, many of these companies working on developing standards are fierce commercial competitors. But we’ve seen them put aside their differences and work together to improve the way we transport everything from bullets to baby formula. Blockchain technology will improve safety in the supply chain, increase transparency, unlock value across the

commercial ecosystem, empower small businesses and give regulators the tools they need to make the best decisions.

The essential goal of BiTA is to help guide and promote the creation of open source blockchain systems in the transportation industry. Blockchain in transport may function as a digital referee capable of providing high-fidelity data to enable users to make better-informed decisions.

The technology is quickly moving from the experimental – being looked at in universities and research organizations – to being implemented within the technology stacks, and business processes, of the world's largest companies and organizations.

So why talk about standards? Because all too often new technologies are delayed because of the development of multiple proprietary systems that are not designed to work with each other. Take Windows versus Mac, or Blu-Ray versus HD-DVD, or Betamax versus VHS. And how many different shapes and sizes of cables have we used over the years to charge our mobile phones or plug in our computers?

The purpose of the Blockchain in Transport Alliance is to bring all freight industry stakeholders together to create a global language around the data components that comprise the supply chain and transportation technologies that power the global economy.

Using blockchain, in the near future we will have answers to questions such as: Was a vaccine kept at the correct temperature? When were the aircraft parts damaged in transit? Where were these salmon caught and what was their path to the consumer?

These are problems that the industry struggles to solve every day, and consumers are asking for answers. With blockchain digitization, they have an immutable ledger that can hold up in court.

In short, we will be able to state with certainty that a certain thing happened at a certain time and a certain place.

Thank you.

Respectfully submitted on June 21st, 2019.

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