

# DRIVING ADOPTION OF TRUCK PLATOONING

The IoT Next Industrial Revolution will have a profound impact on the \$1.5 trillion transportation sector, especially the freight transport industry where revolutionary advances in technology promise significant benefits to industry and society. An example is truck platooning, a mature advanced transportation technology that is now legal in 17 states, which is when two or more trucks using connected and automated vehicle technology travel in unison at a close following distance. As research proves, the aerodynamic flow of a platoon formation reduces air friction for both the lead and follower trucks. This significantly reduces fuel usage, costs and emissions, while also improving traffic efficiency, driver conditions and safety. Despite these benefits, private industry has not yet adopted truck platooning on a wide-scale basis.

Our client, a statewide consortium of transportation leaders in private industry, universities and public agencies, understood that the benefits from truck platooning will only be realized at scale when it achieves much wider implementation. Therefore, our client's challenge was determining how to jump-start the adoption of truck platooning in a state where freight transport makes up 40% of the GDP. Using our ASSESS, PLAN, DEPLOY™ methodology, we identified the main obstacle and helped our clients understand that unlocking this opportunity required leveraging the complimentary assets that industry, universities and government each offered.

In the ASSESS phase of our project, we looked at each stakeholder's assets and documented their needs. A key missing resource was the lack of roadway specifications and operational data offered in an accessible format to support the Operational Design Domain of truck platooning. While such data is publicly available, it is hard to find, not user-friendly, obtaining the data requires redundant efforts, and changes to roadways means the data becomes stale.

Further, Verification and Validation Data used to measure performance and verify outcomes is also vital to support and improve ongoing future deployments. Early fleet adopters of truck platooning capture this data from their private truck platooning pilots. However, since the data is proprietary and not shared, industry participants lack the ability to compare results from their deployments to others or determine best practices. Public-sector entities and researchers can't quantify the real-world benefits of truck platooning or promote its public acceptance.

In the PLAN phase, we proposed a data platform as the solution. The data platform would integrate public and high-level private data in real-time. It would be fully available to all commercial vehicle operators to plan and sustain truck platoons, and to academic institutions to research results and advance best practices for future deployments. Access to the right data would stimulate broad truck platoon adoption, document best practices and other advances, and enable other stakeholders to accept platooning trucks as a normal roadway practice. In the DEPLOY phase, we will integrate the data platform with the statewide advanced transportation management system (ATMS) to make the data flow interoperable. Vehicle-to-everything (V2X) communication will capture performance data about truck platoon deployments and to provide real-time information about road and traffic conditions, work zones, or other information that affects truck platooning.