

Parallel Systems Demonstrates Fully Automated Platooning Operation for the First Time

The autonomous battery-electric freight rail vehicles form platoons through bumper-to-bumper contact that don't need to couple and allow freight to sort on the rail network, keeping railroad crossings open

December 20, 2023 (Los Angeles, CA): [Parallel Systems](#), a company founded to create autonomous battery-electric rail vehicles, today [showcased publicly for the first time ever](#) its unique platooning operation, in which separate Parallel railcars connect with one another through bumper-to-bumper contact. The company released real-life, never before seen video footage of the Parallel vehicles successfully platooning on its Southern California test track. Individually powered Parallel railcars can form platoons of up to 50 cars, improving aerodynamic energy efficiency and using railroad network capacity more effectively.

The fully automated platooning process eliminates the requirement for railcars to couple to each other and connect air brake lines. Upon contact, each vehicle maintains bumper contact with the one in front by controlling tractive effort. The small air gap between containers and the pushing action through railcar bumpers reduces average aerodynamic drag of the platoon, ultimately improving energy efficiency. Individual railcars can also separate from one another, enabling them to bypass rail classification yards and independently proceed to varied destinations, or to keep railroad crossings clear. Brake systems are self-contained in each railcar and therefore do not require connecting air lines.

“Our platoon testing began in October 2023, and the performance has been consistent with our modeling and simulations, which is exciting right out of the gate,” said Matt Soule, Co-founder and CEO, Parallel Systems. “The vehicles have remained connected according to plan, allowing us to plan expanded platoon testing with increased speeds, greater number of vehicles, and braking. Introducing platooning will help the rail industry address a range of critical challenges, including sorting and routing freight more quickly and keeping railroad crossings open for roadway and pedestrian traffic.”

Rail classification yards, which occupy extensive tracts of land, are traditionally used to separate and sort railway cars for assembly into freight trains that can be sent to their destinations. Parallel's platooning technology essentially eliminates the need for such yards because the railcars can attach and detach independently from platoons, allowing railroads to sort freight

anywhere along the network where there is a switch. Eliminating the need for rail classification yards would enable the land to be repurposed.

The Department of Energy (DOE) recognized Parallel as a high-potential, high-impact energy saving technology when it awarded the company approximately [\\$4.5 million](#) as part of its [Advanced Research Projects Agency-Energy](#) (ARPA-E) initiative. The purpose of the award is to test how well Parallel's zero-emissions rail vehicles integrate with real-world railroad operations and to evaluate supply chain resilience and reduction in energy usage, and associated emissions.

Parallel's platooning debut comes on the heels of the company's [announcement](#) with Australian rail freight network manager [Arc Infrastructure](#), which [demonstrated](#) a vehicle for future container transportation in Perth, Australia.

About Parallel Systems

Founded in 2020, Parallel Systems is the world's first autonomous battery-electric rail system. The company is a U.S. based manufacturer and transportation technology innovator whose mission is to deliver a safer, more efficient and sustainable alternative to short-haul trucking. The company provides significant benefits, including: 1) enables railroads to grow by increasing their role in shorter-route transportation; 2) makes America's busiest roadways safer for motorists by decongesting; 3) reduces the costs of shipping; 4) creates high-skilled, high-wage jobs; 5) reduces pollution. To date the company has raised nearly \$100 million in venture capital funding as well as an ARPA-e grant.

For more information please visit: www.moveparallel.com

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