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

LOS ANGELES--(December 20, 2023), 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
Parallel Systems is reimagining the rail industry with innovative software and hardware. Founded in 2020 by a group of former SpaceX engineers, the company has created autonomous battery-electric rail vehicles to move freight cleaner, faster, safer, and more cost effectively than traditional trains or trucks. The company aims to increase the utilization of today's rail network by converting some of the $940 billion U.S. trucking business to rail. Headquartered in Los Angeles, California, the company's mission is to decarbonize freight by building a cleaner, automated rail future. To learn more, visit moveparallel.com or follow the company on LinkedIn.

Parallel's press kit can be found HERE and an explainer video detailing the company can be found HERE.

###

Media contact
Stacy Morris
(310) 415-9188, stacy.morris@futuristacommunications.com