

AUTONOMOUS TRUCKING LED BY DAIMLER



By Michael Perman, C'EST WHAT? LLC

Autonomous trucks are being road-tested currently by several brands around the world as the desire for safer and more cost-effective transportation flows with the general move toward autonomous vehicles. Leading brands in the works include Portland-based Daimler, as well as Volvo, Einride, and Tesla.

Portland's Daimler Trucks North America, the third-largest employer in the metro area, announced they have formed a "broad, global, strategic partnership" with Waymo, which recently raised \$3 billion to deploy self-driving trucks.

Daimler will combine Waymo's industry-leading automated driver technology with a unique version of its Freightliner Cascadia, complementing other strategic partnership with Torc Robotics. Prototypes are being road-tested now in Virginia, New Mexico, and Daimler's Proving Grounds in Madras, Oregon.

Autonomous vehicles are classified into five levels. Most people are familiar with Level One, which includes cruise control or cameras to automatically apply brakes when a cameras sense an obstacle in the road. Cars with, such as Audi, Tesla, and Volvo can help commuters keep a proper distance between the next car. Level Three cars would enable hands-free but human-occupied driving.



According to Joanna Buttler, director of Daimler's autonomous vehicle program, "We will be ready in the next decade with SAE Level Four highly automated driving systems, meaning without any human intervention in predictable circumstances." Buttler refers to these potential scenarios as "operational design domains" and is deploying design thinking methods to "identify all the unknowns, make them known and develop use case scenarios." Buttler believes L4 automation will enable new business opportunities and require a full ecosystem.



Autonomous trucks need a “mission control tower” and enhanced fleet management systems to dispatch, monitor and support. Terminals serving as launch and land points, as well as distribution centers for last-mile delivery, will be needed for logistics. These trucks will incorporate innovations in sensors, computer hardware, software, and redundant systems like braking and steering.

Level five, which theoretically does not require any human intervention under any conditions is quite a way off and a national network of L4 trucks will be a significant change in the trucking logistics business.

The next several years will likely see significant investment and increased competition in the autonomous space. Chinese-based TuSimple is building a driverless trucking logistics hub at AllianceTexas and plans to begin fully driverless routes in 2021. The new hub will allow TuSimple to establish new routes to Austin and Houston for its automated trucks. General Motor Co.’s Cruise and Amazon-backed Aurora Innovation Inc., are expected to consider public offerings to meet growing financing needs.

Driverless truck startup Plus is in talks with special purpose acquisition companies for a merger, a route several electric vehicle firms have used to go public. And Ford-backed Argo-Ai is expected to go IPO this year.

Robust energy in the autonomous space will lead to new jobs and new collaborative business opportunities to build the ecosystem. Daimler projects needing more talent in engineering, software, and life-cycle innovation design in order to build their local team for future growth. Also important to note, L4 still requires some human engagement, especially for last-mile logistics. Therefore, human-centered insights that inform design is certainly needed. Innovation firms such as C’EST WHAT? LLC provides the insights needed for successful design and the opportunity forecast needed to help teams align on the best path forward.

Buttler believes that “there is so much to learn along this journey, and the learning journey is the goal.” Daimler is leading the learning by taking an active role in creating safer and more efficient autonomous technology that we will see evolving significantly in the current decade.



C'EST WHAT? LLC is an innovation strategy and new product development firm that forecasts emerging opportunities and aligns teams on the best path forward. Our holistic approach is based on the concept of regeneration for people, organizations and communities. C'EST WHAT expertise includes ethnographic insights, foresights, strategy and concept creation.

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