

Automated CMV Evaluation (ACE) Program



U.S. Department of Transportation
Federal Motor Carrier Safety Administration

Mike Lukuc

Federal Motor Carrier Safety Administration

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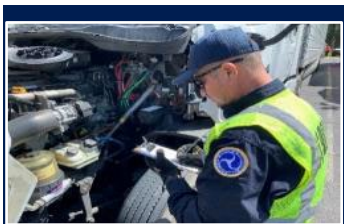
ANALYSIS,
RESEARCH, &
TECHNOLOGY
FORUM

VIRTUAL EVENT

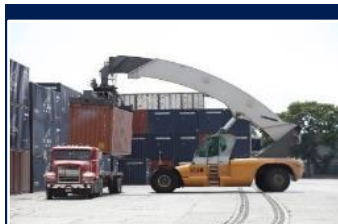


ACE Program Overview

- Multi-faceted research, development and test program
- Utilization of FHWA-developed open-source software
- Testing of actual vehicles at various locations
- Government, academic and industry partnerships



Roadside Inspection /
Enforcement



Port Drayage



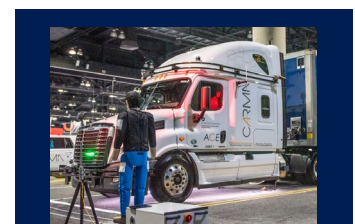
Emergency
Response



Work Zones



Smart Trailers



Vulnerable Road
Users

FY20

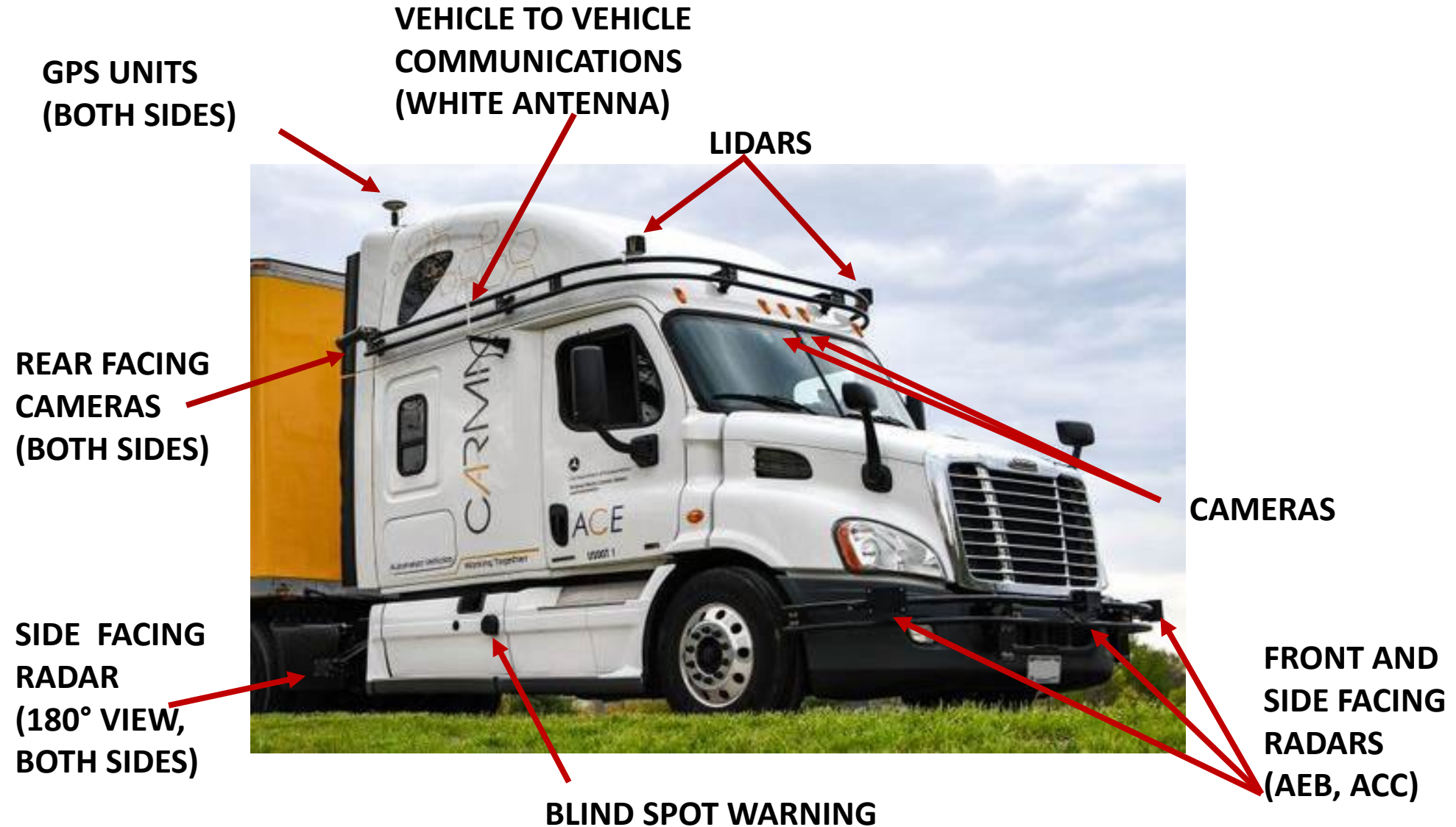
FY23

FMCSA & FHWA Automated Test Tractor Semi-Trailers

- Fleet of four test vehicles
 - Provided by NHTSA
 - Previously used in V2V Safety Pilot
- Tractors: 2012 Freightliners
 - Day cab
 - Mid-size cab
 - Two Sleeper Berths
- Tractor Upgrades
 - Autonomous Stuff ADS sensors and by wire system
 - FHWA CARMA hardware and software
- DOT Agency-Branded Trailers
 - Our Roads, Our Safety
 - ACE
 - Future of Transportation
 - CARMA
 - ACE Smart Trailer



ACE Test Vehicles' Sensor Array



Select ACE Research Program Activities

Seven Key 2022 AV Projects:

- Electronic inspections
- Human--ADS team driving
- Human factors in ADS-equipped CMVs
- Automated hazard triangle deployment
- Work Zone Safety
- Emergency Response
- On-road driving performance evaluation

Ongoing ADS Deployment Grants:

- Trucking Fleet Concept of Operations for Managing Mixed Fleets
- Deploying Automated Technology Anywhere



Work Zone and Emergency Response Interaction Safety

■ OBJECTIVE:

- Collaborate with modal partners and external stakeholders to understand the impact of ADS-equipped CMVs on industry best practices and voluntary consensus standards



Safety Impacts of Human-ADS Team Driving Applications

- **OBJECTIVE:**

- To conduct human factors research on current and future ADS concepts of operation involving transfer of control, novel hours-of-service scenarios, and driver fatigue
- Results will support HOS-related petition analysis and other Agency policy decisions.



New ACE Program Smart Trailer Research Initiative

- **OBJECTIVE:**

- To create a smart trailer research track to proactively inform Agency policy discussions and industry stakeholders



Contact Information

Mike Lukuc

General Engineer, Technology Division

Mike.Lukuc@dot.gov