Introducing CHAPTA

Collaborative Human – Automated Platooned Truck Alliance

WE can follow...

Asia is operating collaborative human – automated truck platoons.

Europe is moving truck platoons, from multiple manufacturers, across borders.

Economic Savings

Cooperative Human - Truck Platooning: 5 Vehicle Platoon	Assumed Aerodynamic Savings		Number of Human Driven/ Supervised Trucks in the Platoon			
	Lead Truck	Followers	5	4	3	2
Percentage of total operating costs saved: aerodynamics + driverless trucks	5%	10% - 20%	2% - 4%	9% - 11%	16% - 18%	23% - 25%

What is CHAPTA ?

CHAPTA is a pre-competitive research effort led by the Western Transportation Institute at Montana State University to unite stakeholders to cooperatively and intelligently introduce driverless technology to long-haul truck fleets.

CHAPTA Goals

Promote: U.S. Competitiveness.
Ensure: Compatibility with existing highway traffic.
Focus: Human factors, safety and operations, and workforce development.
Address: Institutional issues affecting deployment.



....WE can innovate and lead...

U.S.A. can take the lead by integrating fully autonomous trucks with human-driven or human-supervised trucks in a collaborative platoon on conventional roadways: **save \$17.2B annually** with 60% platooning duty cycle.

...or WE can be left behind.

- Fleets late to operate in a collaborative platoon face a HUGE competitive disadvantage.
- Collaborative savings achieved are **486%** higher than aero savings alone.

Truck Driver Shortage

Collaborative human – automated truck platoons begin to address the 50% nationwide driver shortage.

Stakeholders Include

- Fleet operators
- Truck OEMs
- Tiered suppliers
- Technology providers
- Insurance companies
- Economists and financiers
- Standards organizations
- FMCSA –US DOT
- State DOTs
- Warehousers
- Retailers
- Enforcement

Join CHAPTA and be part of the innovation and evolution of long haul trucking.

CHAPTA Research will focus on:

Human Factors

- What personality types are suited for platooning, how to recruit, how to screen?
- How should autonomous truck platoons behave to instill trust and ensure comfort?
- What platoon information, how much, frequency, and mode (audible, tactile, graphical) should be provided to each driver?



Operations

- What is the maximum size of a workable platoon considering human workload, economics, and safety?
- How does the size of the platoon affect non-platooned traffic with respect to efficiency, and safety?
- Insurance and liablity.
- Specific behavior at entrance and exit ramps.

Workforce Development

Drivers

- Retraining existing drivers/operators.
- Attracting new drivers/operators.

Dispatch and Control

- Formation of platoons: timing and destination.
- Transition from interstate to "last mile" travel to the destination.

Research Resources



- Personality evaluation.
- Trust and comfort.
- Information Studies: content, modes and rates.



- Braking and acceleration.
- High speeds.
- Machines to produce rain, snow, mist and ice for adverse conditions.

Can you afford to be left behind?

Autonomy WILL happen – join CHAPTA and stay ahead of the curve.

Levels of pa	rticipation		
	Annual Cost	Governance Votes	
Platinum:	\$50K	4	
Gold:	\$40K	3	
Silver:	\$30K	2	
Bronze:	\$20K	1	,

