



# Commercial Vehicle Automation Panel GTC

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Emission and CO2

# Motivation



Safety



Process Optimization / TCO



Driver shortage and aging



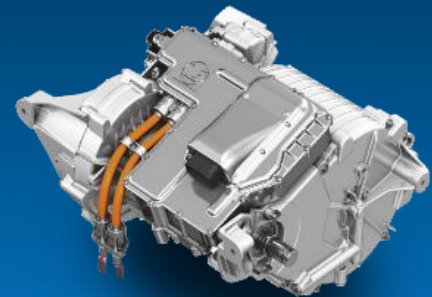
An aerial photograph of a large port facility during sunset. In the foreground, a large container ship is docked at a pier, with its deck visible. Several yellow gantry cranes are positioned along the pier, extending over the ship. To the right of the ship, a vast area is filled with stacks of colorful shipping containers. In the background, a city skyline with numerous skyscrapers is visible across a body of water. The sky is a mix of orange, yellow, and blue, indicating the time is either dawn or dusk. The overall scene depicts a major hub of international trade and logistics.

**ZERO  
ACCIDENTS**

**ZERO  
DOWNTIMES**

**ZERO  
EMISSIONS**

# SEE X THINK X ACT





# Technology Transfer and to understand Vehicle Motion Control - USPs applied in all 3 segments



**PASSENGER CARS**



**TRUCKS**



**INDUSTRY**

# Smart Logistics Powered by ZF

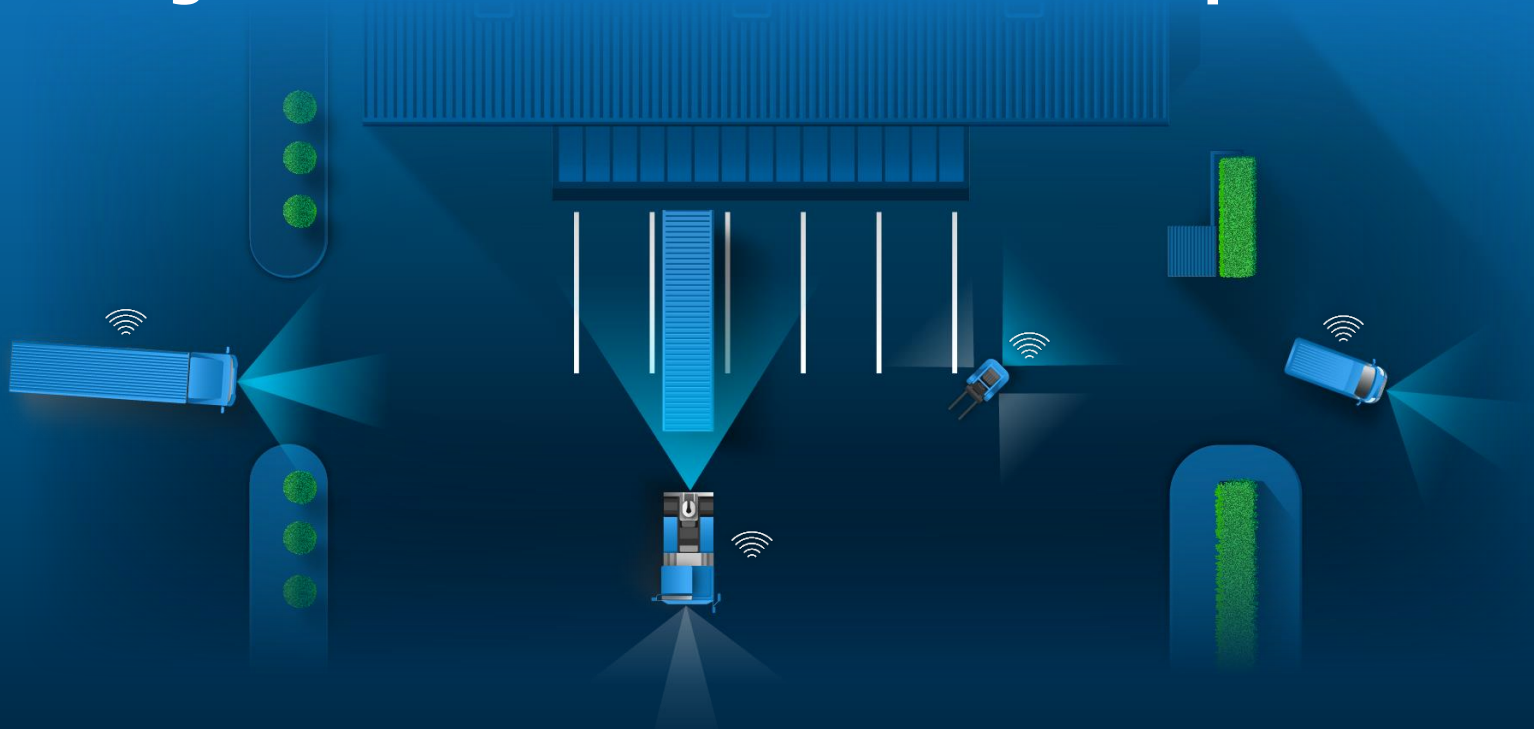




# ZF Innovation Truck and Terminal Yard Tractor



# Smart Logistics around an Autonomous Depot



**Vehicle Motion  
Control**



**Electric  
Mobility**



**Digitalization**



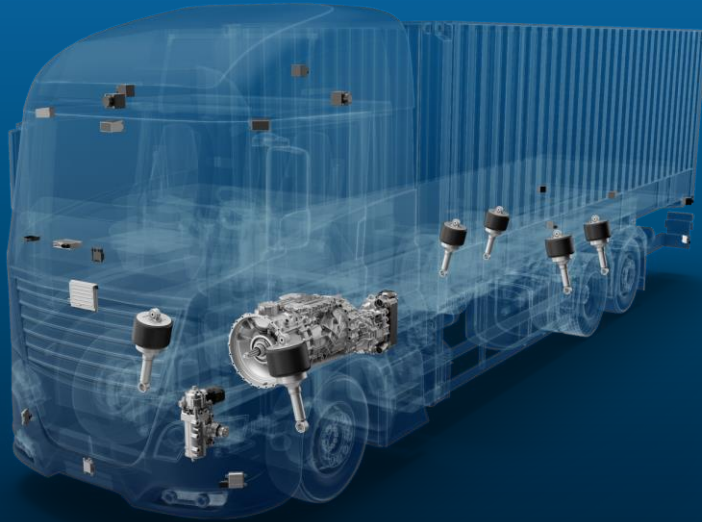
**Automated  
Driving**



**Integrated  
Safety**



# Automated Swap Body Handling



- High precision GPS
- Remote Cameras + 5 Industrial Laser
- High performance ECU for Sensor fusion, local as well as global navigation and trajectory planning
- V2V and V2X with ZF OPENMATICS.  
Communication with different routing systems
- Traxon Hybrid System with Hybrid management on ZF Controller
- Electron Mechanical Steering System ReAX, as redundant system with combination of column plus gear mounted system available
- Automated pneumatic Leveling System

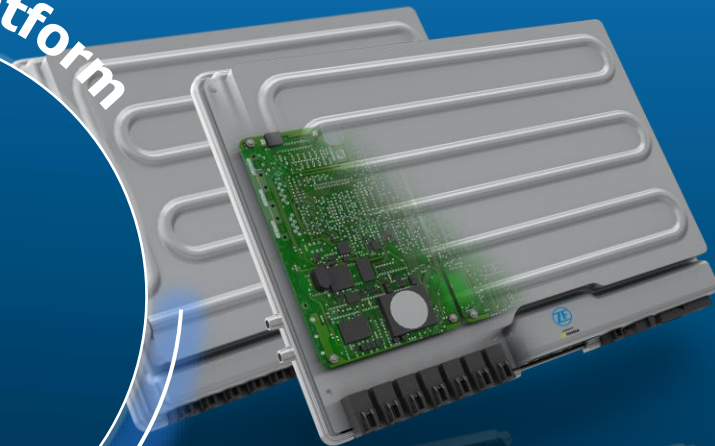


**Sensor & actuator portfolio**

## Modular CV Platform



**Software and functions**

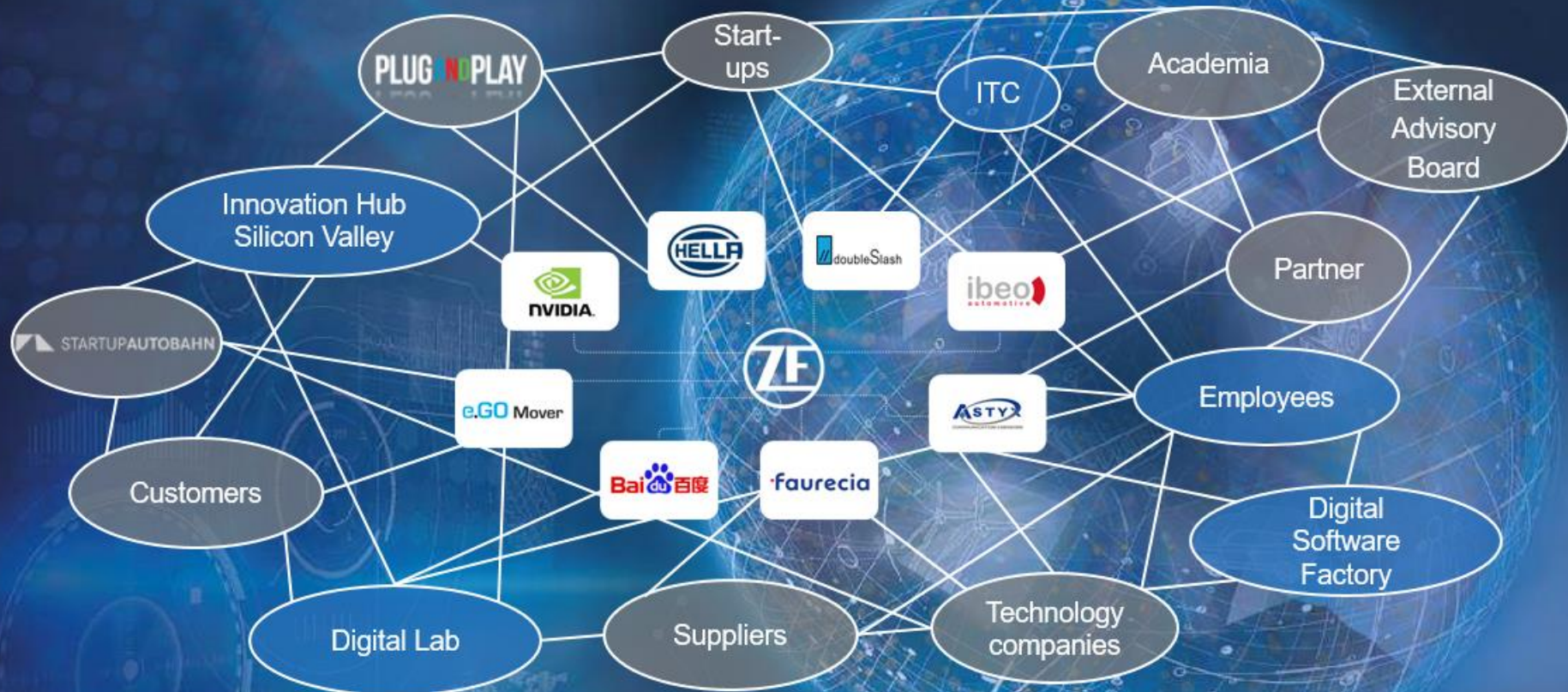


**ZF Pro AI CV Platform**





# Working in Networks as a Key



# see. think. act.

