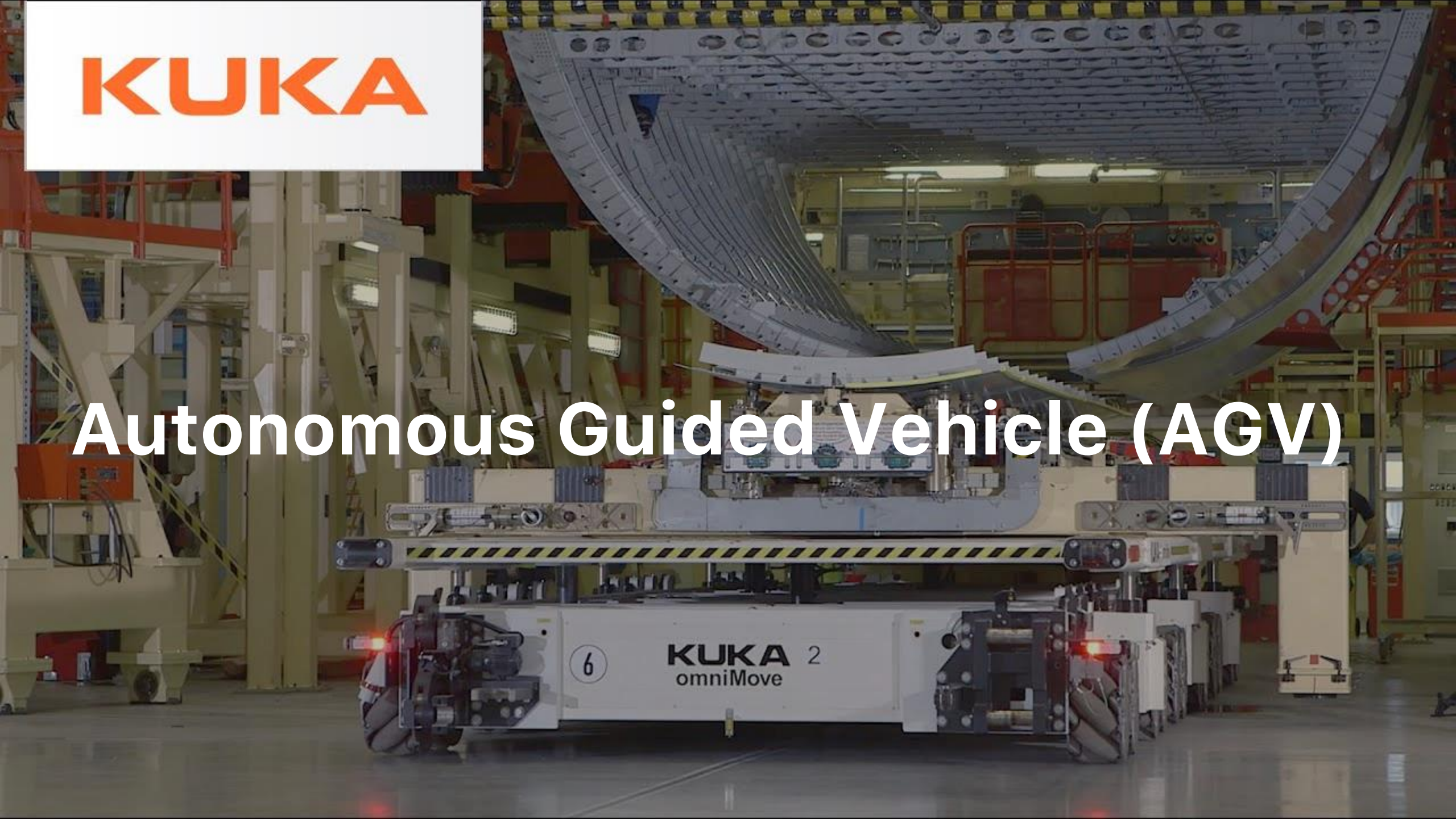
KUKA

Autonomous Guided Vehicle (AGV)



Outline

- Hull design
- Locomotion system
- Navigation system and control
- Data collection
- Data transmission
- Power management

Hull design

Scalable Design

Wheel sizes E375	3000	8000	12000	16000	20000
Payload	3,000 kg	8,000 kg	12,000 kg	16,000 kg	20,000 kg
Height	415 mm	415 mm	415 mm	415 mm	415 mm
Length	2,400 mm	3,200 mm	3,200 mm	4,000 mm	4,800 mm
Width	1,700 mm	1,700 mm	2,200 mm	2,200 mm	2,200 mm
Number of wheels	4	8	12	16	20
Weight	3,000 kg	4,000 kg	6,000 kg	7,000 kg	8,000 kg
Velocity	3.0 km / h	3.0 km / h	3.0 km / h	3.0 km / h	3.0 km / h

Wheel sizes E575	7000	15000	25000	35000	45000
Payload	7,000 kg	15,000 kg	25,000 kg	35,000 kg	45,000 kg
Height	650 mm	650 mm	650 mm	650 mm	650 mm
Length	3,000 mm	4,200 mm	4,800 mm	6,000 mm	7,200 mm
Width	1,850 mm	1,850 mm	1,850 mm	1,850 mm	1,850 mm
Number of wheels	4	8	12	16	20
Weight	4,500 kg	7,500 kg	10,000 kg	12,500 kg	15,000 kg
Velocity	3.0 km / h	3.0 km / h	3.0 km / h	3.0 km / h	3.0 km / h

Locomotion System

- Mecanum wheels to move omnidirectionally
- Able to move translationally and rotationally in tight spaces
- Swift and compact movement in all directions

Locomotion System

- DC Motor on each wheel

Navigation System and Control

- Eclipse-based development environment to program application in Java, with third-party software integration
- SLAM (Simultaneous Localization and Mapping)
- Fine localization and positioning for precise determination of vehicle position relative to an object or environment
- Relative positioning via CAD-based object recognition and tracking.

Data Collection

Data Transmission

- Using WLAN interface
- Industry-standard network adapter
- To communicate with higher levels control systems
- To receive motion commands and forward relevant status information
- Via TCP/IP

Power Management

- Variation of charging devices
- Floor charging contacts
- Charging devices on-board
- Battery tray