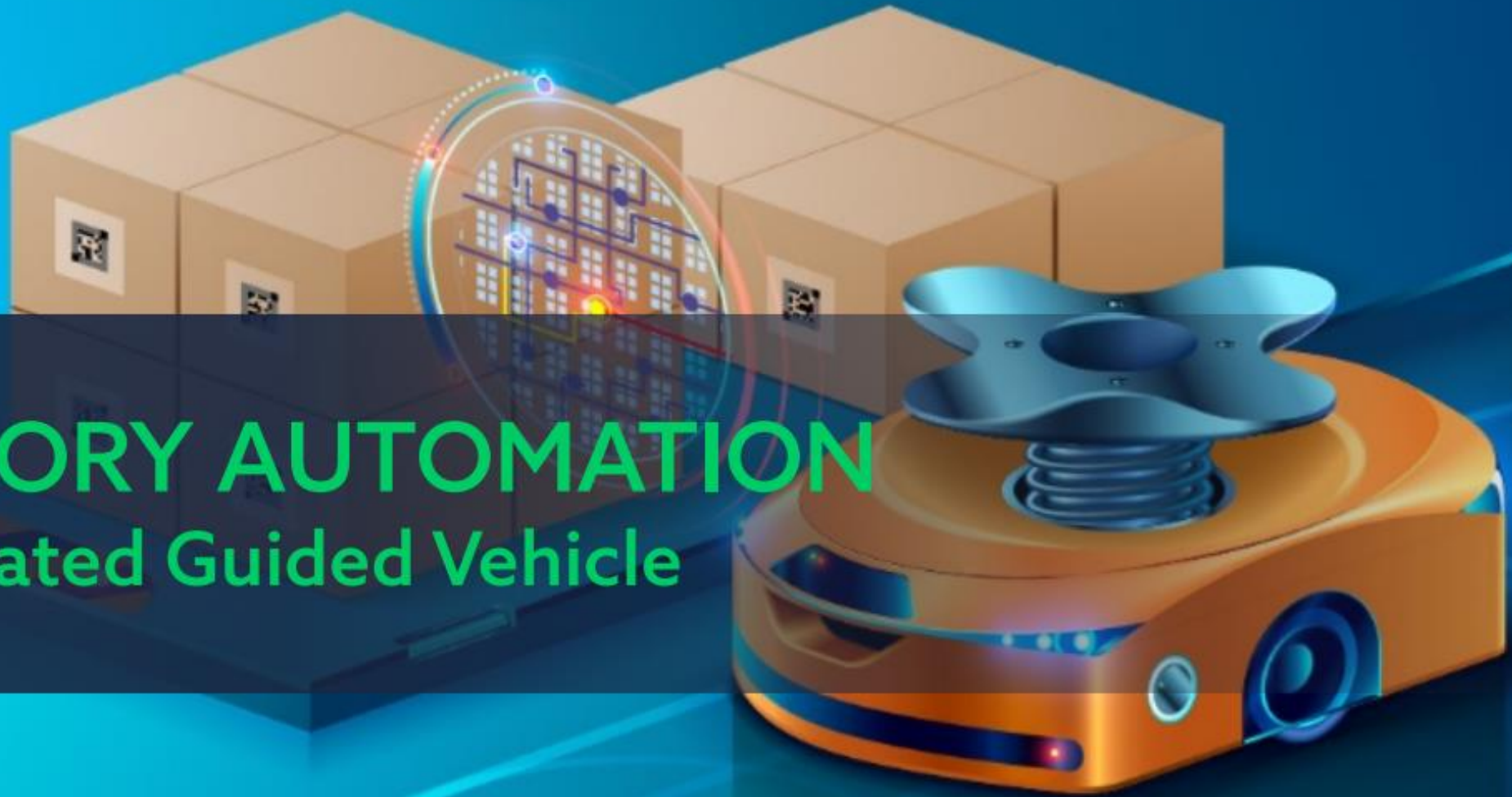


FACTORY AUTOMATION

Automated Guided Vehicle



Design of Automated Guided Vehicle

Challenge

- To design & develop an AGV which best suits to flexible & scalable business needs.
- To deliver the final prototype in a short timeline of 5months.

Scope

- To design and develop a compact and powerful AGV which moves front & back, turn & pivot and pulls around 150kgs.
- Docking & locking of trolley
- Other sensing – bump, proximity, crash etc.

Solution

- A detailed research and benchmarking study was done to arrive at the desired specs for the design of the AGV
- A very flexible product was designed, which facilitates quick assembly and disassembly of panels, body split and fitment without using any fasteners.
- Optimized the space for better aesthetics

Impact

- The AGV helps to eliminate manual operations there by improving the efficiency and cost savings



ROS UI Application

Ubuntu GUI Application Framework

ROS KINETIC

IMU node

Stereo Cam node

Motor node

Urg node

Camera node

Peta Linux 2018.3 Kernel 4.14

ZCU104 + FPGA design

IMU

Stereo Cam

Motor Cntrl

Lidar

Mono Cam

WiFi

Battery Cntrl

Bump

LED

Actuator