



CUSTOM AUTONOMOUS SOLUTIONS

For Repetitive Commercial Tasks

ZAPT has evaluated platforms and operations that include various commercial lawnmowers, snow removal equipment, street sweepers, grass trimmers, line marking equipment and small tractor units. The fastest way to learn more about autonomous solutions for your equipment and operations is to reach out to us. We will work with you to complete a feasibility study to evaluate your equipment's autonomous potential. Then, we can quickly determine the cost and complexity required to automate your operations.

For Custom Autonomous Solutions, Contact:

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Any Autonomous Solution Must:

Perform a Repetitive Task

The equipment performs the same operation, perhaps weekly or daily.

Work in a Defined Space

An area that can be clearly defined or mapped. The defined space may be a relative local or "absolute" space.

Work Within an "Operational Design Domain" (ODD)

A collection of information that clearly defines the boundaries for the platform's operations.

Complex Sensor Integration Experience:

ZAPT's complex sensor integration knowledge stems from 17 years of experience performing precise navigation and positioning in the Energy sector from ZAPT's parent company Zupt, an example being precisely positioning subsea remotely operated vehicles in up to 4,000m of water.

Some of the Sensors to be Considered:

Depending on the machine/platform and application, we will customize the sensor suite to provide a safe, reliable autonomous solution at the right price. These are several predominant sensor types we have expertise in integrating for precise localization and perception.

- 1** GNSS (GPS)
- 2** Inertial Measurement Units (IMU)
- 3** Stereo Cameras
- 4** LiDAR
- 5** Radar
- 6** Ultrasonic Sensors
- 7** Resolvers & Encoders

Some "ODD" Conditions to Be Defined for Your Application:

- | | | |
|---------------------------|------------------|--------------------|
| Open Field, Clear Skies | Light Rain | Heavy Rain |
| Light Tree Cover | Dense Tree Cover | High Dust, Fog |
| Near Fences/Buildings | Day & Night | Indoor & Outdoor |
| Works With Traffic Lights | Maximum Slope | HSE Considerations |