

## AUTONOMOUS VEHICLE FOR ADAS TESTING AVAT

The Autonomous Vehicle for ADAS Testing AVAT, is the perfect solution for ADAS Testing; it is a self driven platform capable of carrying different crash targets. Designed to be overrun without causing any damage, its batteries ensure the autonomy needed for the different testing scenarios.

Several universal fixing points assure that many different outer envelopes can be attached to the platform:



Balloon car



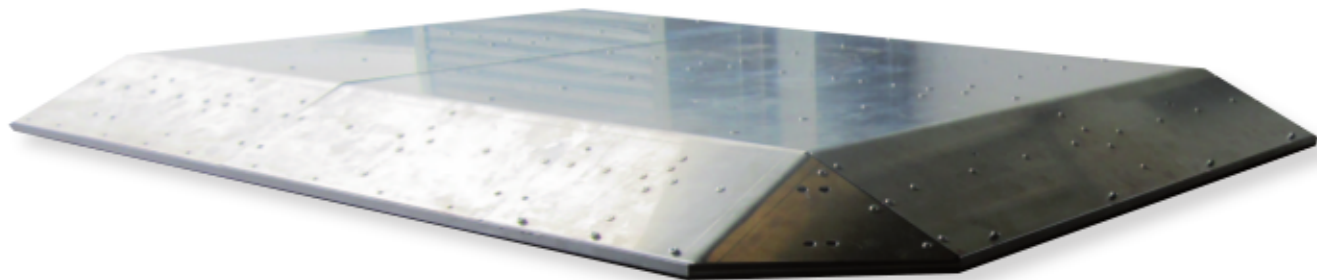
Balloon Pedestrian



Motorcycle



Bicycles



Aries Ingeniería y Sistemas autonomous driving vehicle, AVAT, is suitable for testing all the different ADAS technology: Radar, Lidar, Camera Systems...

### Type of ADAS that can be evaluated:

- Autonomous Emergency Braking (AEB)
- Forward Collision Warning (FCW)
- Adaptive Cruise Control (ACC)
- Pedestrian recognition
- Blind Spot Monitoring
- Lane Change Assistance
- Other crash avoidance systems

FEATURE	VALUE
Mass	< 130 (kg)
Static load chassis capacity	4000 (kg)
Maximum speed	80 (km/h)
Maximum acceleration	0.5 (g)
Maximum peak power	12 (kW)
Autonomy	2880 (Wh)

The platform set of maneuvers assures that all the relevant scenarios can be reproduced.

- Controlled braking
- Controlled speed
- Lane change
- Path invasion
- Roundabout test
- Synchronized collision

The following drawings demonstrate some possible scenarios:

- Scenario for AEB testing: The vehicle under testing is moving at a constant speed, and the AVAT carrying a balloon car, is decelerating (see Figure 1).

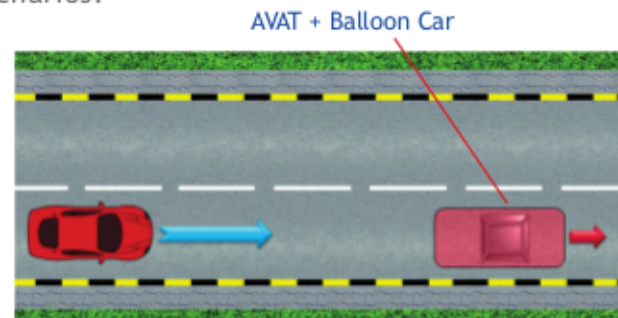


Figure 1

- Scenario for AEB for pedestrian testing: The vehicle under testing is moving at a constant speed, and the AVAT carrying a pedestrian dummy, is crossing at a constant speed (see Figure 2).



Figure 2

Aries Ingeniería y Sistemas offers the integration with other ADAS testing systems such as driving robots. The system integration in our full scale crash test facilities is specially designed for customers looking for integrated safety testing solutions.

### Operational modes of the platform:

AUTONOMOUS MODE	WP navigation Synchronized Mission Mode
HOMING MODE	The platform goes to the start position
LEARNING MODE	Trajectory is recorded and a mission is defined
DIRECT MANUAL	Full Remote Control

The use of the **differential GPS** guarantees the precision and repeatability of all the maneuvers.



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