

FORMULA STUDENT AI 2026 AUTONOMOUS PLATFORM CUP

TECHNICAL & SAFETY RULES SUMMARY

AUTONOMOUS PLATFORM CUP (APC) INTRODUCTION

New for 2026, teams entering FS-AI DDT may optionally bring their own 'Autonomous Platform Cup' (APC) vehicle to compete in the four FS-AI Dynamic Events.

The APC concept is intended to lower the barrier to entry for a team wishing to build their own autonomous vehicle, compared to the effort required to build a full Formula Student ADS vehicle.

The APC concept is a vehicle without driver accommodation, using a Low Voltage and low power electric powertrain. Teams will build the vehicle and integrate an AI (artificial intelligence) computer and sensors. They will develop the software for the AI computer in order that the car may complete its defined missions by executing the Dynamic Driving Task.

AUTONOMOUS PLATFORM CUP (APC) TECHNICAL & SAFETY RULES

As an APC vehicle cannot accommodate a human driver, safety rules designed for occupant protection can be relaxed, simplifying the design and engineering task.

Safety rules designed to protect people outside the vehicle, and the operating environment, are maintained in alignment with the autonomous operation of ADS vehicles and with the shared driverless ADS-DV vehicles used by the DDT entrants. Thus, an APC vehicle has comparable safety to the existing permitted vehicles and can compete in FS-AI dynamic events alongside ADS entries and the ADS-DV vehicles.

To maintain competitive parity, the technical rules prescribe a vehicle broadly similar in size, shape and performance to the existing IMechE ADS-DV:

- An open wheeled vehicle with four pneumatic wheels and tyres, working suspension and a comparable set of plan view dimensions.
- A maximum height for the Main Structure, to prescribe a similar Surface Envelope for sensor locations.
- No downforce creating aerodynamic devices are allowed.
- An electric powertrain of similar power.

To maintain dynamic safety parity, the technical rules prescribe the same safety systems as the ADS vehicles (noting that the IMechE ADS-DV vehicles also implement these same ADS safety systems):

- An Emergency Braking System (EBS) with operational redundancy.
- A Safety Shut Down Circuit (SDC) controlled by the same Gross-Funk SIL3 certified Remote Emergency Stop (RES) hardware.
- The same master switches and safety indicators (LVMS, TSMS, ASMS, R2D sounder, AMI, ASSI, TSAL, etc).

To reduce risks relating to electrical safety, the technical rules prescribe the same electrical and powertrain constraints as Hybrid Vehicles, and prohibit High Voltage Electric Vehicle powertrains:

- A Low Voltage electric powertrain (<60V) must be used.
- Battery Chemistry labelling and Battery Management requirements follow the Hybrid Vehicle rules.
- An additional 200A current limit is applied.
- An additional Battery Cell C rating limit is applied.

Thus, all the technical rules for the new APC entry category vehicles follow and derive from pre-existing Formula Student technical rules, which have been proven in event safety to date.

This document follows a similar breakdown to the normal Formula Student rules, defining the following for APC vehicles:

- General Technical Requirements (Section T)
- Low Voltage Electric Vehicle (Section LVEV)
- Technical Inspection (Section IN).

Rules for Administration, Static and Dynamic events are common to all FS-AI entry categories, including APC, and are found in the main FS-AI rules document.