

Technical Vehicle System Documentation 2026

Team ...

University ...

Car Number ...

Team Page ...

Releaser ...

Date yyyy/mm/dd

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Targets

max. 65 chars

max. 75 chars

max. 75 chars

max. 65 chars

max. 75 chars

max. 75 chars

max. 65 chars

max. 75 chars

max. 75 chars

Describe how your top-priority goal was broken down into subsystem-specific targets.

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Performance

Dynamic Discipline	Last Season	2026 Forecast	Improvement
AutoX			
DV AutoX			
Acceleration			
DV Acceleration			
Skidpad			
DV Skidpad			
Endurance			

max. 15 chars per cell

Vehicle Top View



Vehicle Side and Front View



Mechanical / Structural Engineering

Chassis & Primary Structure		Aerodynamics & Attachments	
Chassis Construction (type, material)	[max. 70 chars]	Aero Package Mass (kg)	[max. 70 chars]
...		...	
Bare frame weight with brackets and paint (kg)	[max. 70 chars]	Front Wing Mounting Strategy	[max. 70 chars]
...		...	
Chassis Torsional Stiffness (Nm/deg)	[max. 70 chars]	Underbody/Diffuser Attachment	[max. 70 chars]
...		...	
Crush Zone Material	[max. 50 chars]	Most Critically Loaded Aero Joint	[max. 50 chars]
...		...	
Primary FEA/CAE Software Stack	[max. 50 chars]	Aero Attachment Validation Method	[max. 50 chars]
...		...	

For one major mechanical subsystem, detail a significant design trade-off you made between performance, weight, and manufacturability.

...

max. 1500 chars

Controls & Displays		Ergonomics & Safety Integration	
Steering Wheel Controls	Pedal Box Adjustability		
...	...		
Primary Driver Information System	Seat Integration		
...	...		
Critical Info Displayed	Driver Visibility (degrees, mirrors)		
...	...		
Pedal Characteristics	Steering Wheel (diameter, material, angle)		
...	...		

max. 70 chars per cell

...

max. 2000 chars

Accumulator & Cooling		Motor, Gearbox & Inverter	
Accumulator Cell & Configuration	[max. 50 chars]	Motor Configuration & Manufacturer front / rear	[max. 50 chars]
...		...	
Complete Pack Nominal / Maximum Voltage (V)	[max. 50 chars]	Motor Type & Peak Power front / rear (kW)	[max. 50 chars]
...		...	
Usable Energy Capacity (kWh)	[max. 50 chars]	Gearbox Type & Ratio	[max. 50 chars]
...		...	
Peak Discharge / Regen Power (kW)	[max. 50 chars]	Inverter Manufacturer & Type	[max. 50 chars]
...		...	
Cooling System Layout	[max. 70 chars]	Switching Frequency Range (kHz)/Modulation Strategy	[max. 50 chars]
...		...	
Nominal Coolant Flow Rate per Loop (L/min)	[max. 50 chars]	Wheel Max Speed / Peak Efficiency Point (rpm)	[max. 50 chars]
...		...	

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LV-Electrics / Electronics

Power & Distribution	Safety & Control
LV Battery Configuration & Voltage [max. 50 chars] ...	Key Control Units (Key #1, #2, #3) [max. 50 chars] ...
Power Distribution System [max. 100 chars] ...	Control Unit Key #1 Voltage – Full Functional-ity (V) [max. 100 chars] ...
Total Wiring Harness Mass (kg) [max. 70 chars] ...	Control Unit Key #1 – Restricted Functionality (V) [max. 70 chars] ...
Primary Connector Standards [max. 90 chars] ...	Key Communication Protocols [max. 90 chars] ...
Considered Peak Load on LV System (W) [max. 70 chars] ...	Critical Sensor #1 & Purpose [max. 70 chars] ...

Using a high-level E/E block diagram, describe your vehicle's electrical architecture and explain how it ensures reliability and rapid fault detection beyond minimum rule compliance.

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max. 1200 chars

Vehicle Performance

Performance Simulation & Correlation		Control Systems	
Primary Simulation Tool ...	[max. 50 chars]	Traction Control Architecture ...	[max. 50 chars]
Simulation-Test Correlation (lap time delta %) ...	[max. 50 chars]	Torque Vectoring Method ...	[max. 50 chars]
Aero Performance @ 80 km/h (Downforce N, Drag N, L/D) ...	[max. 50 chars]	Tire Load Estimation Method & Error ...	[max. 50 chars]
Aero Balance Front @ 80 km/h (%) ...	[max. 50 chars]	Vehicle Controls Architecture ...	[max. 50 chars]
Performance Prioritisation ...	[max. 70 chars]	Torque Control Strategy ...	[max. 70 chars]

Balance & Suspension	Steering, Brakes & Wheels
Centre of Gravity Height (mm) ...	Steering System & Ratio ...
Suspension Type Front / Rear ...	Steering Lock-to-Lock (deg) ...
Target Ride Frequencies Front / Rear (Hz) ...	Brake System Type ...
Camber Gain Front / Rear (deg/mm) ...	Brake Discs Type, Diameter Front / Rear (mm) ...
Damper Type ...	Brake Bias Range Front (%) ...
Unsprung Mass per Corner Front / Rear (kg) ...	Tire Manufacturer & Dimension ...
Static Load without Driver (kg) FR/FL/RR/RL/ Total ...	Target Tire Pressure Front / Rear (bar) ...

max. 50 chars per cell

Describe one instance where test data forced you to significantly revise a simulation model or control strategy, and what the performance outcome was.

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max. 1300 chars

Describe the process from your initial aerodynamic concept to the final on-track validation. What was the most significant adjustment you made based on test data, and what was the performance impact?

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max. 1300 chars

Explain how your vehicle's mass properties and static weight distribution influenced your fundamental choices in suspension kinematics, spring rates, and tire management strategy.

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max. 1000 chars

Architecture & Data		Processes & Safety	
Autonomy Stack (framework, language) ... [max. 70 chars]	CI/CD Pipeline ... [max. 185 chars]	Functional Safety Approach ... [max. 70 chars]	Primary Safety Mechanisms ... [max. 145 chars]
Vehicle Control Unit Update Rate (Hz) ... [max. 50 chars]			
Data Logging Rate & Storage ... [max. 70 chars]			
Telemetry Method ... [max. 150 chars]			

...

max. 1100 chars

Autonomous Functionality

Hardware & Sensing		Performance & Actuation	
Primary Camera Model & Resolution	[max. 50 chars]	Expected Worst-Case Cone Detection Rate (%), Scenario	[max. 50 chars]
...		...	
LiDAR Model & Channels	[max. 50 chars]	Cone Position Accuracy in Simulation (m)	[max. 50 chars]
...		...	
Compute Hardware	[max. 70 chars]	Planning Method for Skidpad	[max. 70 chars]
...		...	
Sensor Synchronisation Method	[max. 90 chars]	Steering Actuation for AD	[max. 90 chars]
...		...	
Compute Cooling	[max. 90 chars]	Braking Actuation for AD	[max. 90 chars]
...		...	

How does your system detect and respond to deviations from expected performance to ensure robust and reliable autonomous operation? Indicate how this robustness was validated.

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max. 700 chars

Provide an overview of your full autonomous pipeline, from sensor input to vehicle actuation. Highlight one key design decision in this architecture and its rationale.

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max. 700 chars

Attachments & References A

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max. 50 chars

...

max. 50 chars

Attachments & References B

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max. 50 chars

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max. 50 chars

Attachments & References C

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max. 50 chars

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max. 50 chars