

FORMULA SAE 2027

PRESENTATION CONCEPT

Event Format and Guidelines

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EXECUTIVE SUMMARY

For the 2027 season, the Presentation Event and Cost & Manufacturing Event will remain separate for purposes of document submission, judging, and scoring. However, both events will be built around the same underlying team concept.

Teams will carry this shared concept consistently into both events. The concept presented in the Presentation Event should align with the concept developed and discussed in the Cost Scenario portion of Cost & Manufacturing Event, allowing judges to see a cohesive approach across the two areas.

Although the events share an underlying concept, each event will be evaluated independently and will have its own submission requirements, judging process, and scoring. Performance in one event will not directly determine the score in the other.

Each event will provide its own guideline document detailing the applicable requirements, submission materials, judging criteria, and expectations.

This document is published to meet Formula SAE Rules S.2.2 and S.3.15

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PRESENTATION EVENT FORMAT:

The Presentation Event consists of three progressive rounds, giving teams multiple opportunities to refine their pitch, demonstrate their skills, and distinguish themselves throughout the competition. Judges will provide feedback during the event to support teams as they progress and contribute to their overall score.

The event will follow this three-round progression:

Round 1 — Written Request for Proposal

Round 2 — Virtual Presentation

Round 3 — Finalist Presentation

Total points are accumulated over three rounds of judging. A team's score for each round will determine whether the team advances to the next round.

Total points for the Presentation event continue to be worth 75 points. Raw scores will be based on the average scores of judges. Using a method at the discretion of event captains, scoring may include normalizing the scores of different judging teams and scaling the overall events.

PRESENTATION CONCEPT:

This year's concept chosen by the Presentation Committee is Software-Defined Feature

Background

The modern automotive engineering industry is constantly adapting to new technology for software-defined vehicles. Increasing requirements for safety, efficiency, and performance in modern-day vehicles are something that automotive manufacturers must address. We need innovative solutions that address these subjects and the natural pathway to solution is often through software-defined vehicle features. As software continues to become more integrated into vehicle development, manufacturers are increasingly able to leverage existing vehicle sensors, computing platforms, and data to introduce new capabilities without requiring significant changes to the underlying hardware. This shift creates opportunities to improve vehicle performance and functionality while also creating new challenges related to development, sensor selection, testing, validation, and scalability. For Formula SAE teams, this presents an opportunity to explore how a targeted software-defined feature can provide measurable value in a high-performance environment while demonstrating a clear path toward implementation in passenger vehicles and other automotive applications.

Objective

SAE International has established a grant for Formula SAE teams to apply for development of a break-through innovation. The grant application review committee is seeking innovative proposals from Formula SAE teams exploring the application of software-defined vehicle technology to improve the safety, efficiency, and/or performance of their Formula SAE vehicle. For the purpose of this proposal, a software-defined feature is a vehicle function whose behavior is controlled or enhanced primarily through software, allowing it to be updated, optimized, or expanded without requiring major hardware changes. The grant program is intended to support concepts that demonstrate how software can create measurable value in a motorsports environment while establishing a pathway toward broader automotive applications.

While there is no limit to funding teams can apply for, they must clearly define all costs associated with the implementation of their selected innovation.

The pitch should include:

- Explanation of the feature, its working principle, and how it is integrated into the vehicle
- Purpose of feature (safety, efficiency, performance, or a combination of the three)
- An outline of changes in vehicle hardware (if necessary) and justification for them
- Estimated labor hours for development as well as the listed use of existing elements
- Strategy to sell and market the feature to a specific target customer
- Information on whether or not AI was considered or used to develop the feature

- Plan for scalability from FSAE motorsports application to commercial fleet or passenger vehicles
- Analysis of what technical standards exist that may limit or support the deployment of the feature

ROUND 1 — WRITTEN REQUEST FOR PROPOSAL:

Request for Proposal

Your task is to develop a comprehensive proposal for a singular software-defined feature for a Formula SAE vehicle that improves safety, efficiency, performance, or a combination of the three. This plan should serve as an application to the SAE International grant, detailing the feature's purpose, working principle, vehicle integration strategy, required hardware and software, and expected performance benefits, while considering whether AI could play a role in its development. Teams should also develop a strategy to market and sell the feature, including its potential value to automotive customers and a plan for scaling the technology from motorsports to passenger vehicles or commercial fleets. The proposal should address relevant technical standards and deployment limitations while demonstrating that the feature is both technically feasible and commercially viable.

Proposal Requirements

- The proposal should be no longer than 8 pages
- Significant bodies of text should be no smaller than 12pt in Arial or Times New Roman font.
- Tables, graphs, charts, and other media should be in high contrast with legible text.
- Well-balanced approach to explaining and selling the feature.
- Plans to validate performance and the software/control approach to develop the feature.
- A roadmap for development from FSAE application to fleet/passenger vehicle scaled deployment.

ROUND 2 — VIRTUAL PRESENTATION:

Invitation to Present

Based on the scoring of the written proposal, selected teams will be invited to deliver a virtual presentation to the grant application review committee. The presentation should build upon the information provided in the written proposal and present a well-developed roadmap for the scalable deployment of the proposed feature.

Successful presentations should demonstrate that the team understands the proposed software-defined feature and can clearly articulate how its implementation in a Formula SAE vehicle will improve safety, efficiency, performance, or a combination of these outcomes. The presentation should also demonstrate a clear, practical plan for developing and deploying the feature as part of the team's application for the SAE International grant.

Following this round, the highest-scoring teams will advance to the Finalist Presentation, which will take place onsite at Michigan International Speedway.

Presentation Requirements

- Teams will be assigned a time to present virtually using MS Teams
- Each team will have a 30-minute appointment
- The presentation does not exceed 10 minutes
 - The judges will stop any presentation exceeding the time limit.
- The Q&A will directly follow the presentation and does not exceed 5 minutes

ROUND 3 — FINALIST PRESENTATION:

Finalist teams will deliver their presentation live and onsite at Michigan International Speedway. The presentation should build on the team's written proposal and virtual presentation and demonstrate a clear understanding of the proposed software-defined feature, its intended impact, and its roadmap for development and deployment.

Teams should be prepared to present and respond to questions from judging committee using same Presentation Requirements listed under Virtual Presentation.

SAE will provide a projection screen and power for all teams; however, it is the responsibility of team to bring their own laptop, projector and/or TV for display of presentation slides.

Top three highest-scoring teams will be awarded with finishing places 1st through 3rd.