Scope of Cost Experience:

Student teams must submit a report of their car's cost to be evaluated by the cost judges. The concept of the cost event is to obtain an accurate estimate of cost of the car in a limited production. The report is in effect your cost proposal to the senior management of a company in electronic form to get them to invest in your product line. This is the goal of the cost report itself.

The focus of the cost event centers on the cost of the vehicle and the process of building the vehicle and the components contained therein. Cost report submissions should contain dimensioned drawings.

Additionally, teams will be responding to a challenge related to cost or manufacturing of the vehicle during the real case scenario discussion. Teams will be expected to present an idea that is realistic, thoroughly analyzed, and presented in an easy to understand presentation.

Vehicle Cost (30 points)

Teams will submit a cost report detailing the cost of their Frame/Body & Suspension subsystems. Teams who competed in 2020 are encouraged to submit their full 2020 report with updated changes as needed to reflect the design and manufacturing.

- Score for the overall cost of the vehicle using the attached formula for this portion of the available 30 points.

$$30 \times \frac{(P_{max} - P_{your})}{(P_{max} - P_{min})}$$

NOTE: P_{your} is the adjusted cost of your team's car, P_{min} is the adjusted cost of the lowest cost car in the competition by type, P_{Max} is the adjusted cost of the highest cost car in the competition by type. Adjusted Cost is the reported cost + Cost Accuracy penalties.

If you are a new team or a team changing classification, your cost report submission will be due to judges using the same deadline as all teams. The cost report will be judged on the basis of the cost of the car and completeness of the included parts on the cost report. The cost of the car is determined by the cost of the parts and fabrication using established manufacturing practices and the application of "Lean Manufacturing" principles. The report will follow the guidelines set forth in the published rules. The costs and penalties will then determine the cost score.

Report Accuracy (30 Points)

Teams will be judged on cost accuracy (15 points) and engineering drawings (15 points) but only on specific sections. Teams must submit dimensioned drawings of the vehicle parts and systems. Best practice of any engineer would be to have engineering drawings when building a vehicle with dimensions included on the drawing.

For the 2021 competition, judges will only focus on two areas for report accuracy and drawings: Frame/Body and Suspension. The drawings will be due at time of the vehicle cost report and be included as supporting documentation within the vehicle parts and systems areas.

Real Case Scenario (40 points)

On the static event day, participating teams will have a virtual face-to-face meeting with several judges who will evaluate the teams' response to a pre-defined scenario challenge related to cost or manufacturing of the vehicle during the real case scenario discussion. Teams will have the opportunity to earn up to the remaining 40 points of the overall cost event score of 100.

For the 2021 competition, student teams will provide in advance a Real Case Scenario Report using the presentation scoring rubric as your content outline.

The real case scenario presentation scoring rubric, the pre-defined real case scenario and submission guideline will be available online www.fsaeonline.com under Series Resources – Cost by November 1, 2020.

Total Cost Event Score

Vehicle Cost (30 points)
Report Accuracy (30 Points)
Real Case Scenario (40 points)
For a total score of 100 points.

Cost event scoring may include normalizing the scores.

Submission Requirements

For the 2021 competition, student teams will submit three required submissions.
1. Vehicle Cost Report (using online cost module)
2. Engineering Drawings (as supporting documentation in online cost module)
3. Real Case Scenario Report

Submission Deadlines

For the 2021 competition, student teams will submit all required documents by Monday, March 29, 2021 no later than 11:59 PM EDT

Static Cost Judging Date

For the 2021 competition, student teams will be scheduled a specific day and time (with advance notice) to participate in face-to-face meeting the week of April 19, 2021.