

Cost Report



Agenda

- 2025 rule changes
 - CCBOM - what is this?
 - But why?
 - And how?
- General advice
- FSAA vs FSG Differences
- FSA vs FSG - Differences
- Q&A



Changes for 2025 season

S 1 GENERAL RULES

S 1.1 Vehicle Condition

- S 1.1.1 Vehicles must be presented for judging in finished condition, fully assembled, complete and ready-to-race.
- S 1.1.2 The judges will not evaluate any vehicle that is presented in what they consider to be an unfinished state.
- S 1.1.3 Vehicles may be presented for judging without having passed technical inspection, even if final tuning and setup is in progress.
- S 1.1.4 Covers and/or parts may be removed during the judging to facilitate access and presentation of components or concepts.

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Changes for 2025 season

S3.3.6	1.0	Increased penalty for using newer CRD
S3.4.5	1.0	Defined "fasteners" more precisely
S3.4.7	1.0	Changed BOM systems
S3.5	1.0	Replaced DBOM and CBOM with new CCBOM
S3.5.2	1.0	Defined CCBOM system in the rules instead of in the competition handbook
S3.5.5	1.0	Clarified how "parts" are to be broken down in CCBOM
S3.5.9	1.0	Defined "bought" parts more precisely
S3.5.14	1.0	Require "carbon footprint" in addition to costs and assembly process
S3.7	1.0	Extended cost explanation file to include emissions
S3.8.2	1.0	Adjusted distribution of points between the scoring categories
S3.8.5	1.0	Changed cost scoring for non-finalists

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New BOM systems

- Brake System
 - Engine and Tractive System
 - Drivetrain
 - Chassis and Body
 - Grounded Low Voltage System
 - Miscellaneous, Fit and Finish
 - Steering System
 - Suspension System
 - Wheels, Wheel Bearings and Tires
 - Autonomous System
- Brake System
 - Engine and Drivetrain
 - Chassis and Body
 - Electrical
 - Miscellaneous, Fit and Finish
 - Steering System
 - Suspension System
 - Wheels, Wheel Bearings and Tires
 - Autonomous system

Q&A

"Engine and Drivetrain" have been split up into two systems, where does the "engine" end and "drivetrain" start, especially on a CV car? At the clutch? At the chain sprocket?

Determined by the BOM tool on the FSG website

Otherwise it is up to you

Show us your knowledge!



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“Why?”

- Long term goal - reduce CO2 emissions
- Politics → Funding
- EU and national programs



CCBOM

Costed

Carbonized

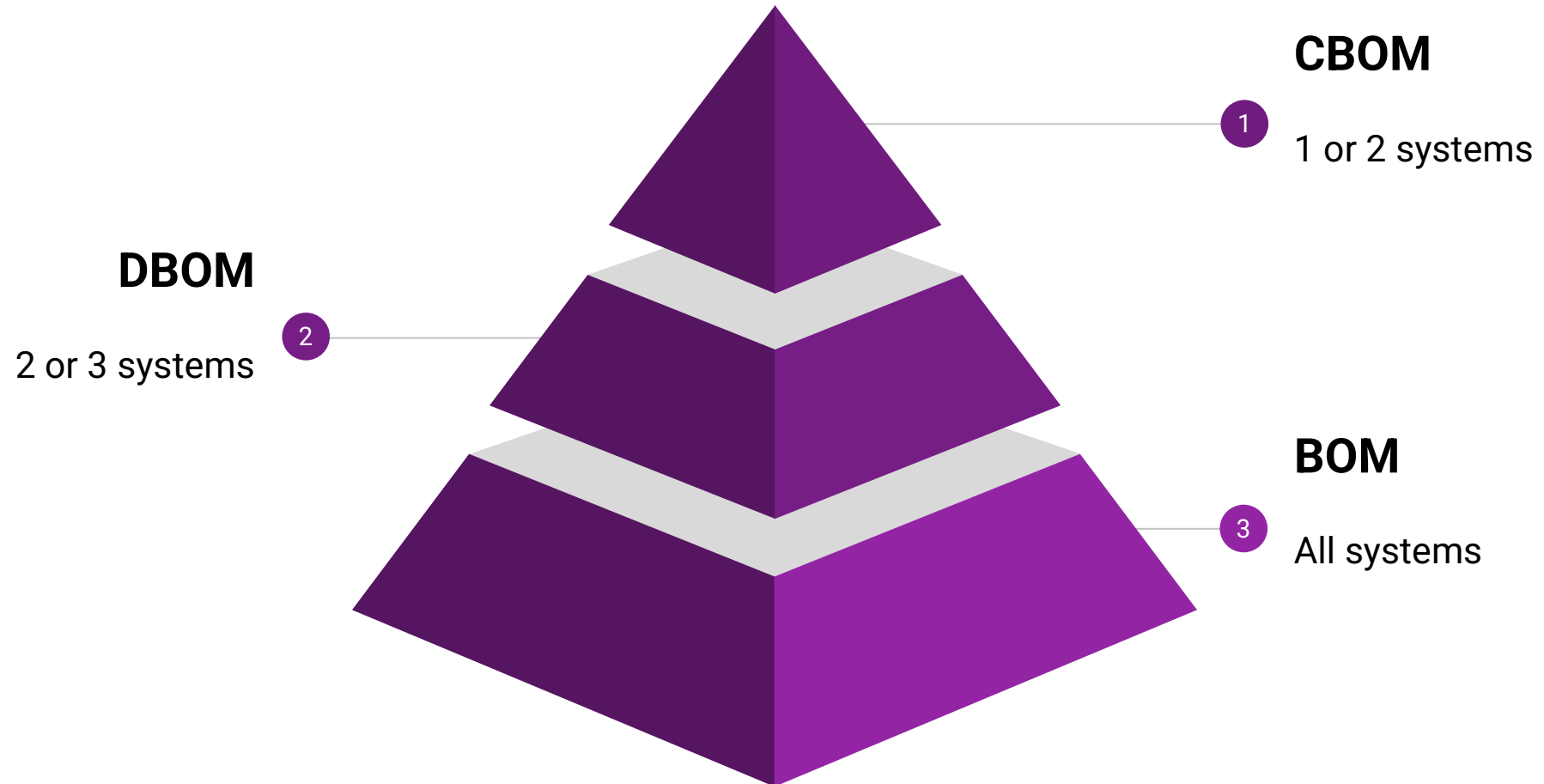
Bill

Of

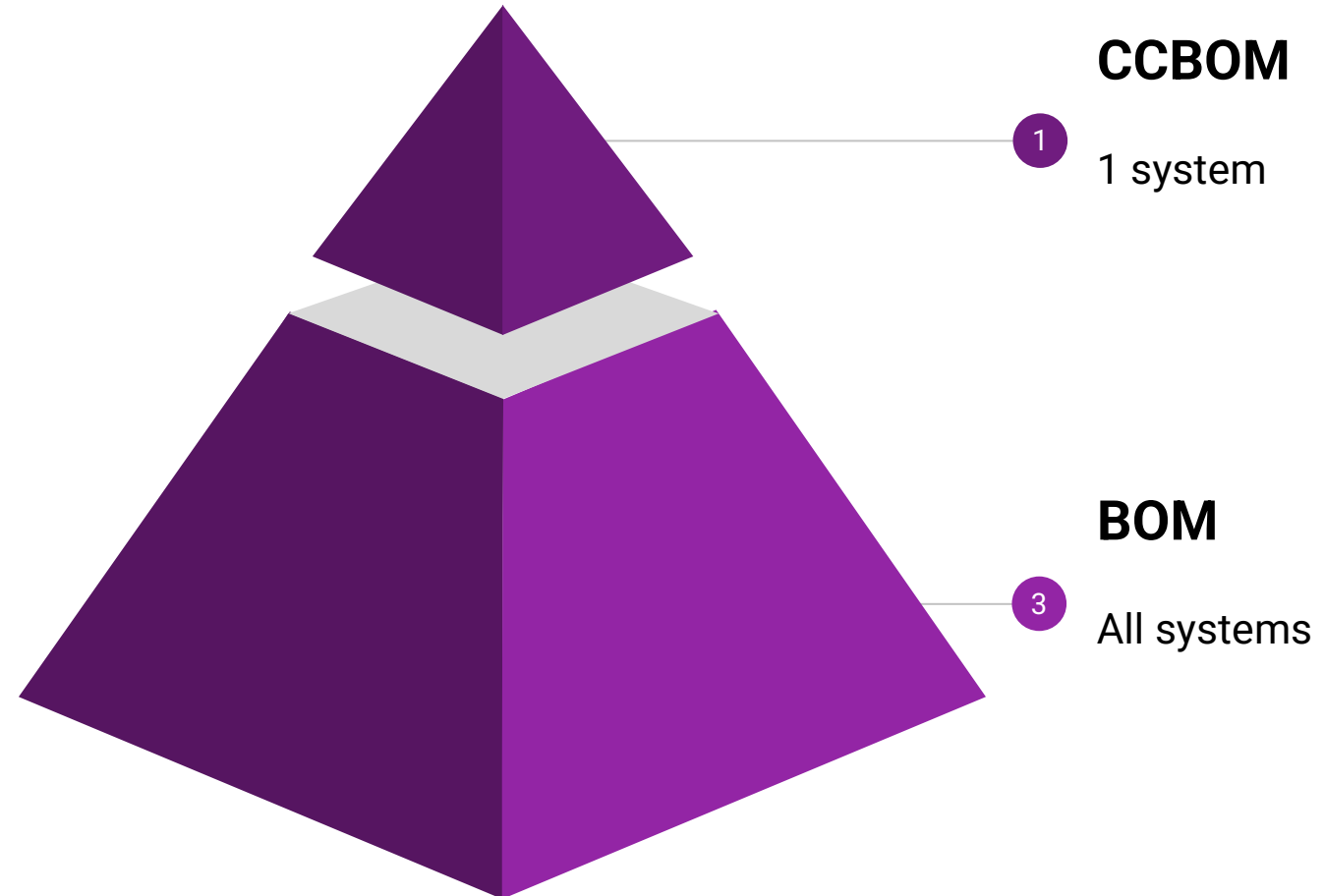
Materials

	Make			
			18 x 35,36€ = 636,48€	597-EN-00041
<i>Brass 25x10mm round rod</i>		1 x 6,30€ = 6,30€	63.03 per 100mm	
<i>Turning at the lathe</i>	CO2 footprint	1 x 24,69€ = 24,69€	fixcost and 6 min turning	
<i>Deburring</i>		1 x 4,37€ = 4,37€	6 min LG3	

CCBOM

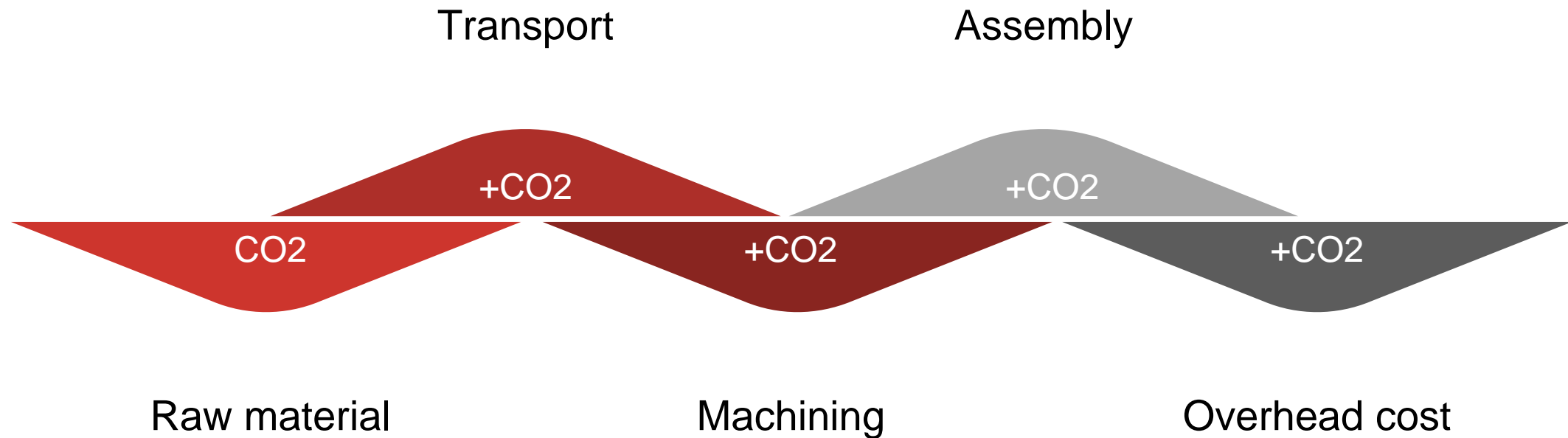


CCBOM



What to include

“Cradle to gate analysis”

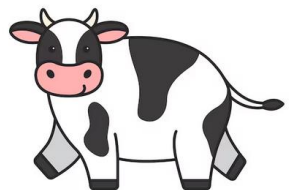


CCBOM Sources

- ISO 14064
- GHG Protocol
- Class 1(A) in FSAE UK 2009 - 2016

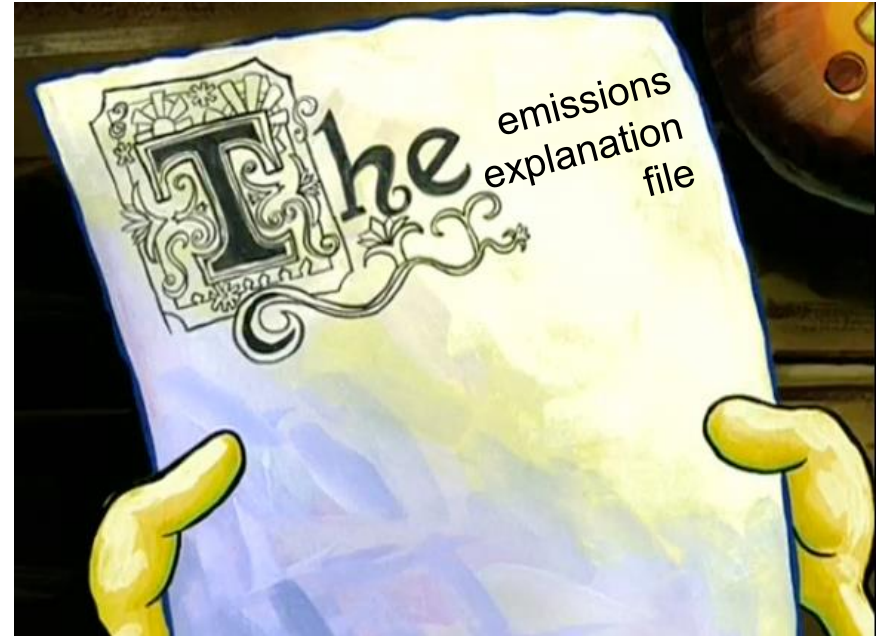
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- ISO 14064
- GHG Protocol
- Class 1(A) in FSAE UK 2009 - 2016
- Research papers

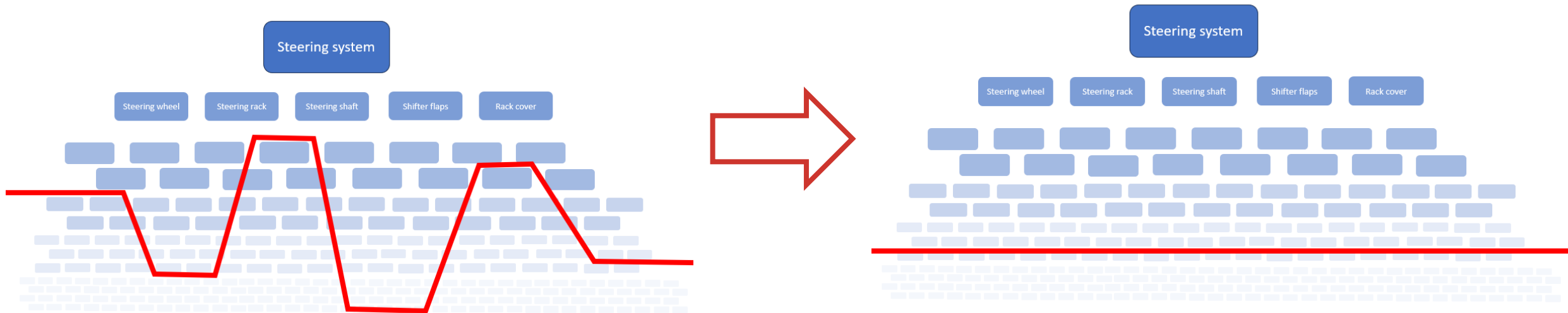


It will not be simple

- Starting from zero
- Everyone is on the same ground
- Next year it will be easier
- Judges will be informed



Set a goal for level of detail



For emissions, focus on largest contributors

General tips for Cost report

- Make plans!
- Technical drawings should be created for manufacturing, not just for the cost report
- Get your whole team involved in making Cost Report Documents
- Practice looking up parts in your documents
- Get feedback from the judges

Advice from judges

- Cost report documents must be understandable to a 3rd party (judges) without ever seeing the car. Supporting Material File helps us to understand and visualise the information from the Bill of Materials
- Scoring high using “fancy” equipment such as giant banners and tablet computers is not guaranteed. Your knowledge and preparation should be your greatest assets on a C&M Event

Advice from judges

- Do not place parts in 'alternative' systems to avoid extra work. Rather than look for minimal effort, show us what you can do!
- Try to be complete. Machining cost involves a lot more than just electricity. Ask a sponsor for advice
- A good presentation will help you score higher. Know your car and know your documents

FSAA vs FSG

- No limit for Cost explanation file
- No limit for Cost supporting material
 - For non-CCBOM systems:
Only drawings for “made” parts are required
 - For CCBOM systems:
“... should include drawings, exploded view drawings
and/or pictures of the vehicle and the parts included in the BOM”

FSAA vs FSG

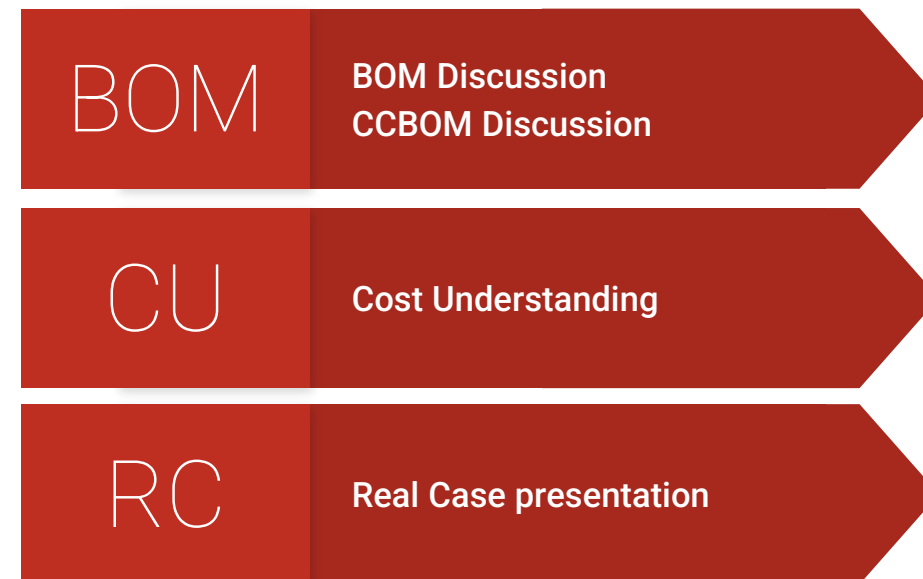
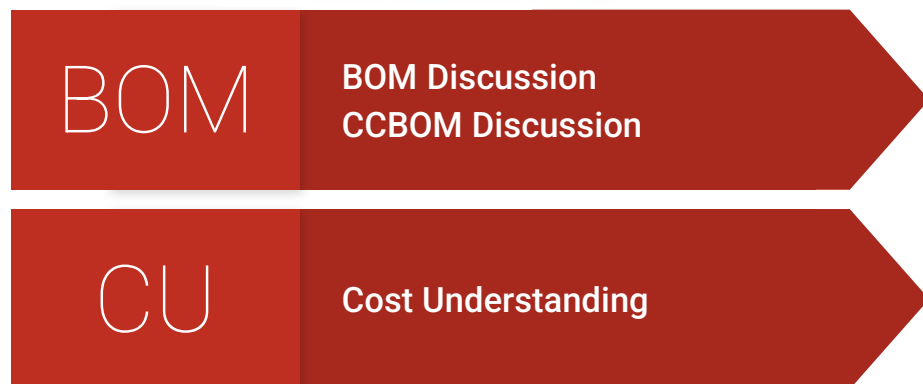
- No Cost event finals
- Real case published on 1st day of competition

- Look out for the Handbook!



FSA vs FSG - Differences

Cost event structure



FSA vs FSG - Differences

Rule changes

- No Real Case
- Scoring

Category	Points
Format and Accuracy of Documents	4
Knowledge of Documents and Vehicle	6
BOM discussion	40
Cost understanding	50
Total	100

- No page limit for Cost Explanation Files

FSA vs FSG - Differences

Finals - Rule changes

- Finals & Scoring
- Unlimited number of finalists
- Best Non-Finalist will get the points they have before finals
- Finalists scoring
 - Lowest score: > Best Non-Finalist
 - Highest score: 100
- No Car for finals
- Maximum of 10 people at finals

FSA vs FSG - Differences

Cost Understanding

- Catalogue with questions
- 2 questions per team
- 5 minutes preparation time
- 20 minutes presentation time (Max)

Q&A

Is the Carbon Footprint of each component required to be evaluated in the CCBOM as well or just in the Cost and Emissions Explanation File? Is the Template on the FSG website going to be updated accordingly?

Carbon footprint of each component in the Steering system will have to be calculated

The template on the FSG website will be updated after Formula Student Bharat



Q&A Session

The text 'FS4A' is displayed in a bold, white, sans-serif font. The '4' is colored red. The text is centered on a black, horizontal brushstroke background that has a rough, textured edge.

If you have further questions,
please write us at
Rules@fsaustria.at



Q&A for Session 3 Cost Report

Question	Answer
"Engine and Drivetrain" have been split up into two systems, where does the "engine" end and "drivetrain" start, especially on a CV car? At the clutch? At the chain sprocket?	The FSG BOM tool provides list of components from each system. If it is still not clear, it is up to you. But keep in mind, the judge might ask you the reasoning behind your decision. Remember, do not try to hide your work and knowledge, show it!
Is the Carbon Footprint of each component required to be evaluated in the CCBOM as well or just in the Cost and Emissions Explanation File? Is the Template on the FSG website going to be updated accordingly?	The template on the website will be updated. Next to every "Cost" field will now also be an "Emission" field.
Will the Supporting Material File be limited to 20 pages aswell to lift some workload with the addition of the CCBOM?	Currently there is no plan to limit the number of pages for the Supporting material file or the Cost explanation file at FSA or FSAA.
Should transportation / testing of the assembled vehicle be part of the CCBOM as transport is required to be included?	No. Transportation and testing of the assembled vehicle does not need to be included.
how many pages are ideal for the supporting material and the file explaining costs and emissions?	Ideal number of pages is the number of pages you need to explain YOUR cost and emissions calculations. There is no set number. It can be 5 pages or 50 pages. As long as the document is comprehensive but still easy to navigate.