

Cost & Manufacturing: Real Case Scenario FSF 2026



FORMULA STUDENT FRANCE



Cost & Manufacturing — Part 3 “Real Case” (25 points)

Version 1.1 – clarifications added following pre-event Q&A. Changes are marked “(v1.1)” and written in italic in the relevant sections

1. Title

Supply shock on a critical component of your CCBOM system: a 1,000-unit-per-year series production under constraint.

2. Context

Your team is no longer building a prototype. Your vehicle has entered series production at a fixed volume of 1,000 units per year, with firm delivery commitments already contracted for the next 24 months. Your cost structure, your supplier base and your manufacturing routing are those described in your submitted Cost Report Documents.

(v1.1) Where your submitted CRD reflects prototype-only choices that would not hold at 1,000 units per year — for instance a supplier serving only low-volume orders, or a process that does not scale — you may state the series assumptions you consider realistic and work from those instead. This applies only to the parts and components of the 2026 CCBOM system perimeter — Engine and Tractive System — that are affected by the restriction described below: do not state series assumptions for anything outside that scope, however different it would be at high volume.

At T0, an exporting country introduces an export licensing regime on a family of critical materials and components. The measure is not directed at your company: it applies to an entire commodity class — *(v1.1) that is, the material itself and anything whose function depends on it, at any level of assembly and regardless of end use* —, and it hits every manufacturer using that class simultaneously.

Affected scope *(v1.1 clarification)*: the restriction is material-based. It covers rare-earth permanent magnets — sintered or bonded NdFeB, all grades and including Pr, Dy or Tb additions, and SmCo — together with the feedstock they are made from: the corresponding oxides, metals, alloys and powders. It also covers every part and assembly containing such a magnet, at any level of assembly, wherever it sits in your BOM and whatever its end use. This applies to the magnets present in your series vehicle, whether they are the ones submitted in your CRD or the ones resulting from the series assumptions stated above.

Ferrite and AlNiCo magnets are not impacted, nor is any solution that does not rely on a permanent magnet.

Your exposure assessment must cover the whole vehicle. The depth of your analysis is expected on the 2026 CCBOM system perimeter — Engine and Tractive System.

3. Your mandate

You are the Cost & Manufacturing function of the company. The Executive Committee asks you to handle the issue and, in particular, to tell them how exposed the company is, what realistic options are available, and what each one costs in terms of cost, quality and delivery. What do you recommend? The Executive Committee also wants to be better prepared for this kind of geopolitical disruption in the future.

Assumptions beyond the table in section 4 are yours to make.

4. Scenario assumptions

These figures are given. Do not replace them with your own estimates.

Parameter	Value
Supply availability	0% of volume for months 1–4; 50% from month 5 to month 12; full recovery not guaranteed
Spot price of affected material (v1.1) and components	+180% at T0, stabilizing at +90% from month 6 onward
Freight on the alternative corridor	+35% cost, +18 days transit time. (v1.1) "Alternative corridor" means any inbound flow other than the one described in your CRD or series assumption.
Production volume	1,000 units/year, unchanged; contractual penalties of 4% (v1.1) of revenue per week apply on late delivery

5. (v1.1) Practical modalities

The Real Case is presented within your overall 60-minute C&M time slot: 10 minutes to set up, 45 minutes covering BOM Discussion, Cost Understanding and Real Case combined, and 5 minutes to uninstall. Within that 45-minute block, the judges will make at least 10 minutes available for your Real Case presentation, followed by at least 5 minutes of questions and answers. The judges manage the overall time allocation of the slot.

Permitted supporting material: electronic, handwritten or printed handouts, flip charts or similar.