

This document includes two AI prompts that help you prepare a complete and structured request.

Prompt #1

I am preparing a request for FEA and CFD Computer Simulation Services by the EnCata team and want to make sure my input contains enough information to define the project correctly.

Here is my current input:

"<<<INSERT YOUR INPUT HERE>>>"

At EnCata, an initial simulation request should clarify the following areas:

1. Product and current stage

- What product, component, assembly, enclosure, machine, or industrial system is being developed
- What stage the project is currently at: concept, CAD design, physical prototype, validation prototype, or production design
- What files, drawings, calculations, test results, or physical prototypes already exist

2. Problem to investigate

- What physical problem or uncertainty should be analyzed
- What may overheat, deform, crack, vibrate, leak, lose pressure, fail under load, or perform inefficiently
- What engineering or product decision should the simulation support

3. Geometry and materials

- What CAD models, drawings, or dimensions are available
- Which parts or areas should be included in the model
- What materials are used
- Whether exact material grades or supplier data are available

4. Real operating conditions

- How the product is mounted, supported, or connected
- What forces, temperatures, pressures, airflow, liquid flow, vibration, impacts, or repeated loads it experiences
- What represents normal operation
- What represents the most demanding realistic condition

5. Type of analysis needed

- Whether the project involves strength, deformation, heat transfer, cooling, airflow, liquid or gas flow, pressure, vibration, impact, fatigue, or several connected effects
- If I am unsure which simulation method is required, determine it from the physical problem described

6. Variants and design constraints

- Which geometry, material, cooling, airflow, structural, or mounting options should be compared
- What may be changed
- What must remain fixed
- What should be optimized: strength, weight, temperature, pressure loss, airflow, efficiency, safety margin, or another parameter

7. Validation and acceptance criteria

- Whether physical measurements, test results, previous calculations, or field data are available
- Whether the simulation should be compared with a physical prototype or laboratory test
- What limits, standards, or requirements must be met
- What result would be considered acceptable

8. Expected outcome

- What deliverables are required: technical report, images, animations, charts, numerical results, comparison of variants, or design recommendations
- Whether EnCata should recommend changes to geometry, materials, wall thickness, ribs, vents, insulation, mounting, or flow paths
- What decision should be possible after the simulation is completed

Your task:

- Compare my input with the eight areas above
- Identify missing, unclear, or weakly defined information
- Structure your answer by these eight categories
- Phrase each missing item as a short, practical question that I can answer
- Briefly explain why the requested information matters for reliable simulation

Important instructions for your response:

- Use clear, everyday language that a non-engineer can understand
- Avoid unexplained abbreviations and specialist terminology
- If a technical term is necessary, explain it briefly in simple language
- Keep each clarification request concise
- Ask only questions that are relevant to my specific project
- If an exact value is unavailable, ask for an approximate range or a practical description of real use
- Allow me to state that I do not know which simulation type is required
- Do not invent materials, loads, temperatures, pressures, flow rates, or acceptance limits
- Do not rewrite my request
- Focus only on identifying what information is still needed

Prompt #2

I am continuing preparation of my FEA and CFD Computer Simulation Services request based on your previous analysis.

Here is my initial input:

"<<<INSERT INITIAL INPUT HERE>>>"

Here is the additional information I have provided to fill the gaps:

"<<<INSERT ADDITIONAL INFORMATION HERE>>>"

At EnCata, an initial simulation request requires clarity in the following areas:

1. Product and current stage
2. Problem to investigate
3. Geometry and materials
4. Real operating conditions
5. Type of analysis needed
6. Variants and design constraints
7. Validation and acceptance criteria
8. Expected outcome

Your task:

1. Re-evaluate the combined input: initial input + additional information
2. Check whether the available information is sufficient to prepare a useful FEA and CFD Computer Simulation Services request
3. Based on the available information, compile a structured request specifically for the EnCata team

If some information is missing:

- Make reasonable high-level assumptions only where necessary

- Clearly mark every assumption
- Clearly mark information that still needs to be confirmed
- Do not invent exact material properties, loads, temperatures, pressures, flow rates, support conditions, safety factors, or acceptance limits
- If the user has not identified the correct simulation type, recommend the likely analysis based on the stated physical problem and mark it as a proposed approach

Structure the final request as follows:

1. Product overview and current development stage
2. Engineering problem and decision to be supported
3. Available geometry and materials
4. Operating conditions, loads, and constraints
5. Proposed simulation scope
6. Design variants and optimization goals
7. Validation data and acceptance criteria
8. Expected results and deliverables
9. Assumptions and open questions

Output requirements:

- Produce a structured, ready-to-send request for EnCata
- Use clear and concise language
- Preserve all relevant information provided by the user
- Clearly separate confirmed information, assumptions, and missing data
- Do not claim that a reliable model can be built when essential physical data is missing
- Do not add explanations outside of the final request