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

Prompt #1

I am preparing a request for Low Volume Manufacturing by the EnCata team and want to make sure my input contains enough information to start the batch without unnecessary delays, rework, or unrealistic assumptions.

Here is my current input:

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

At EnCata, a Low Volume Manufacturing request should clarify the following areas:

1. Product overview and batch goal

- What the product is
- What the product is used for
- What stage the product is currently at
- Why this batch is needed now
- Whether the batch is for pilot use, early customers, certification, field testing, investor demos, exhibitions, or another purpose

2. Product readiness

- Whether the product is already validated as a working prototype
- Whether the design is near-final or still expected to change
- Whether mechanics, electronics, enclosure, and firmware are already integrated
- What is already fixed and what may still change before production starts

3. Batch scope

- Required number of units
- Whether this is a one-time batch or a repeat batch
- Whether all units should be identical
- Whether spare parts, extra samples, or reserve units are required

4. Engineering files and existing materials

- Available CAD files
- Drawings
- PCB files
- BOM
- Assembly instructions
- Firmware
- Test procedures
- Existing prototypes
- Photos or videos
- Previous manufacturing feedback
- Any missing documentation that may affect the batch

5. Materials and manufacturing requirements

- Main materials used in the product
- Whether surface finish, color, texture, or appearance matters
- Whether the batch must look presentation-ready
- Whether there are any required manufacturing methods
- Whether the product must stay compatible with future mass-production methods

6. Electronics and assembly

- Whether the product includes PCB assemblies

- Whether electronics and mechanics must be assembled together
- Whether firmware flashing is required
- Whether calibration, configuration, or programming is needed before shipment
- Whether fixtures or assembly aids may be required

7. Testing and quality expectations

- What should be tested before shipment
- What a successful unit must do
- Whether visual inspection, functional testing, measurement, burn-in, or another test is required
- Whether a test procedure already exists
- Whether test records or batch records are required

8. Procurement and supply risks

- Whether all components are already selected
- Whether some parts have long lead times
- Whether substitute components are acceptable
- Whether customer-supplied components or materials are involved
- Whether supplier constraints are already known

9. Timeline and delivery constraints

- Required delivery date
- Whether the date is fixed because of a trade show, customer deadline, pilot launch, certification slot, or another milestone
- Shipping destination
- Packaging requirements, if known
- Whether partial delivery is acceptable

10. Compliance and deployment context

- Whether the batch will be used for certification or pre-certification work
- Whether CE, FCC, or other regulatory considerations matter
- Whether the units will be used internally, sent to customers, or deployed in the field
- Whether traceability or documentation is required

11. Business and next-step context

- Whether low volume is the expected long-term production mode or only an intermediate step
- Whether the next step is a repeat batch, pilot batch, certification, or transfer to mass production
- Whether cost optimization is already important at this stage
- Any target unit cost or batch budget, if known

12. Risks and open questions

- What is still unclear
- Known concerns about assembly, fit, component availability, finish quality, testing, or repeatability
- Areas where the team expects engineering changes may still be needed

Your task:

- Identify missing, unclear, or weakly defined areas in my input
- Structure your answer by the categories above
- For each gap, briefly explain why it matters for low-volume manufacturing
- Do not rewrite my request
- Do not invent specifications, quantities, timelines, or manufacturing methods that I have not provided

Important instructions for your response:

- Use clear and practical language
- Keep clarification questions short and easy to answer
- Avoid unexplained manufacturing terminology
- If technical wording is necessary, briefly explain it in simple terms
- Focus on helping a non-engineering person understand what information EnCata needs

Prompt #2

I am continuing preparation of my Low Volume Manufacturing 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, Low Volume Manufacturing requires clarity in the following areas:

1. Product overview and batch goal
2. Product readiness
3. Batch scope
4. Engineering files and existing materials
5. Materials and manufacturing requirements
6. Electronics and assembly
7. Testing and quality expectations
8. Procurement and supply risks
9. Timeline and delivery constraints
10. Compliance and deployment context
11. Business and next-step context
12. Risks and open questions

Your task:

1. Re-evaluate the combined input (initial + additional information)
2. Identify what is still missing, unclear, or weakly defined
3. Check whether the available information is sufficient to define a Low Volume Manufacturing scope
4. Based on the available information, compile a structured Low Volume Manufacturing request for EnCata

If some information is still unavailable:

- Clearly mark it as "Missing information"
- Where a low-risk assumption can reasonably be made, mark it as "Assumption"
- Do not invent exact quantities, deadlines, materials, manufacturing methods, testing requirements, or budgets that the input does not support

If manufacturing methods or production details are not yet fully defined:

- Describe what is known instead of forcing a decision
- Clearly state that final process selection should be part of the EnCata scope

Structure the final request as follows:

1. Project overview

What the product is, its current maturity, and why the batch is needed.

2. Batch objective

What this batch is meant to achieve and how the units will be used.

3. Product readiness

Status of mechanics, electronics, enclosure, firmware, and documentation, including whether the design is still expected to change.

4. Batch scope

Required quantity, unit consistency, repeat-batch status, and any additional sample or spare-unit

requirements.

5. Available engineering package

Available CAD, drawings, PCB files, BOM, firmware, assembly instructions, test procedures, existing prototypes, and other relevant materials.

6. Manufacturing and material requirements

Known material requirements, surface finish expectations, appearance requirements, manufacturing constraints, and any preferences or limitations related to production methods

7. Assembly and electronics scope

Whether the batch includes PCB assembly, mechanical assembly, firmware flashing, calibration, configuration, fixtures, or other assembly-related work.

8. Testing and quality requirements

Required inspections, functional tests, measurements, test procedures, acceptance criteria, and whether test or batch records are needed.

9. Procurement and supply considerations

Known supply-chain constraints, long-lead items, approved substitutes, customer-supplied parts, and other procurement-related risks.

10. Timeline and delivery requirements

Required delivery date, schedule constraints, shipment destination, packaging needs, and whether phased delivery is acceptable.

11. Compliance and use context

Whether the units are intended for certification, customer delivery, field deployment, or internal use, and any relevant regulatory or documentation needs.

12. Risks and open questions

Known production risks, unresolved issues, expected engineering changes, and other uncertainties that may affect the batch.

13. Expected deliverables

Depending on the scope, these may include:

- Readiness review
- Updated production-ready model
- Confirmed batch scope
- Sourced components and materials
- Production route confirmation
- Tooling or fixture plan
- Manufactured parts
- Assembled units
- Assembly records
- Tested batch
- Production findings
- Shipment-ready units

Only include deliverables that are relevant to the provided project information.

14. Expected next step

Whether the batch should support a repeat run, pilot deployment, certification, or transfer to a higher-volume manufacturer.

Output requirements:

- A structured draft request ready to send to EnCata
- Clearly mark assumptions and missing information
- Keep the response clear and practical
- Do not include explanations outside of the request
- Do not over-specify the production solution where engineering review or process selection should still be part of the project