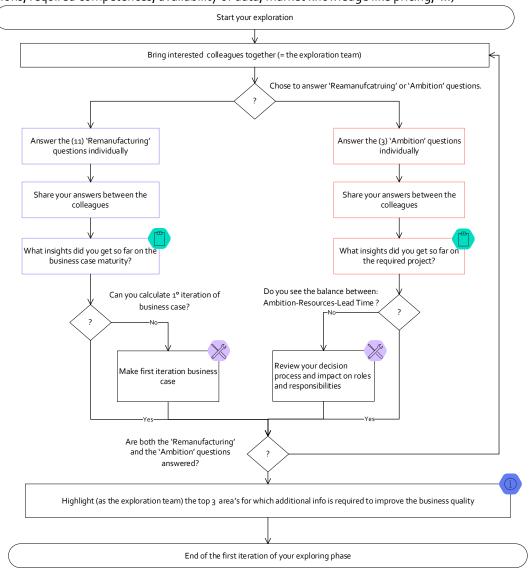
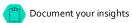


1 The process to follow

- 1. To get most out of this document you collaborate with at least one colleague.
- 2. Answer individually the questions
- 3. Bring the answers together and discuss (especially the differences might provide new insights)
- 4. Collectively decide what is key to explore further to make your business case more qualitative. This can lead to actions on a variety of domains: access to product or customers, value chain partners, operations, required competences, availability of data, market knowledge like pricing, ...)



Legend:



Tool available on the Remanufacturing platform

1 Information and training available on the remanufacturing platform





2 Basic remanufacturing questions

1 Which business activities does your company currently offer?

- O Purely sales of new products or components
- Product sales and some supportive services (eg maintenance, repair)
- Product sales plus services beyond first use phase
- Only product related services

Describe your probably more nuanced answer

What insight does this bring for your case?

What actions would make your business case more qualitative?

Why we think this is a useful question

Remanufacturing business requires aspects related to manufacturing and related to service. Both business types typically require different capabilities.

2 In which degree do you have access to discarded products?

Discarded products are products at end of first service life

- No access nor information
- No access but we know which key actors are active
- In contact with owners or other actors like brokers, service providers,...

Describe your probably more nuanced answer

What insight does this bring for your case?

What actions would make your business case more qualitative?

Why we think this is a useful question

Discarded products need to be accessible for the company that sets up remanufacturing. Knowing how access can be assured is important.

3 Which information do you have about your product use?

Who is user, owner, location, status and condition, use history, composition, \dots

- O No information after product sales transaction
- Primarily indirect information of use phase of products
- Most information related to product use phase is accessible

Describe your probably more nuanced answer

What insight does this bring for your case?

What actions would make your business case more qualitative?

Why we think this is a useful question

The remanufacturing processes can be significantly impacted by the status of the incoming products (cores). Furthermore information about the user/owner, locations,... might provide useful insight for both potential market opportunities (sales of reman parts) as for potential intake quality of cores.

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4 How difficult is it to remanufacture returned products (of a specific product group)?

Difficulties depend on: number of components / subassemblies, ease of disassembly, condition assessment, required processes like cleaning and repairing, access to spare parts,

- Complex and hard to remanufacture
- Moderate
- Good
- Don't know

Describe your probably more nuanced answer

What insight does this bring for your case?

What actions would make your business case more qualitative?

Why we think this is a useful question

The remanufacturing processes can be significantly impacted by the status of the incoming products (cores). Furthermore information about the user/owner, locations,... might provide useful insight for both potential market opportunities (sales of reman parts) as for potential intake quality of cores.

5 What is the remaining value of your products / components after first use phase?

- Products after 1st use phase have a low remaining value:
 limited amount of components can be revalorized
- Some components can be remanufactured, part of the original product however is unrecoverable
- Almost the complete product or the most valuable components can be remanufactured
- Don't know

Describe your probably more nuanced answer

What insight does this bring for your case?

What actions would make your business case more qualitative?

Why we think this is a useful question

The business case for remanufacturing largely depends on the value that can be added. Having a good view on the products and/or components that represents customer value is key.

6 Which customer segments are interested in your remanufactured products or components?

- Little known interest
- specific target groups could be interested (like discount buyers, maintenance companies)
- current customers are interested
- Don't know

Describe your probably more nuanced answer

What insight does this bring for your case?

What actions would make your business case more qualitative?

Why we think this is a useful question

Understanding how and where the demand for remanufacturing is situated enables to define pricing, estimate quantity of sales (market size) and to find market channels. All important elements of the remanufacturing business case.



7 What do you know about the installed base (size, geography) of your products and components?

Number of products in the market and how they are spread geographically

- No information
- Limited and indirect information on size and geographical spread
- O Detailed information on size and geographical spread

Describe your probably more nuanced answer

What insight does this bring for your case?

What actions would make your business case more qualitative?

Why we think this is a useful question

Insights in the stalled base is needed when assessing logistics organisation and cost. This is required to assess the influx (acquiring cores) and provides an indication for potential market size of remanufactured products.

8 What do you know about the potential of the installed base over time?

When products or parts become available for remanufacturing over time depends on quantity and product service life

- No information
- Limited and indirect information on potential and when volume per time
- Detailed information on size of install base and the potential quantity per time period
- Don't know

Describe your probably more nuanced answer

What insight does this bring for your case?

What actions would make your business case more qualitative?

Why we think this is a useful question

The time dimension relates to the product life time helping to estimate the potential influx of end of life products (cores) over time. It's key input to evaluate the supply and demand relation and thus pricing.

9 How would you describe the access to spare parts?

When products or parts become available for remanufacturing over time depends on quantity and product service life

- Some key parts are unavailable
- Availability or lead-time are challenging are a concern
- Easy access to spare parts
- Don't know

Describe your probably more nuanced answer

What insight does this bring for your case?

What actions would make your business case more qualitative?

Why we think this is a useful question

Remanufacturing operations require spare parts. The way you have access to those spare parts impacts the process efficiency, cost or even the scope of the remanufacturing business case.



10 How would you score the available technology and facilities (incl. equipment) for remanufacturing activities?

- Challenging
- Reasonably
- Reasonably
- Don't know

Describe your probably more nuanced answer

What insight does this bring for your case?

What actions would make your business case more qualitative?

Why we think this is a useful question

Remanufacturing requires additional technologies compared to manufacturing. The type of inspections, tests,... might require specific technology which impacts the business case. Also the ground space need for the operations need to be present to perform the operations.

11 In which product (category) life cycle stage is your product situated?

Examples: Solar powered EV's are in introduction, e-bikes are in growth stage, combustion engine cars are at the end of maturity, CD-players,... are in a decline.

- Introduction
- o Growth
- Maturity
- o Decline

Describe your probably more nuanced answer

What insight does this bring for your case?

What actions would make your business case more qualitative?

Why we think this is a useful question

The life cycle stage of your product impacts the market demands for products and spare parts. While in introduction and growth stages the focus will probably be on improving and upgrading, in maturity the repairs and product life time extension might be the driver. In the decline stage availability of spare parts for repair might be key.

List your actions	Prioritise your actions
0	What are the three most important actions?
0	1.
0	2. 3.
0	
0	Which action will you need to take first to make your business case more mature?
0	Task description:
0	
0	Who: Due date:



3 Basic project ambition and scope questions

12 How would you estimate your available resources (people and budget) to explore remanufacturing?

- No formal budget, on top of the business as usual activities
- O Resources will be assigned ad hoc as and when required
- Formal project timing and resources are defined
- Structural resources assigned and controlled by executive management

Describe your probably more nuanced answer

What insight does this bring for your case?

What actions would make to improve your project approach?

Why we think this is a useful question

The assigned resources and governance should reflect the ambition level. From exploration to implementation, a lot of uncertainties need to be addressed. While reducing the risks/uncertainties the resources can grow.

13 How would your estimate the urgency to get remanufacturing activities in place?

- O We take a step at a time and see when we will be ready
- O After a year we'll evaluate and define further actions
- First activities within a year and viable business within three years
- Whitin a year viable remanufacturing operations in place
 Describe your probably more nuanced answer

What insight does this bring for your case?

What actions would make to improve your project approach?

Why we think this is a useful question

Business needs might define how fast the remanufacturing activities need to be in place. This impacts also the required governance and resources to be allocated.

14 How would you evaluate your ambition level?

- Explorative and grasping opportunities when occur
- Some remanufacturing activities to become part of offering
- Dedicated remanufacturing activities to become part of offering
- Remanufacturing to become key in our operations

Describe your probably more nuanced answer

What insight does this bring for your case?

What actions would make to improve your project approach?

Why we think this is a useful question

Ambition levels can be related to the 'maturity' of your organisation with the remanufacturing topic. Depending on the 'maturity' and ambition, the goals will differ. Making the ambition level explicit helps to identify the size of the remanufacturing project.



Decisions to be taken on project & scope	Prioritise your actions
0	What are the three most important actions?
0	1.
0	2. 3·
0	
0	Which action will you need to take first to make your
0	business case more mature? Task description:
0	•
0	Who: Due date: