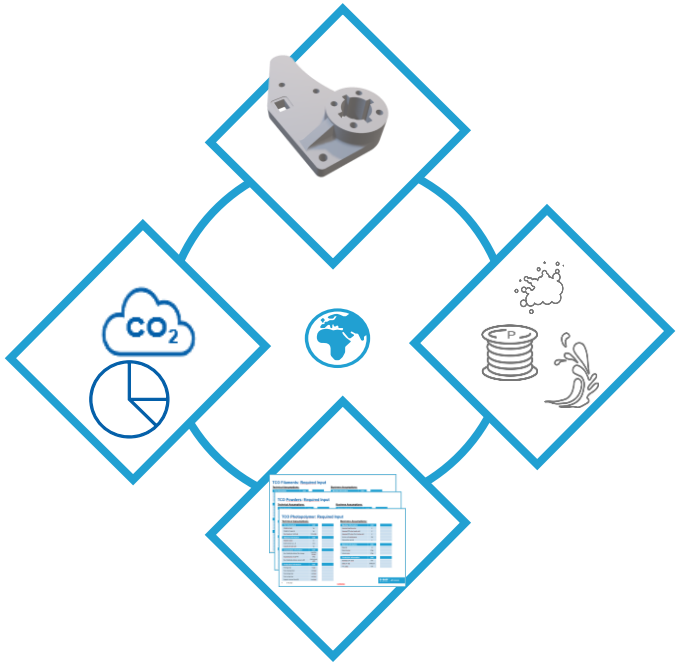
Premium – Workflow: Part LCA Service (CO_2)

1. Schedule a 30min call

Set up the production setting (e.g. location, transportation) of your 3D printed application.

2. We calculate the CO2 footprint of your part

We perform the LCA to assess the carbon footprint of your part



3. LCA report and presentation

We present you the LCA report and explain process hotspots

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Premium – Example: Summary of Conditions

Life Cycle Assessment conditions

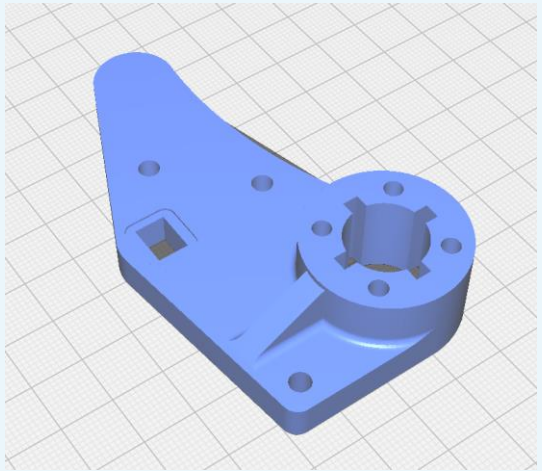
Functional unit :
We assume the functional unit to be **one complete build job** of this **BASF mount** printed on a **HP MJF 52XX** 3D printer. Every part printed with acceptable quality is the desired outcome.

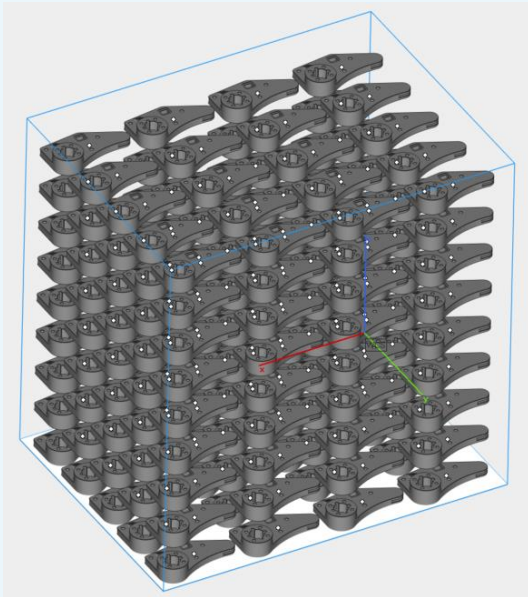
Goal of the study :
Measuring the impact **of part fabrication in MJF** specifically on the **HP MJF 52XX** using a **Ultrasint powders** including all impact categories

Scope of the study :
Cradle to Gate

Methodology used:
EF 3.0

Cutoff criteria:
95% of all impacts





Production setup:

- Total parts per build job: 180 parts
- Gap between parts: 5 mm
- Layer thickness = XX µm
- Total occupation for 1 part = 1/180
- Machine : HP MJF 52XX
- Build volume : 380 x 284 x 380 mm
- Part scrap rate : XX %
- Supports : 0 %
- Quantity : min : 180 parts
- Finish : Raw (Sandbasted part)

Assumptions:

- Study not critically reviewed [But materials currently in progress]
- Part packaging and transport of printed part neglected
- Assembly, use phase and end of life treatment of printed part neglected
- Production in Europe Electricity grid mix for Europe used
- Part scrap rates and build scene not validated in production environment

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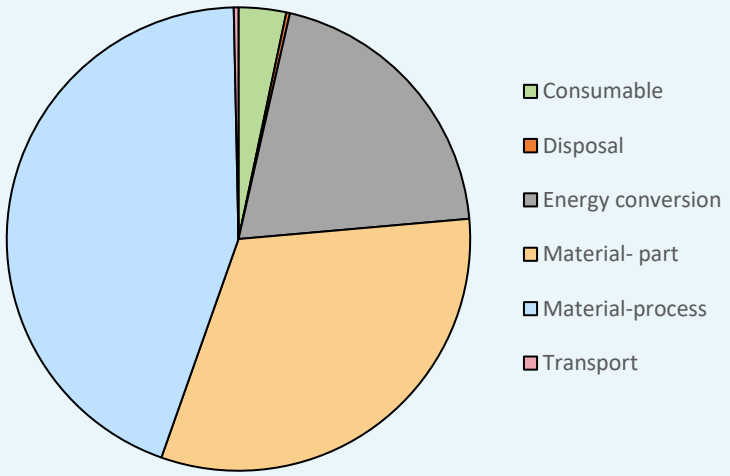
Premium – Example: CO2 Footprint Report of 3D Printed Part

Part carbon footprint

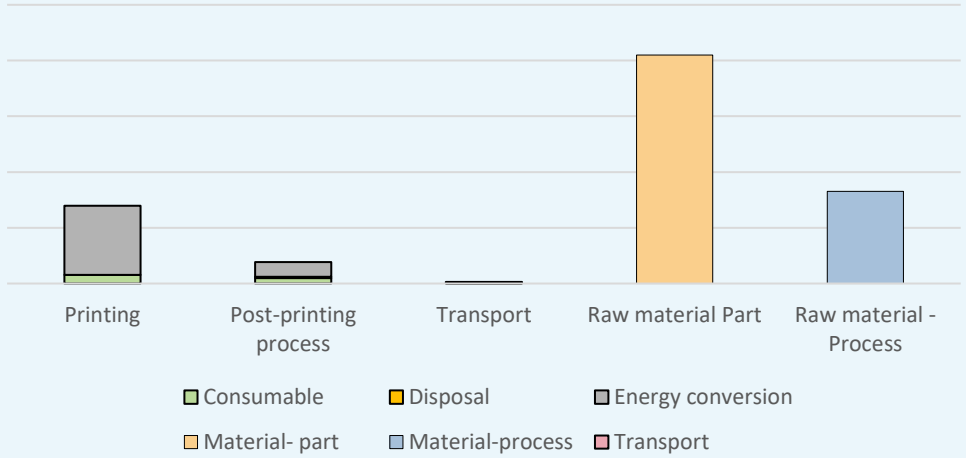
XXX
kg CO2 Eq

*estimated for a complete platform of parts

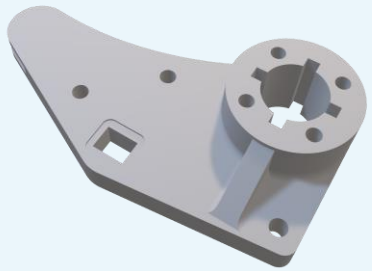
Hotspots in absolute quantities:



Process hotspots:



Future optimization potiential:



- Optimization scenario 1
- Optimization scenario 2
- …..

Scope of analysis:

Climate change:

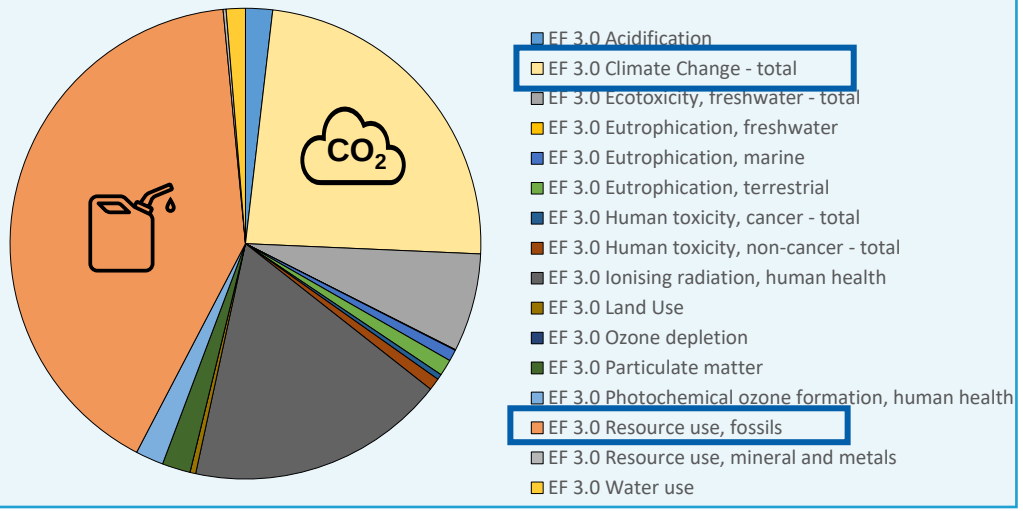
XX %
of overall environmental impact of the part

Learn more about the rest of thecontribution through our enterprise solution

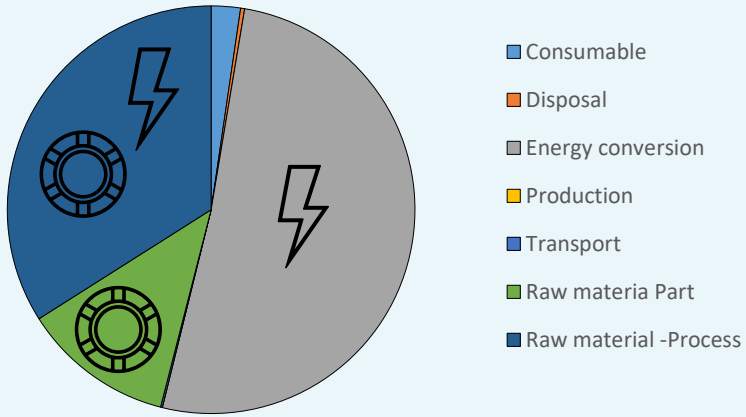
*estimated according to the scheme pressented by EF 3.0

Premium – Example: Environmental Report of 3D Printed Part

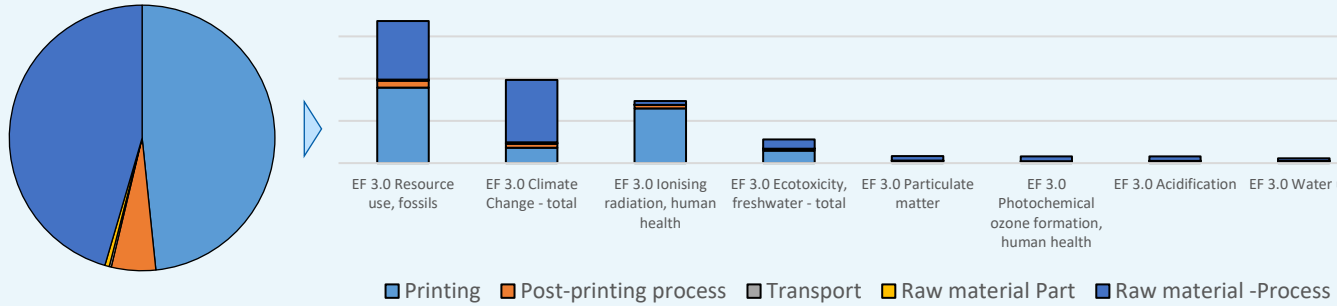
Normalised and weighed results



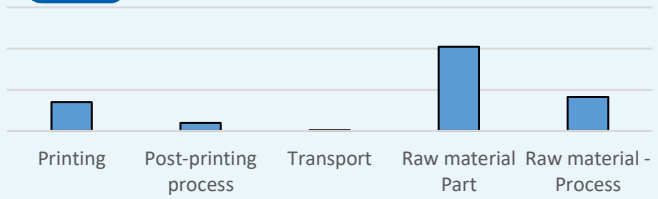
Quantity based split
normalised and weighed results



Process split
Normalised and weighed results

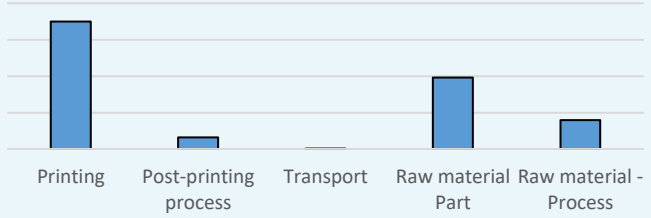


Climate change [CO2 eq]



XX
kg CO2eq

Resource use – fossils [MJ]



XX
MJ

Takeaways

- Highest contributing impact categories:
  - Resource use
  - Climate change
- Quantity based hotspots:
  - Electricity, Material
- Process hotspots:
  - Printing process
  - Material