



FROM WASTE TO VALUE: **HOW ONE INDUSTRY LEADER OPTIMIZES PART REUSE**

When a major equipment manufacturer wanted to enhance its reuse of parts and components, Dassault Systèmes developed a blueprint to make it happen.

“ One of the most powerful features we adopted was the search module. The immediate impact we had using it, as early as a week after deployment, was that we were able to find and reuse parts that we would have never been able to find previously. We only wished that we had this capability ten years ago.”

-IT Analyst

In equipment manufacturing, the stakes are high.

Massive energy consumption and extensive carbon footprint define its landscape. The problem intensifies when components or parts produced are used only once, leading to significant waste.

As a global leader in manufacturing equipment for electrical, aerospace and automotive companies, this customer faced a big challenge. With operations in over 175 countries, its carbon impact was exponential.

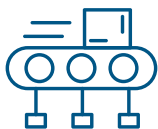
How can it leave a positive handprint?

Recognizing that today's decisions shape tomorrow's outcomes, this customer committed itself to **enhancing the reuse of its parts and components.**

By embracing sustainable manufacturing practices under the circular economy initiative of reducing, reusing and recycling at the lifecycle end, it mitigated risks, decarbonized processes and successfully reduced scrap and waste.

Discover its journey toward a more sustainable and efficient manufacturing future empowered by Dassault Systèmes' innovative solutions.

About the Customer



Industry:
Equipment manufacturer



Company size:
92,000 employees



Location:
Strong presence in more than
175 countries worldwide

Use case:

Deployment of NETVIBES on the **3DEXPERIENCE®** platform for engineering and design enabled product part sourcing and standardization.

The EU Taxonomy

The EU taxonomy is a classification system that defines the criteria for economic activities that are aligned with a net zero trajectory by 2050 and the broader environmental goals beyond climate action.

This case study focuses on the estimated contribution to the objectives of **Climate Change Mitigation and Transition to a Circular Economy.**

Results

2903tCO₂e

Avoided emission per equipment's worth

40%

Reduction in component scrap rate

IN A NUTSHELL



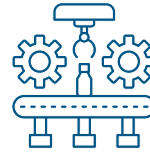
The challenge

The customer's key challenges stemmed directly from its:



I. Business needs

- Complex product data quality and quantity across five divisions and 70 brands
- Complicated data management due to its fast-paced integration, mergers and acquisitions



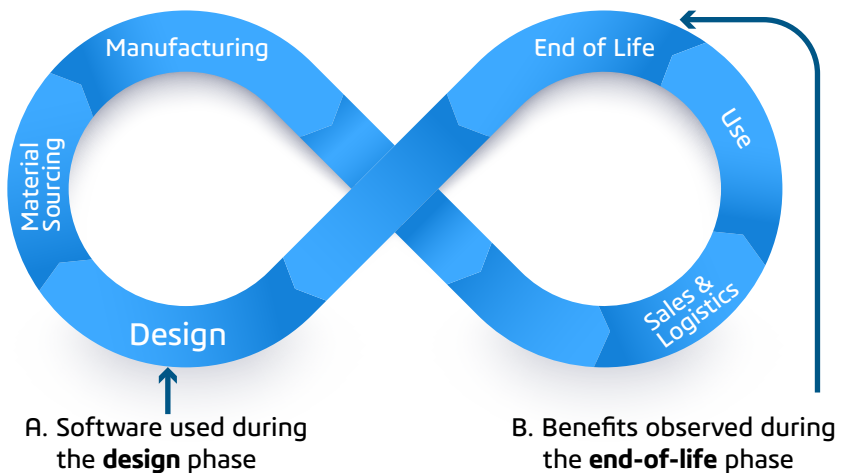
II. Operational requirements

Must ensure the highest quality output, improve product traceability and achieve cost-effectiveness in its four core processes: Machining, electroplating, forming and assembly – connecting more than 100 machines simultaneously.



The solution

Dassault Systèmes' approach addressed two crucial parts to achieve this reuse objective:



The outcome

Through advanced, integrated platform-driven solutions, the complete control of component inventory and reusing or repurposing existing capacitors and printed circuit boards were efficiently established from the start.

This enabled the decarbonization of product development by repurposing materials, components and products while reducing scraps and waste.

The usage monitoring enabled by NETVIBES on the 3DEXPERIENCE platform uncovered any issues from a designer's new part introduction and ensured that a single part or component was used in more than one product.

Improved visibility provided real-time insights throughout production to make informed decisions on part or component reuse.

OUR RECOMMENDATIONS AND METHODS

Adoption of Dassault Systèmes' **sourcing and standardization** solution on the **3DEXPERIENCE** platform

The **avoided emission estimation** was estimated following the:

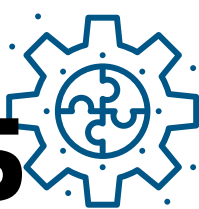
EU Taxonomy (Regulation Guideline), ISO 14067, 11044 and Guidance of WBCSD Net Zero Initiative Guidelines.

Methodology based on the comparison of two scenarios for one given functional unit (ISO 14067:2018 and ISO14064-2:2019) 14067:2018, ISO 14064-2:2019)

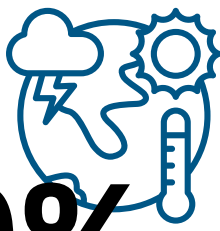
Each of these case studies are past or current projects for which emissions avoided or reduced have been estimated following EU Taxonomy (Regulation Guideline), ISO 14067, 11044 and Guidance of WBCSD Net Zero Initiative Guidelines. The 3DS approach and these calculations, along with the allocated contribution of the software, have been certified by an independent third party. External View URD 2023, Chapter 2.

THE END RESULT


Reduced material consumption


\$45 million
part reuse value

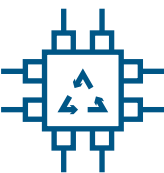
Climate change mitigation


40%
avoided emission estimation in scrap rate

Minimal scrap production


Approximately **50%**
of components were saved from being scrapped¹

Accelerated new values



- Components repurpose and reuse
- Material consumption reduction

Transition to a circular economy



To learn more, visit our website.

¹Scrap reduction achieved were mainly due to solutions fitting the 334418 - Printed Circuit Boards — with mounted semiconductor components North American Industry Classification System (NAICS) description (where proportion components designated as capacitor, resistor, coil, transformer, and other inductor manufacturing).