SIMPLIFY COMPLEX PARTS SOURCING WITH ARTIFICIAL INTELLIGENCE

Increase efficiency while lowering costs in product design
and delivery

DASSAULT SYSTÈMES

INTRODUCTION

One wrong or unavailable part can delay a product launch. Manufacturers have a steep price to pay — time, money and missed market opportunities — if they do not have a full view of parts sourcing and standardization possibilities to make the right decisions.

These challenges, coupled with unprecedented disruptions such as plant shutdowns, formidable logistics challenges and restricted supply chains brought by global uncertainties, make it more difficult for manufacturers to launch new products on time and on budget.

Amid this turmoil, even the most prepared manufacturers **need to better manage product parts sourcing.**

Improving parts sourcing requires seamless and quick procurement processes, ranging from supplier availability to engineering productivity and inventory management. The best-performing manufacturers are equipped to quickly make informed decisions to reuse, buy or create parts.
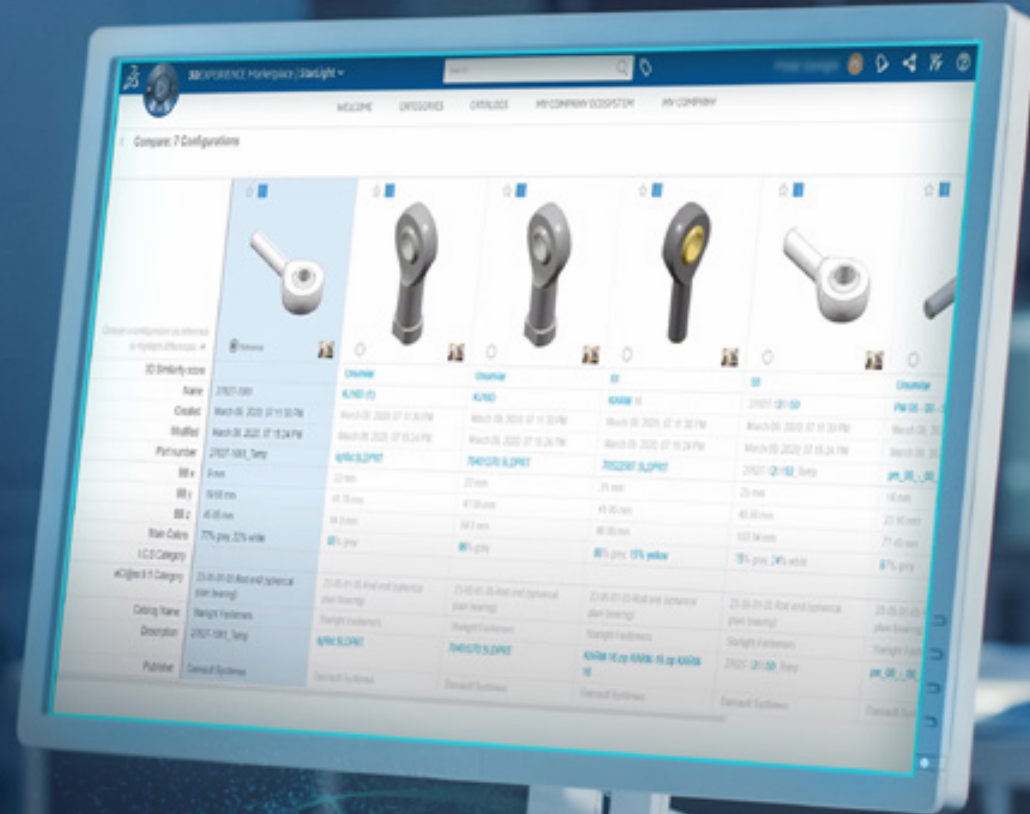
This ebook reveals how a business platform powered by artificial intelligence simplifies complex parts sourcing and standardization while keeping costs low in product design and delivery.

THE VALUE OF PARTS STANDARDIZATION

Quickly make smart, data-driven decisions to reuse and standardize parts

ARTIFICIAL INTELLIGENCE-BASED PARTS SOURCING AND STANDARDIZATION

Manufacturers can significantly reduce the number of product parts by identifying and classifying existing parts to establish rules for how they are used.

Parts reuse and standardization contributes to driving decisions very early during the design cycle, establishing much of a product's cost in the initial conceptual phase to turn losses into profits.
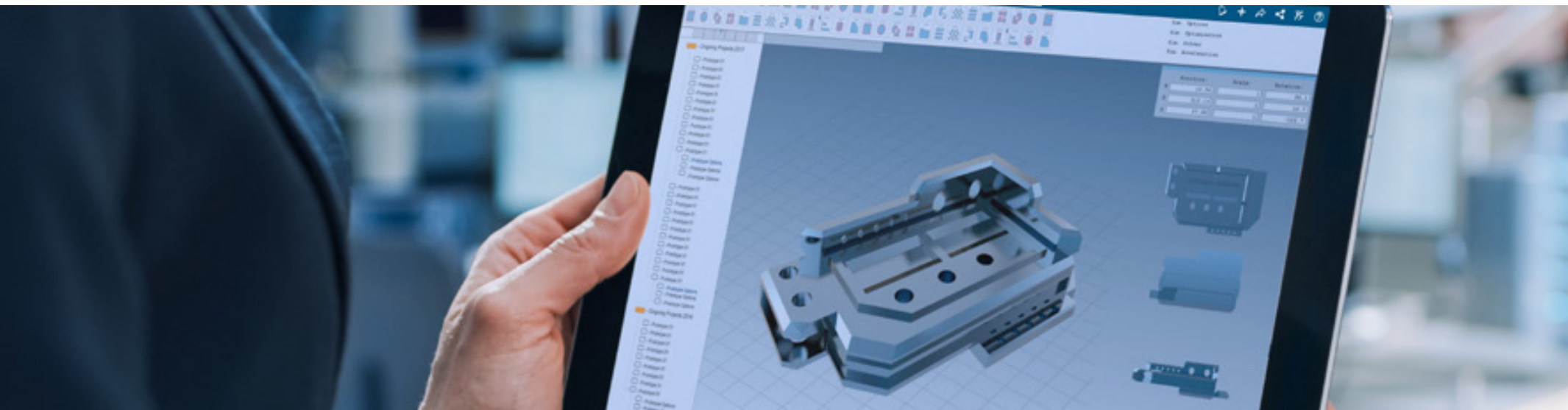
However, siloed systems such as ERP and CAD frustrate this process. Manufacturers need easy and immediate access to real-time data for teams to make the right decisions at the right time.

A solution that imbues parts reuse and standardization with intelligence can automate the time-consuming task of finding the right existing parts.

LINKING MULTIPLE DATA SOURCES

Powered by artificial intelligence, NETVIBES Sourcing & Standardization Intelligence solutions on the **3D**EXPERIENCE® platform let you immediately identify parts and part duplicates — in different shapes, features and criteria — and their associated files found throughout the enterprise, preventing parts proliferation.

When you manually aggregate data across system silos from one dashboard to the next, not only do you waste time, but you also miss opportunities and value that could potentially transform your business.

AUTOMATE AND IMPROVE PARTS CLASSIFICATION AND STANDARDIZATION

"Sourcing & Standardization Intelligence employs an indexing technology that crawls information system silos to give you a 360-degree view and a comprehensive dataset of the part."

Laurent Bertaud
NETVIBES Industry Process Expert
Dassault Systèmes

Laurent continues, "This information includes the materials, suppliers, locations and usability to help you decide which parts can help keep overall costs down."

Sourcing & Standardization Intelligence incorporates big data management technologies and advanced analytics to enrich data. "Learning from classified component specifications, from 3D to semantic criteria, contextualized artificial intelligence automatically recognizes and classifies parts quickly and accurately," explains Laurent.

Furthermore, advanced analytics of connected data enables Sourcing & Standardization Intelligence to automate and improve part classification and standardization. In return, you can achieve greater cost savings in three ways:

- **Reduce part catalogs and duplicates**
  The system automatically removes duplicate parts, paring down the catalog to enable fast and precise search results.

- **Deploy company-wide standards**
  Align company standardization policy to decrease design, material, manufacturing and storage costs as designers know when to use a standard part in their assembly instead of creating a new one.

- **Decrease time-to-market**
  Accelerate new product introduction by identifying the best parts for any project, performing 'should cost' analyses and achieving cost-balancing through parts optimization.

With key metrics and aggregated data available on a single, user-friendly dashboard, Sourcing & Standardization Intelligence presents unique advantages for manufacturers who are focused on agility.
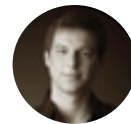
ACHIEVE QUICK ROI

Sourcing & Standardization Intelligence solutions access legacy databases and free up significant engineering time for higher-value tasks while reducing parts proliferation.

Manufacturers are concerned about budgets, user resistance and mergers and acquisitions. But they can benefit from cost and time savings by employing Sourcing & Standardization Intelligence thanks to its seamless interoperability between different systems.

By breaking down data silos and accessing parts data stored in multiple sources such as PDM and legacy SQL databases, manufacturers can reuse parts and enforce engineering standardization to accelerate product design and delivery while decreasing costs.

" We conducted a detailed ROI study for an industrial equipment manufacturer with 1,500 designers reusing almost 65 percent of their parts, and identified potential short-term savings that could exceed 50 million euros annually."

Stanislas de Charette
NETVIBES Sourcing & Standardization
Product Manager
Dassault Systèmes

Another company, Bird Technologies, a leading provider of radio frequency products and services, achieved a 75 percent reduction in part duplicates and the associated cost savings by using Sourcing & Standardization Intelligence.

SWIFT, SMART AND SUSTAINABLE PARTS SOURCING

Keep costs low while protecting product integrity

When supply sources fluctuate, m anufacturers m ust q uickly identify alternate suppliers for new parts and validate part quality, delivery time and cost information.
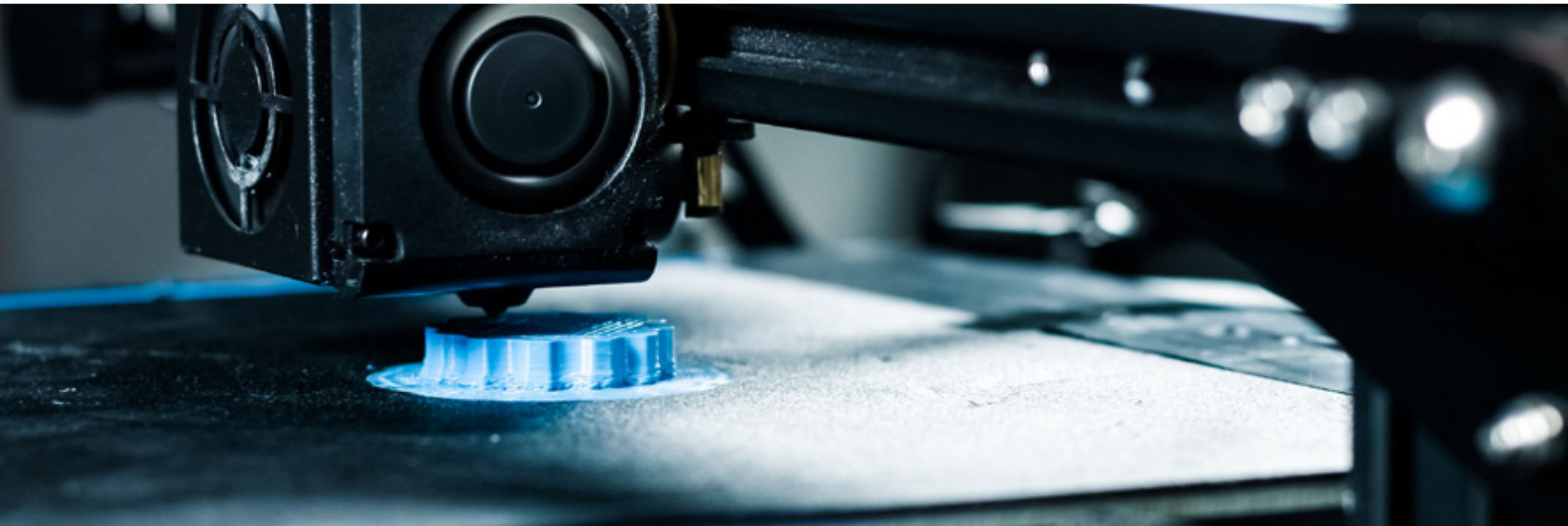
While many suppliers offer parts via an online catalog, combing through multiple suppliers' websites is tedious and time-consuming.

Part of the Sourcing & Standardization Intelligence portfolio, PartSupply on the **3D**EXPERIENCE Marketplace provides a comprehensive and intelligent catalog of 3D components. Within a single ecosystem, users choose the most suitable parts for their projects among more than 56 million qualified components available from over 1,700 service providers.

PartSupply helps manufacturers manage their ecosystem of multidisciplinary partners more collaboratively through two services:

- **PartSupply Community**
  Access a worldwide ecosystem of qualified providers to compare, evaluate and determine the best product parts.

- **PartSupply Enterprise**
  Build and nurture an ecosystem of supplier catalogs combined with in-house standard parts.

Using PartSupply can save innumerable design and engineering hours. The solution significantly reduces the upstream and downstream costs associated with the unnecessary creation of new parts.

PARTSUPPLY IN 5 STEPS

Here's how you can benefit from PartSupply:

1 Access comprehensive catalogs of qualified supplier components any time, anywhere.

2 Search for parts by filtering component categories or by combining the power of semantic search and 3D shape similarities.

3 Compare similar configurations s ide b y s ide a nd analyze their detailed technical characteristics and supplier locations.
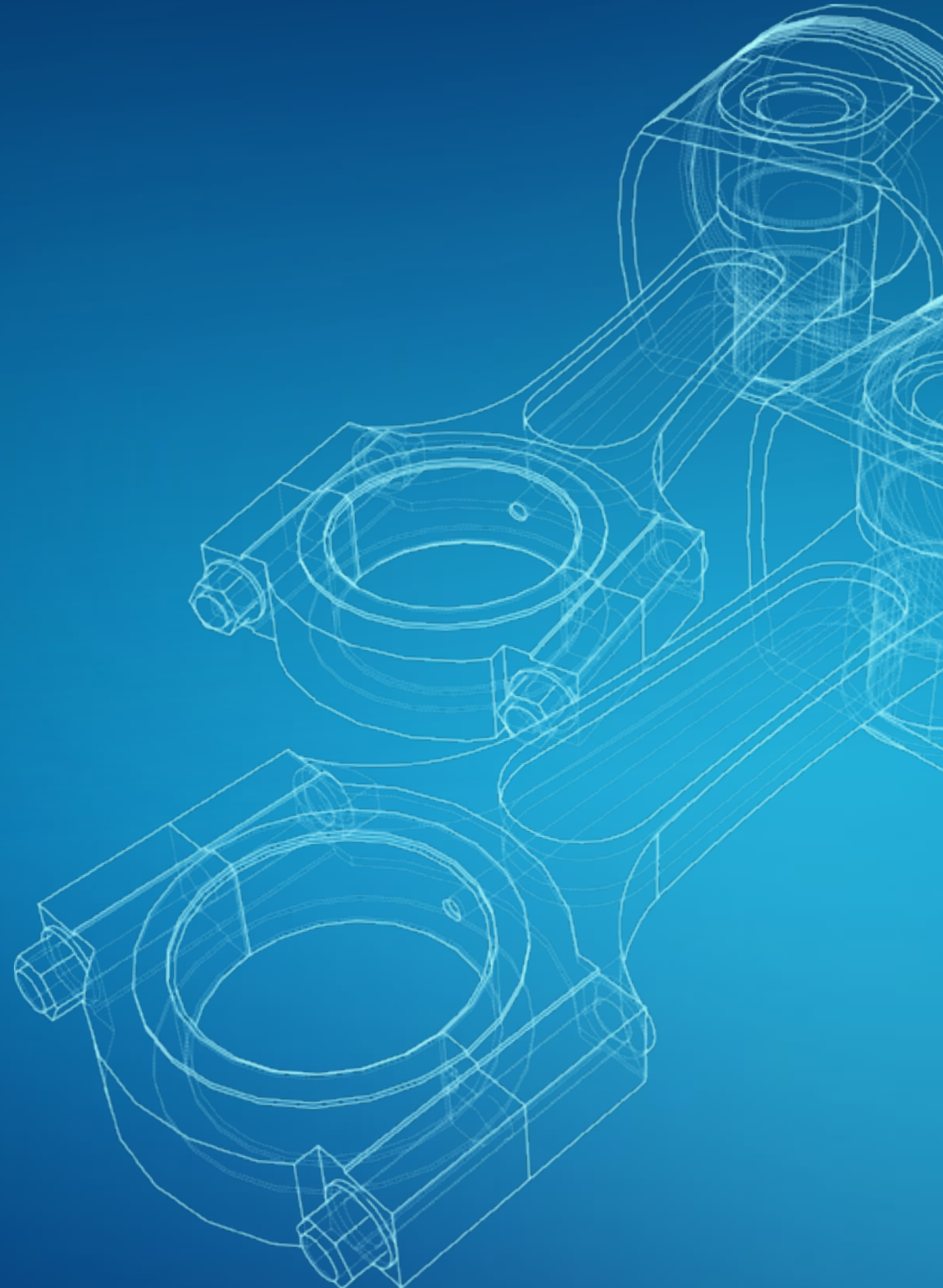
4 Download the 3D model in your design environment and virtually test parts for fast validation and quality compliance.

5 Evaluate supplier location and contact the supplier directly to negotiate the pricing and place your order.

Beyond reducing time and costs, the ability to identify and select suppliers closer to manufacturing facilities can also lower environmental impact.

Stanislas assures, "Suppliers have to classify their components before publishing them to buyers using standard market classification. In the future, these classifications will also include sustainable KPIs for carbon dioxide emission in the handling of raw materials, manufacturing and transportation."

When you build relationships by including suppliers in the product development process at an early stage, you can also ensure price stability and improve suppliers' reliability.

THE PLATFORM THAT BRINGS IT ALL TOGETHER

Break down cross-functional silos to ensure
a timely product launch

Sourcing & Standardization Intelligence solutions on the **3D**EXPERIENCE platform help you integrate engineering and procurement. They allow procurement to participate in engineering decisions early in the design process. Procurement aligns with engineering before the designer decides to create a new part. New part design is undertaken only after it is determined to be the only viable sourcing option.

With Sourcing & Standardization Intelligence, anyone involved in product development — from design to engineering, quality, manufacturing, procurement and suppliers — can have a real-time view of business activities to optimize sourcing on a global scale.

Let's see what this integrated and collaborative platform powered by artificial intelligence means for your business:

CONNECTED ENVIRONMENT

"Usually, procurement receives component specifications f or sourcing months after designers begin product engineering," Stanislas explains, adding, "Sourcing & Standardization Intelligence provides sourcing information directly and immediately from the design system so that the engineering team can consider sourcing propositions."

A high-tech manufacturer wanted to cut the costs of design, manufacturing and supply chain at scale by reusing and reducing parts across its product line. Despite its divisions being independently organized with different IT platforms and business processes, the manufacturer could drive significant cost savings.

With the help of Sourcing & Standardization Intelligence, this manufacturer can now aggregate data automatically in a connected environment that delivers a single source of truth in parts information or project monitoring across departments.

This new level of efficiency enables innovation for more strategic projects to take center stage as engineers have more time to improve and create new products instead of redesigning the same or similar parts.

COLLABORATION

Integrated on the **3D**EXPERIENCE platform, Sourcing & Standardization Intelligence benefits from 3D as the universal language for improved collaboration. Any team member — including non-technical ones — can contribute to successful product design and delivery.

For example, procurement can recommend other parts that match the needs of engineering instead of relying on just parts SKUs.

> ❝ The sourcing department now has access to comprehensive technical and economic data, opening the door to new cost reduction opportunities (negociation levers, supplier benchmarks, improved allocations, and more)."

Matthieu Maudelonde
Partner
Avencore

The collaborative aspects don't stop with visual aids. Teams access and share the same information quickly and in real time, staying on top of their projects and making decisions together even when they work remotely.

Using the **3D**EXPERIENCE platform, everyone leverages one underlying model with individual views based on their function. Real-time collaboration is much more efficient. With total transparency of the procurement processes, project stakeholders can make the best decisions to minimize costs enterprise-wide.
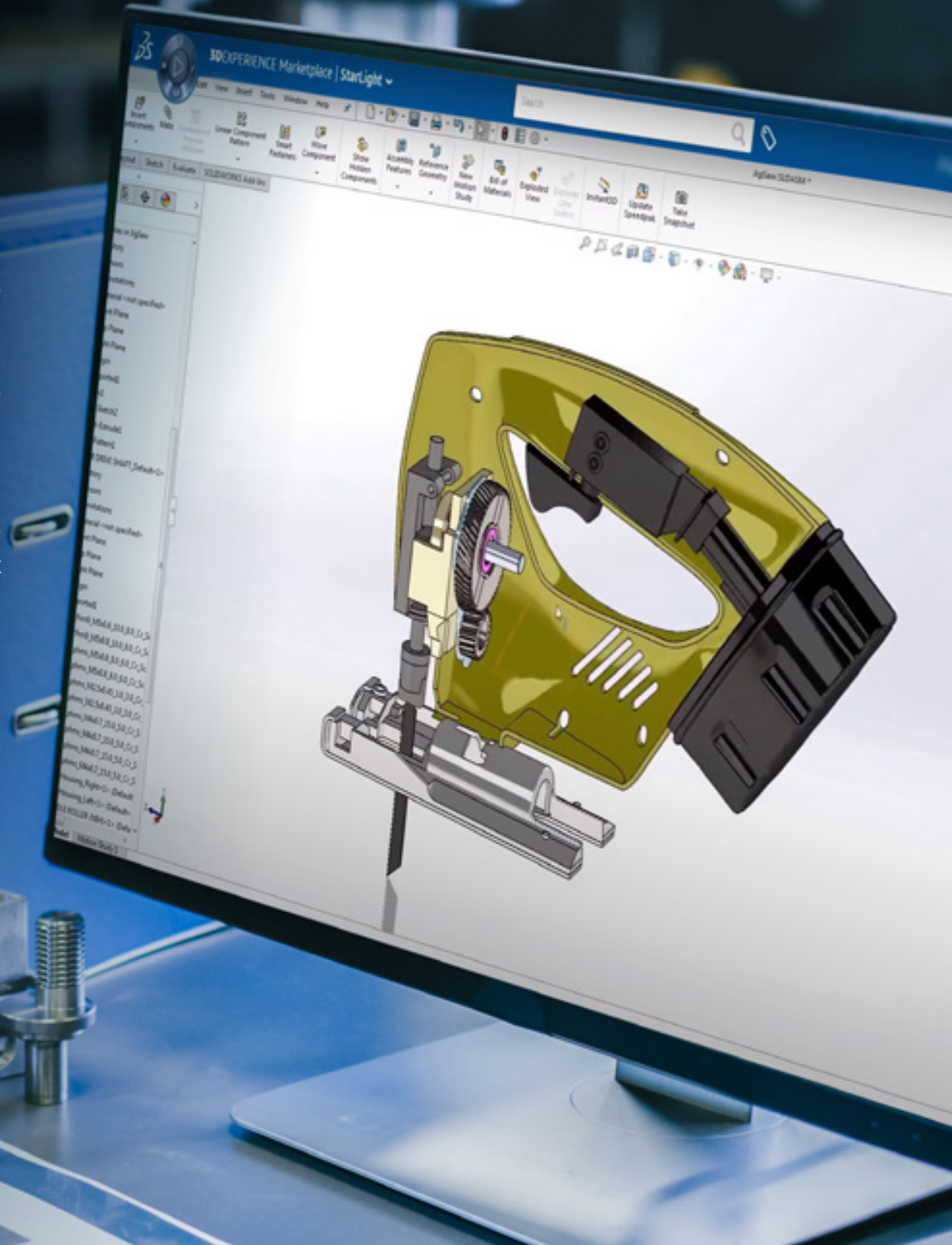
ARTIFICIAL INTELLIGENCE-DRIVEN DECISIONS

Automation and analytics — embedded within the platform — enhance your procurement strategy and identify potential savings in your decision-making.

Artificial intelligence, namely 3D CAD similarity and machine learning technologies, analyzes aggregated engineering and procurement data as well as sourcing guidelines to quickly reveal similar or identical parts with different reference numbers and prices.

The platform's seamless user interface makes information easily accessible, allowing manufacturers to make the best sourcing decisions efficiently by simplifying complex procurement processes.

THE RIGHT PARTS SOURCING AND STANDARDIZATION SOLUTIONS

The ability for manufacturers to make informed decisions to reuse, buy or make product parts can mitigate risks, lower costs and ensure successful product design and delivery, thus preparing manufacturers for volatile market conditions.

NETVIBES Sourcing & Standardization Intelligence solutions on the **3D**EXPERIENCE platform help design, engineering and procurement teams simplify complex parts sourcing decisions by supporting:

- Reuse of existing product parts
- Reduction of duplicate parts, including those with different reference numbers and prices
- Guidance for parts standardization
- Optimized supplier selection processes
- Enterprise-wide collaboration

Click here to learn more about the solutions, or contact us for a demonstration.

Our 3DEXPERIENCE® platform powers our brand applications, serving 12 industries, and provides a rich portfolio of industry solution experiences.

Dassault Systèmes, the **3D**EXPERIENCE Company, is a catalyst for human progress. We provide business and people with collaborative virtual environments to imagine sustainable innovations. By creating 'virtual experience twins' of the real world with our **3D**EXPERIENCE platform and applications, our customers push the boundaries of innovation, learning and production.

Dassault Systèmes' 20,000 employees are bringing value to more than 300,000 customers of all sizes, in all industries, in more than 140 countries. For more information, visit **www.3ds.com**.

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