



EXPERIENCE A NEW DIMENSION

CHANGE THE GAME WITH 3D Business case



INTRODUCTION

The new dimension in product marketing

As eCommerce continues to transform consumer shopping experiences, retailers, manufacturers, and marketers need to ask themselves if the way they commercialize their products is keeping pace with the demands of a rapidly evolving market.

By presenting products in high-end, realistic 3D, companies add an extra dimension to their online sales experience. This content, when available on platforms shifts the paradigm of shopping virtually.

However, to deliver an effective 3D experience, one that turns a concept into a competitive advantage, companies also need a way to seamlessly convert their latest design and operational data into engaging, up-to-date online product experiences. Leveraging the functionality and flexibility of the **3DEXPERIENCE®** platform, 3DEXCITE gives product innovation, and commercialization teams the ability to deliver a next-generation product experience.

3D AS A UNIVERSAL LANGUAGE FOR ECOMMERCE

Current state



Recent events have proven to be an inflection point for eCommerce. Over the last two years, more consumers have turned to the internet for simplify their shopping needs due to the impact of COVID-19. In 2020, eCommerce sales grew by a massive 27.6%, to a total value of \$4.2 trillion [globally](#).

However, while this presents a golden opportunity for online retailers, it comes with its own distinct set of challenges and friction points. Remarkably, this is the case in viewing digital products – 69% of consumers say it's important or very important to see new merchandise each time they visit a store or [shopping site](#).

In an increasingly dynamic marketplace, those looking to get ahead of the pack need to provide clearly differentiated shopping and product experiences. 3D meets the need.



3D as the new first-class online product experience

Creating detailed, interactive, virtual product content and experiences using 3D represents a significant opportunity for retailers and manufacturers.

Dynamic, 3D product experiences help retailers show consumers how a product addresses their needs. These interactions inspire emotional bonds for the consumer in ways that flat, 2D content can't.

3D provides a way to explore products in familiar environments using augmented reality capabilities. It helps consumers to make more informed decisions around product configuration and personalization.

This aligns with market sentiment and customer feedback. When a recent survey asked customers to select a favorite visual format, around a third of respondents said a 360-degree photo best informs their choice, and encourages [discovery](#). While 360-degree photography is better than 2D imagery, manufacturers with large product portfolios still incur high costs for photoshoots and creative-post projects to create it. And, if there's a design change, they have to undertake the process all over again. When derived from 3D, interactive content can be output, at high volumes, directly from the real-time product data model – even during product iteration.

Memorable experiences drive engagement. 91% of those polled say they're more likely to make a repeat purchase after a positive retail experience, and 71% say they've made a purchase decision based on experience [quality](#).

THE CHALLENGES OF 3D COMMERCE

Responding to a survey conducted by Dassault Systèmes and Pulse, 64% of businesses are in the process of creating the right format to use their engineering data for ecommerce.

Consumers are far more satisfied with 3D shopping experiences where they can inspect a product from multiple angles on-screen or shop in immersive, virtual environments. Early adopters stand out in an increasingly competitive, digital, commercial world.



However, implementation can be a challenge. Only 9% of retailers said they could support AR features as part of their mobile offering in one [survey](#). And while retailers have been experimenting with 3D product renderings in Virtual and Augmented reality (VR & AR) applications for some time, deploying them on an industrial scale and updating them quickly proves costly.

Companies planning to implement 3D face several challenges. These include:

- **Confusion over product data origin**

Where is my data coming from?

- **Difficulty in acquiring and producing material representations**

Where am I getting my models? Are they artistic renderings or scanned products?

- **Data homogeneity**

Will I be able to transfer model data reliably between different software packages?

- **Consistency in rendering**

Will different hardware levels, or different rendering software affect the consistency of models?

- **Variant levels of detail**

How can I adjust the fidelity of my model to accommodate the capabilities of different platforms – for example, for phones and industrial computers?

Retailers need a stable, reliable, and standardized format for creating and distributing 3D models to take advantage of the commercial opportunities that virtual product marketing provides.

gITF™ – DEMOCRATIZING 3D



Enabling the use of 3D in retail to scale to industrial levels results in significant commercial opportunities for all companies involved in creating, distributing, and displaying products for eCommerce. However, the industry lacks a standardized, streamlined format for 3D images.

This is not the case with other media types. The whole world is now standardized around the JPEG file format for 2D pictures, meaning nearly every camera outputs JPEG encoded and compressed image files. Audio content, similarly, has only a few generally accepted standard file types for sharing content.

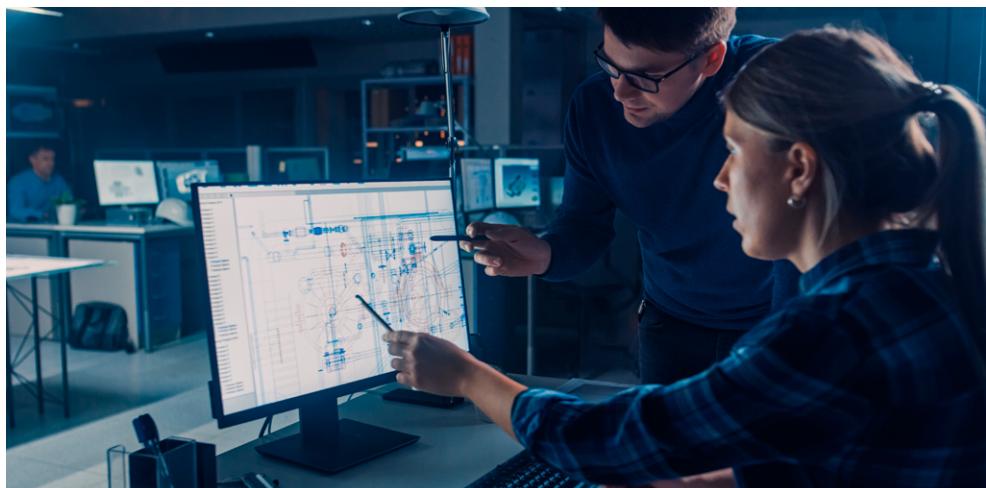
66%
of Japanese customers said
that 3D/AR visuals would
increase their confidence that
they're buying the right product.



THE JPEG OF 3D

Until now, a commonly shared language hasn't existed for those working with and sharing 3D assets. But, this is quickly changing.

The royalty free, Graphics Language Transmission Format, known as glTF™ is an open standard file format for 3D scenes and models. glTF minimizes the size of 3D assets and the runtime processing needed to unpack and use them. It is a streamlined, interoperable format that is fast to load and extensible, constantly evolving to bring new capabilities and improvements to the API.



Thanks to glTF, retailers, marketers and OEMs now have a standardized way to showcase products simply and cost-effectively in 3D. But to make the most of this technological shift, companies need a seamless way to take the latest 3D models from product development and get them on eCommerce sites. glTF is the bridge to effectively showcase the latest products and better answer consumer demand with flexibility.

"58% of businesses surveyed believe they will save between 21% - 30% of their production time by switching to publishing product images from engineering data"

**How much time does your company seek to save
by switching to publishing your product image
from a virtual twin (of your engineering data)
instead of using physical products ?**

11-20%	23.00%
21-30%	58.00%
Greater than 30%	16.00%
Unknown/hard to estimate	3.00%

A survey conducted by Dassault Systèmes and PULSE *

WHY DASSAULT SYSTÈMES ?

Using the 3DEXCITE solution on the cloud-based 3DEXPERIENCE® platform, companies can effortlessly convert their latest product designs into glTF 3D content.

Dassault Systèmes has been an active participant in the development of glTF from day one to create more realistic 3D representations through capabilities like physical-based rendering (PBR) material application. This contribution ensures that glTF models faithfully represent the products online.

Bringing glTF to manufacturers

With 3DEXCITE it's possible to take the latest product data from designers and engineers, optimize it by selecting only what they want to show, and construct a lightweight realistic glTF product model on any device. Lightweight data drives commercial experiences - meaning, models are stripped of all proprietary systems information. Manufacturers only offer 'look, feel, and functional' attributes. They remain in control over their IP. An OEM doesn't necessarily want to reveal critical operational data about their product, but they want to give customers a good idea of how it will work. For example, a customer browsing a smartwatch purchase doesn't require systems information. However, they may need to know battery location or how the watchband clasps.

By providing a single digital thread connecting product innovation with commercialization, manufacturers can create a constant feedback loop. By observing how consumers interact with 3D models, retailers can also collect valuable data, helping them optimize product interactions, retail footprints, and marketing messages.

"glTF has the potential to solve some of the big pain-points for the web publishing data pipeline. But for the format to do its work, it needs industry buy-in and technological support. Robust exporters with proper material conversion and standard-compliant viewers are critical here."

Bastian Sdorra, Rendering R&D Engineer, 3DEXCITE

CASE STUDY: HELPING FRAUNHOFER IPA GET THEIR ROBOT ONLINE

As a spin-off project, Fraunhofer IPA, working with Dassault Systèmes, decided to use 3D content to aid in their on-line communications and information about their laboratory robot, Kevin. In the lab, Kevin helps research scientists and lab technicians with a variety of tasks. Using an on-line, virtual twin Kevin allows Fraunhofer to share a fully interactive, 3D model of the lab robot. The 3D on-line Kevin provides a 360 view - from any angle, with zoom functionality and informational hot spots that provide a deeper understanding of the physical Kevin, the product.



Fraunhofer IPA created Kevin, a lab robot. They used a virtual twin of Kevin so people could experience the robot's capabilities on-line.

Incorporated kinematics illustrate how the product operates and how fast the product components move in real-time. By creating this interactive model which decouples critical information from design data.

"30% of businesses surveyed are hindered in embracing 3D modelling as the standard for ecommerce, because it is not viewed as a priority by top management"

What is the primary reason hindering your company from embracing 3D models as the standard for ecommerce?

Availability of 3D product data.	5,00%
No process defined yet for how marketing and engineering teams will collaborate.	20,00%
Not a priority for top management.	30,00%
Security risk of exposing IP.	8,00%
We already embrace 3D models for ecommerce in our company.	13,00%
Marketing team doesn't have access to engineering data.	24,00%

A survey conducted by Dassault Systèmes and PULSE *

3D eCOMMERCE OUTLOOK

As a standardized, widely supported visual format, 3D glTF is the next-mass-market-media format. Early adopters will be able to deliver new online shopping experiences. 3D solutions are playing a more critical role as eCommerce evolves.

Serving the experience economy

Establishing a consistent source of 3D truth becomes a critical tool in curating continued consumer engagement. Developing solid glTF capabilities, and securing executional tools to apply these capabilities, is a critical differentiator. In these models, continuous digital upgrades and improvements to the base-model plays a major role.

"As we see manufacturers start to look at iterative monetization models, they will increasingly need 3D models to understand how to implement these changes and what impact these changes will have on product performance. What started as embellishments on ecommerce sites, will increasingly become the product, and the thing that you buy. That's the way that this is going to unfold overtime. You won't be selling things; you'll be selling experiences every day."

Tom Acland, Chief Executive Officer at Dassault Systèmes 3DEXCITE

The Dassault Systèmes Marketing and Sales brand, 3DEXCITE on the **3DEXCITE** platform, provides comprehensive solutions for collaboration and 3D product content creation directly from a secure cloud network. Global brands leverage 3DEXCITE for services and software to evolve their marketing beyond messaging. We help them create marketing experiences where the products interact with people through rich media to build brands. Digital content is the key to unlock the NEW business landscape. Our clients launch products to market faster, with more relevance, on every channel, boosting sales to increase top-line growth. With the **3DEXCITE** platform, 3DEXCITE owns the domain to elevate our customers from product manufacturers to experience companies.

*This survey was conducted within the Pulse technology executive community from August 4, 2021 to August 31, 2021. 100 IT and marketing leaders responded, representing the consumer goods industry at the manager level and above in North America, EMEA, and APAC.

Our **3DEXCITE** platform powers our brand applications, serving 11 industries, and provides a rich portfolio of industry solution experiences.

Dassault Systèmes, the **3DEXCITE** Company, provides business and people with virtual universes to imagine sustainable innovations. Its world-leading solutions transform the way products are designed, produced, and supported. Dassault Systèmes' collaborative solutions foster social innovation, expanding possibilities for the virtual world to improve the real world. The group brings value to over 250,000 customers of all sizes in all industries in more than 140 countries. For more information, visit www.3ds.com.

