



## SOFTWARE AS A SERVICE PLM

# The Key to Sustainable Product Innovation

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## Navigating This InfoBrief

Click on titles or page numbers below to navigate to each.

In This InfoBrief .....	<b>3</b>	SaaS PLM Becomes the Innovation Engine of Digital Business.....	<b>10</b>
Executive Summary .....	<b>4</b>	SaaS PLM Is Crucial to the Future of Product Development.....	<b>11</b>
Cloud-Enabled Digital Transformation Accelerates, Sending SaaS Adoption into Overdrive.....	<b>5</b>	SaaS PLM Connects the Resilient Digital Innovation Ecosystem.....	<b>12</b>
SaaS Is Accelerating Within the Manufacturing Ecosystem .....	<b>6</b>	Essential Guidance .....	<b>13</b>
Data Adds to the Gravitational Pull of SaaS PLM.....	<b>7</b>	About the Analyst.....	<b>14</b>
SaaS PLM Delivers the Most Sought-After Goals.....	<b>8</b>	Message from the Sponsor.....	<b>15</b>
Digital-First Businesses Are Moving to SaaS PLM to Accelerate Innovation .....	<b>9</b>		

# In This InfoBrief

**This IDC InfoBrief explores how the broad benefits of software as a service (SaaS) can be applied to elevate the capabilities of product life-cycle management (PLM), especially for digital transformation of product development and manufacturing processes.** The content highlights recent IDC research, including global surveys on product innovation, SaaS adoption, adoption drivers, desired outcomes, success factors, and perceived barriers. The InfoBrief features select results from IDC worldwide manufacturing industry, SaaS, and cloud software forecasts; market share reports; and the PLM, SaaS, and cloud software market analysis perspectives (MAP).

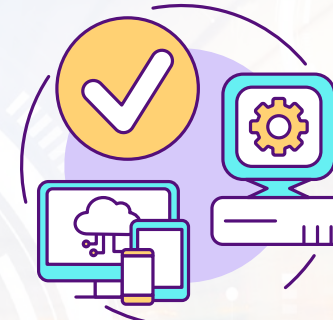


# Executive Summary



**Cloud-based SaaS applications are available on demand as subscription or pay-as-you-go consumption services, making them extremely attractive to manufacturers:**

**80% of manufacturers** consider SaaS applications important or very important for product innovation.



**Cloud product PLM is widely used by manufacturers:**

**76% use public/private cloud** for PLM and computer-aided development tools (CAx).

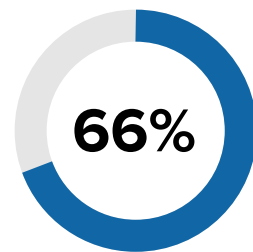
- ▶ **SaaS PLM increases business agility, leveraging the elasticity and scalability of public cloud** to improve product development processes, respond to unanticipated disruptions, and address emerging competitive threats.
- ▶ **SaaS PLM helps manufacturers meet changing business and market conditions** by eliminating the time and cost of adding infrastructure, connecting resources, and expanding ecosystems.
- ▶ **SaaS PLM improves product quality**, internal/external collaboration, time to market, data processing, and innovation.
- ▶ **SaaS PLM is the system of record for maintaining continuity across a digital thread** that connects people, processes, and complex systems in a closed loop that spans the entire product life cycle.

n = 442, PLM executives, Source: IDC's Product and Service Innovation Survey, 2021

# Cloud-Enabled Digital Transformation Accelerates, Sending SaaS Adoption into Overdrive

As cloud consumes a greater portion of IT budgets, SaaS becomes the required model for business software.

- ▶ Built-in agility with SaaS enables businesses to deal with chronic disruptions by making faster changes to strategy.
- ▶ SaaS plays a pivotal role in strengthening business continuity and helps the business transition to remote working.
- ▶ Broad adoption of SaaS contributes to digital transformation (DX) maturity.

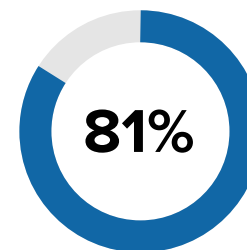


**66%** of SaaS-first businesses have a long-term strategy to use DX to transform markets and create new business models and customer experiences

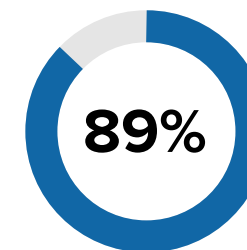
n = 2,021, Source: IDC's Industry CloudPath Survey, 2021

## State of SaaS and Cloud

Among Respondents:



currently use or plan to use SaaS within the year



currently use or plan to use public cloud within the year

According to Zylo, the average organization has 323 applications in its SaaS portfolio, which is increasingly dynamic. New SaaS solutions continuously enter the tech environment.

Source: Zylo 2022 SaaS Management Index Report

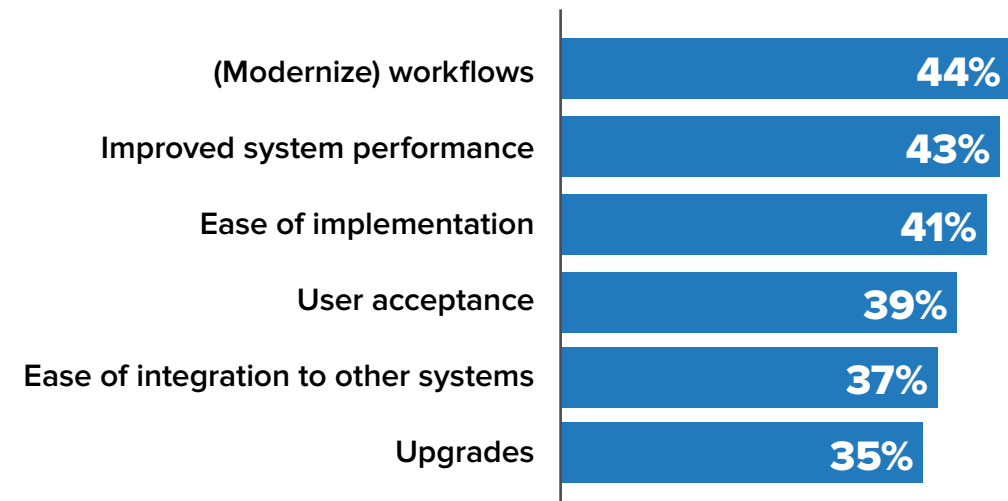
# SaaS Is Accelerating Within the Manufacturing Ecosystem

As SaaS expands across manufacturers, and the pace of change quickens, processes that rely on legacy software create technical debt, which is a drag on business performance.

- ▶ In transitioning to SaaS, legacy PLM is following a similar path to that of ERP.
- ▶ Legacy PLM has accumulated technical debt, as custom workflows, interfaces, and data models become “corporate standards” that hinder agility.
- ▶ SaaS PLM delivers modern workflows, faster performance, and seamless integration, which simplifies user adoption and collaboration.
- ▶ SaaS PLM aligns with manufacturers’ goals to improve product development cost, time, and quality.
- ▶ The foreseeable future will hinge on hybrid PLM strategies (on premise/cloud).

## Value of SaaS Exceeds Initial Expectations

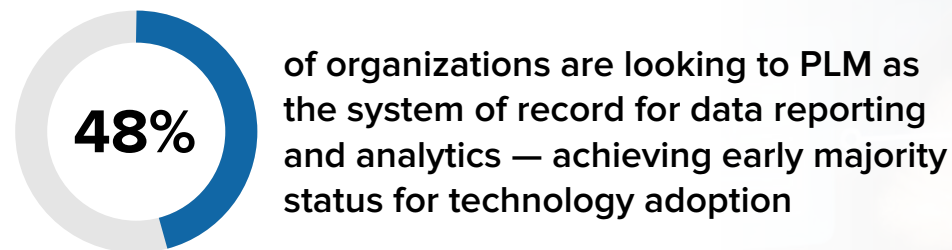
**Q. What have been the most surprising benefits of using your SaaS ERP system?**



n = 2,135, Source: IDC's *Industry SaaSPath Survey*, 2021

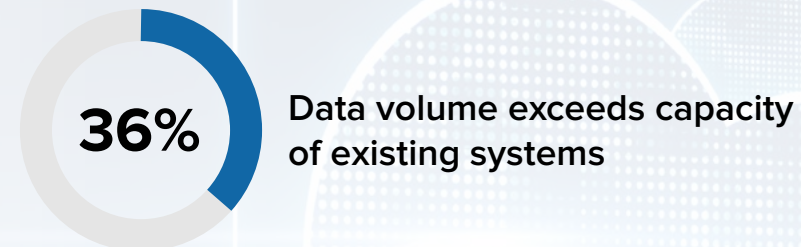
# Data Adds to the Gravitational Pull of SaaS PLM

- ▶ Smart products, Industrial Internet of Things (IIoT), interactive support tools, and social media generate data that needs to be quickly processed for real-time decision support.
- ▶ Product innovation and quality are tied to timely information from reliable data sources to drive design and simulation.
- ▶ SaaS PLM provides the resiliency and scalability needed to access, retain, safeguard, and analyze data now and in the future.



n = 442 PLM executives, Source: IDC's *Product and Service Innovation Survey*, 2021

## Top SaaS Adoption Drivers



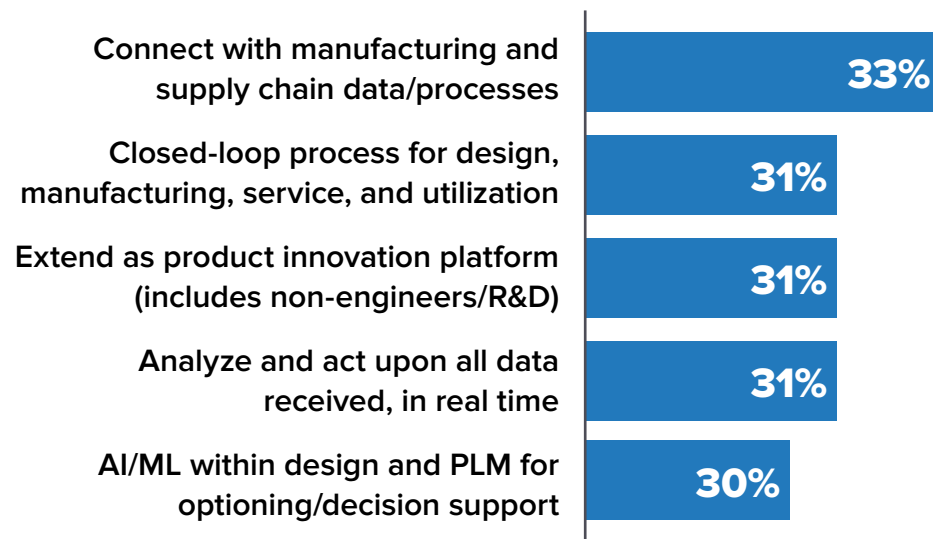
n = 2,021, Source: IDC's *Industry CloudPath Survey*, 2021

# SaaS PLM Delivers the Most Sought-After Goals

PLM tools with cloud connectivity and SaaS scalability simplify data analytics and collaboration, helping manufacturers deliver innovative products that achieve cost, time, and quality goals.

## Planning for PLM

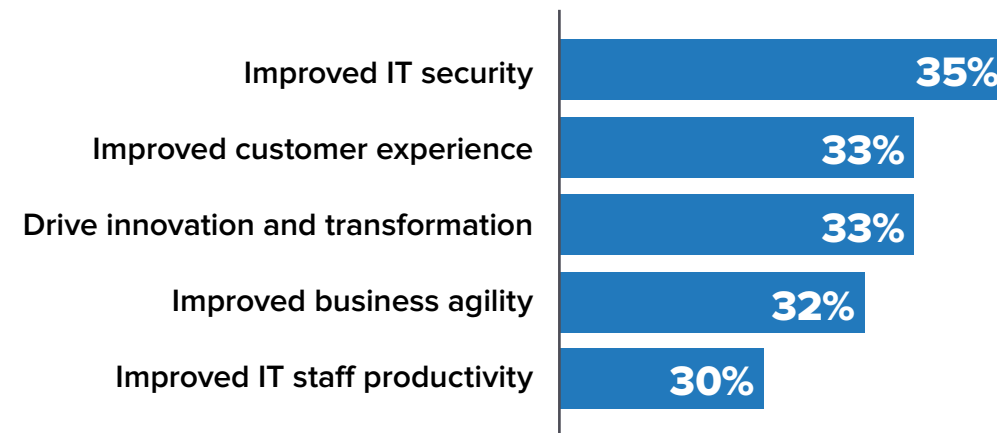
Q. Which of the following are part of your plans for PLM?



n = 442 PLM executives, Source: IDC's Product and Service Innovation Survey, 2021

## Accrued Business Value of SaaS

Q. Where have you seen the greatest benefits from the adoption of SaaS?

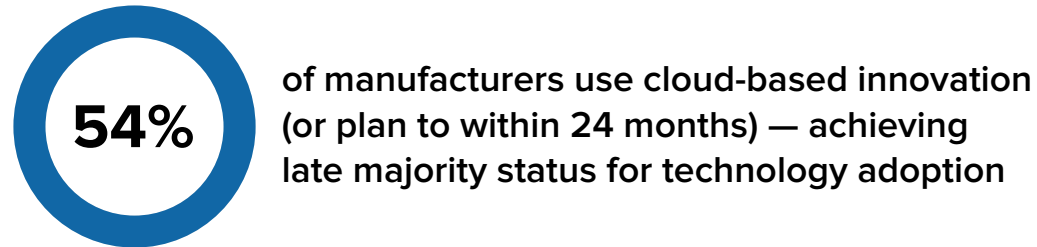


n = 1,180, Source: IDC's Industry SaaSPath Survey, 2021



# Digital-First Businesses Are Moving to SaaS PLM to Accelerate Innovation

Faster product development, greater product complexity, and higher product quality is driving adoption of multitenant SaaS PLM.



## Collaborative Product Development

**Collaborative product development is a primary driver for implementing PLM, making it difficult to overestimate the importance of SaaS PLM.** Beyond collaboration, SaaS PLM increases product innovation by making artificial intelligence (AI), IoT, simulations, and advanced analytics easier to apply. Tapping into this potential requires reimagining the product development process with an eye toward collaboration, sustainability, and supply chain disruptions. SaaS PLM makes it easier to connect the product development processes that improve cost, time, and quality.



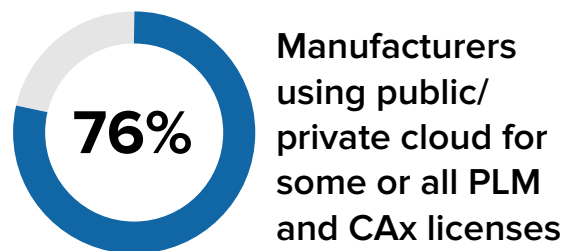
## The PLM and End-User Relationship

**The most profound change with SaaS PLM is the relationship between PLM software vendors and manufacturing end users.** Proven PLM workflows and business processes are delivered out of the box, and industry-specific needs can be implemented in hours. IT support for product development focuses on PLM scalability and performance. A wide array of PLM vendor-partners and integrators can ensure system configuration, user experience, and productivity. SaaS PLM providers use agile methodologies to frequently deliver key features and process automation that improve cost, time, and quality for product development.

n = 401, Source: IDC's *Industry CloudPath Survey*, 2021; Manufacturing

# SaaS PLM Becomes the Innovation Engine of Digital Business

- ▶ Manufacturers using cloud PLM (public/private) now are prioritizing SaaS PLM for innovation and time to market.
- ▶ SaaS PLM simplifies collaboration across internal/external organizations, processes, and data silos.
- ▶ Configurable services deliver role-specific PLM workflows that eliminate customizations and improve performance.
- ▶ SaaS PLM provides context-sensitive, data-driven user interfaces and personalized experiences on any device.
- ▶ SaaS PLM seamlessly scales for changing workload requirements, providing both flexibility and value.

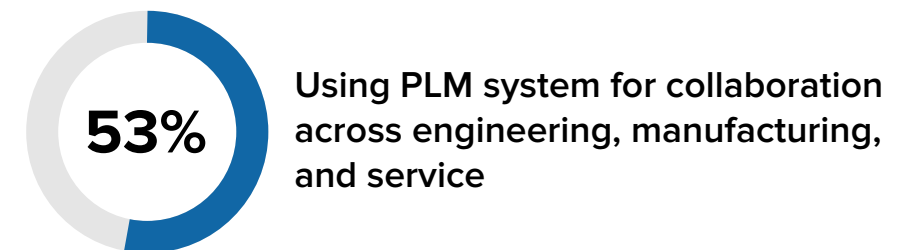


n = 442 PLM executives, Source: IDC's Product and Service Innovation Survey, 2021



## Why Is a Modular Architecture Important?

The rapid transition to remote work caused manufacturers to accelerate plans for collaborative product development. Team proximity became less important as businesses worked to quickly deliver superior products and customer experiences. For distributed innovation, SaaS PLM allows critical R&D processes and data to follow. As a result, PLM providers are introducing new cloud-native applications for greater scalability and deployment flexibility.

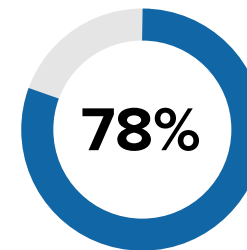


# SaaS PLM Is Crucial to the Future of Product Development

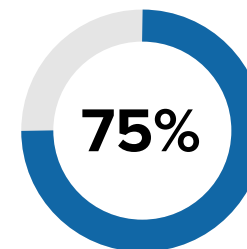
The future of product development is a shift in the work model to support open innovation through disparate/global engineering teams working on a common cloud-based platform.

- ▶ Product development is an inherently collaborative process. PLM is important to support this process, but rigid or overly customized legacy implementations can become a hurdle to change and innovation.
- ▶ Global design teams, suppliers, and production facilities require seamless communication to meet cost, time, and quality goals.
- ▶ A common, cloud-based PLM platform ensures accurate product information, regardless of the end-user context.
- ▶ SaaS PLM is built for disparate teams and shifting suppliers, allowing businesses to embrace hybrid work models and empower engineering talent.
- ▶ SaaS PLM is the key to product development in a disrupted, global economy—it simplifies collaboration and streamlines information to improve design, manufacturing, and support processes.

## By 2023...



**Organizations that will adopt hybrid work-first models redefining processes and technologies\***



**Manufacturers that will use open innovation for ongoing customer engagement, dynamic personalized digital and physical products, improved quality, and average increase of 3% CSAT \*\***

Source: \*IDC's Future Enterprise Resiliency & Spending Survey, January 2022; n=810

Source: \*\*IDC FutureScape: Worldwide Manufacturing Product and Service Innovation 2022 Predictions, October 2021

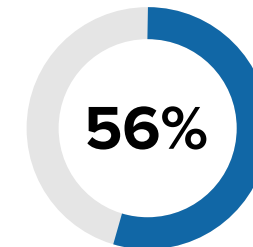
# SaaS PLM Connects the Resilient Digital Innovation Ecosystem

Speed to market requires continuous cycles of engagement and experimentation across supply and value chains.

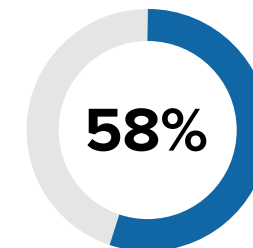
Designing innovative, high-impact products that meet the changing needs of customers requires a new generation of design tools and platforms.

The SaaSification of CAD and PLM tools has historically lagged functional markets such as CRM and HCM. This is changing rapidly as the need to interconnect complex digital ecosystems and accelerate product development combines with SaaS innovation in a perfect storm of opportunity and explosive growth.

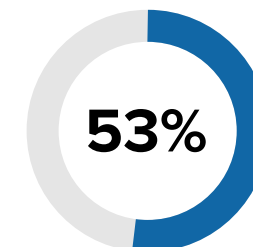
Product innovation relies on a closed-loop system that connects the digital and physical worlds and spans the entire product life cycle. The digital thread extends across value and supply chains to optimize people and processes. SaaS PLM becomes the product system of record, eliminating data silos that hinder collaboration.



currently use or plan to use public cloud SaaS PLM



currently use or plan to use SaaS collaboration software



currently use or plan to use SaaS design tools including CAD, CAM, and CAE

Source: IDC's Industry CloudPath Survey, 2021

# Essential Guidance



**Think holistically** when choosing SaaS PLM. Replacing legacy PLM with SaaS PLM will have implications across the design-manufacture-supply-service ecosystem.



**Think structurally** when implementing SaaS PLM. Streamline workflows, rationalize decision criteria, and connect data silos.



**Think collaboratively** when deploying SaaS PLM. Adopt agile product development methodologies that incorporate internal/external stakeholders into the design process.



**Think experientially** when planning SaaS PLM. Expand user access and standardize user experience across device types, systems of engagement, and systems of record.



**Think expansively** when integrating SaaS PLM. Embrace suppliers and partners through open-APIs that extend the production ecosystem and complete the digital thread.



**Think quantitatively** when evaluating SaaS PLM. Prioritize metrics that reveal organizational and product performance such as revenue, profits, market share.

# About the Analyst



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John Snow is Research Director for Product Innovation Strategies, part of IDC's Future of Industry Ecosystems practice. Mr. Snow's research includes product design, simulation, and innovation, with specific focus on strategies and technology that improve cost, time, and quality of new product development and introduction.

[More about John Snow](#)

# Message from the Sponsor

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Increase the pace of your business, driving secure collaboration and innovation with Windchill+ from PTC. It's a next-generation PLM as a Service solution that accelerates enterprise product development maturity and adoption. Windchill+ offers the feature and function richness of Windchill, PTC's award winning PLM solution, plus all the added benefits of SaaS. Upgrade to pre-configured best-practices, built-in automation, and zero downtime upgrades. Get the industry's leading PLM capabilities without the technical debt.

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