



Understanding

**ENTERPRISE COLLABORATION**

in Windchill

## Table of Contents

Why Enterprise Collaboration Matters .....	3
Benefits of Enterprise Collaboration.....	4
Key Enterprise Collaboration Capabilities in Windchill.....	5
Expert Insights.....	8
Customer Perspective.....	9
Realized Benefits Case Study.....	10
See Enterprise Collaboration at Work.....	11
Enterprise Collaboration Solutions: What to Consider .....	12
Learn More.....	13



## Why Enterprise Collaboration Matters

Enabling and improving collaboration across the organization is a key component of many digital transformation initiatives. Enterprise collaboration is focused on two goals. The first is enabling end-users with access to the right product information at the right time and in context. The second is facilitating active participation in product-centric processes across engineering disciplines, functions, geographies, manufacturing partners, supply chain partners, regulators, and customers.

### **CHALLENGES**

Manufacturers often operate with poorly integrated systems and processes that keep teams siloed, inefficient, and error prone. Without effective collaboration tools, enterprise stakeholders waste time distracted from their core work as they hunt for product data they need – or data that others have requested from them. Often times they fail to support others in a timely or thoughtful manner because the systems in place to facilitate collaboration are inconvenient or non-existent. Under the best circumstances this friction kills productivity and cross-discipline collaboration, at worst it causes stakeholders to make bad decisions based on outdated information.

### **CONSEQUENCES**

**Error Prone Decisions** – Easy access to product data might only be available to the authoring engineers. The result: roles across the enterprise make decisions based on outdated information causing inefficiency and errors with costly consequences such as scrap, rework, quality escapes, and inventory mismanagement.

**Failure to Meet Program Goals** – The collaborative effort required to achieve business level goals like cost reductions, quality improvements, time-to-market, and so forth is impeded by siloed information systems that cause misalignment and slow action.

**Inefficient Workforce** – Product stakeholders who lack effective collaboration tools regularly report spending more time on administrative tasks such as requesting, searching for, and sharing data, than on the value-added activities specific to their function.

**Proliferation of Bad Workarounds** – When IT teams are regularly over-committed to projects, users will find alternative means of retrieving and organizing the data that is important to them. Governance and security are lost, and risks skyrocket.

## Benefits of Enterprise Collaboration

**Enterprise Collaboration in Windchill** is powered by ThingWorx Navigate. Navigate's lightweight apps improve collaboration and employee productivity by providing easy access to product data and PLM-centric workflows – especially for the casual-, infrequent-, and non-PLM users. Whether it's through the out-of-the box apps or custom apps created using the low-code platform, product data and processes are extended to every stakeholder, including data from other enterprise systems. With unencumbered access to the data and workflows that matter to them – and are reliant on them – enterprise users in engineering, procurement, manufacturing, and beyond experience faster self-service, make better decisions, and actively participate in collaborative processes.



### **DEMOCRATIZE PRODUCT DATA**

Help cross-functional teams meet schedule, cost, and quality goals by simplifying access to PLM content and workflows with intuitive interfaces for expert and non-expert users in engineering, manufacturing, service, and elsewhere. .



### **ENABLE MULTI-ENTERPRISE COLLABORATION**

Improve customer perception, supplier and partner relationships, and compliance with easily tailored applications for highly-governed, real-time, and secure data sharing with external parties.



### **DELIVER INFORMATION IN CONTEXT**

Contextualize product information for specific roles and use-cases by securely connecting to other enterprise systems without replicating data. For example, link Navigate to ERP in order to display cost and inventory data alongside the product bill of materials (BOM).



### **EMPOWER IT AGILITY**

IT teams can satisfy more requests from the business, faster and more effectively, by leveraging out-of-the-box apps, multi-system connectivity, reusable components, and a low code development environment for easier customization..

## Key Enterprise Collaboration Capabilities in Windchill

The following list of key enterprise collaboration capabilities found in Windchill and Navigate is not exhaustive. Both the list and definitions are intended to provide a brief overview of the tools that are among the most valuable to the typical collaborator.

### Role-Based View Applications

Navigate's preconfigured collection of View apps makes it easy to find, view, access, and download PLM content including CAD drawings and 3D models. Drawings, design files, part information, and documents are made available for faster decision making and reduced errors. View apps can be accessed through a desktop, tablet, or via a shop-floor terminal. By tailoring apps by role, you can provide operators, service technicians, purchasing agents, production planners, quality inspectors, and more with secure, read-only access to PLM content and help them with their day-to-day tasks. [See How](#)

### Role-Based Contribute Applications

Navigate's preconfigured collection of Contribute apps involve stakeholders, who are typically infrequent users, directly in PLM workflows by enabling them to share their perspective and expertise. For example, the My Tasks app extends the change review process to the right stakeholders across the organization, so they can view, comment, approve, reassign, or reject a change. Broadening and simplifying stakeholder engagement can improve change management speed, accuracy, and reduce the frequency and impact of unforeseen consequences. Similarly, with problem reporting any user can report an issue regardless of its origin (remote customer site, supplier, or the shop floor). Having more users able to identify problems and report them drives product and process quality improvements.

# Key Enterprise Collaboration Capabilities in Windchill

## Extended Enterprise Applications

Navigate provides a low code environment with re-usable UI components for rapid application development. The extended enterprise environment supports out-of-the-box connectors to third-party systems (ERP for example) as well as a framework for accessing legacy systems. You can customize the out-of-the-box Navigate apps or build your own apps, unique to your enterprise. The reusable, tailorable Navigate components speed up development time to deliver apps into the hands of your end-users quicker. The components combine visualization with logic and functionality for a consistent look and feel and are designed for upgradeability. [See How](#)

## Technical Data Packages

A technical data package is a set of electronic files that describe a product or item. These files are used by external partners and downstream teams in the supply chain and can include 3D models, product manufacturing information (PMI), bill of materials (BOMs), and any other necessary data. Windchill's package capability allows users to create, deliver, and track packages of Windchill-managed information. Packages provide offline access to Windchill information to partners outside the Windchill system and, thus, are an ideal way to deliver an RFP or RFQ to suppliers; a collection of deliverables for a design or gate review; or CAD models to a manufacturer or design partner. Packages are subject to revision control to ensure governance and an audit trail of data shared beyond the walls of the enterprise.



## Key Enterprise Collaboration Capabilities in Windchill

### Collaboration Security Management

Security is essential anytime critical product data is being created or shared and Windchill and Navigate are designed to ensure data ends up in the right hands. Windchill provides a secure collaboration space where deliverables can be tracked across multiple projects (concurrent supplier interaction) around the globe (multi-language) with automation of key business processes (NPI/NPD, change, quality, etc.). Authentication can be configured across system integrations. Objects are access controlled to authorize internal and external users to view or edit data. For advanced IP protection, objects are tagged using security labels (ex. ITAR clearance) with further control established using temporary agreements for specific participants. Access control lists are used to map and specify access control rules between an object type, lifecycle state, participants, and their associated permissions. Lastly, security audit event tracking logs unauthorized security-related attempts on proprietary information.

## Expert Insights

**EMILY HARTMAN**Director, Product Management  
PTC

*"We're moving from this legacy mindset of replicate everything and instead, we're syncing and pulling data in when it's needed or requested by a user so that it's constantly up-to-date and in real time."*

Navigate connects users across the enterprise - including manufacturing and service - to the PLM data and processes. With the ability to customize existing out-of-the-box apps or build new custom apps, engaging stakeholders to view and contribute to engineering information has never been easier. Navigate components are built for reuse and provide consistent user experience and functionality to interact with domain specific system data. This makes custom apps ready for production use in surprisingly short time.



## Customer Perspective



**WOLFGANG RUEDELL**  
Engineering Tools Manager,  
Electronics Division  
ZF



*"If somebody is doing something now in the system, a millisecond later I can see it in my app, and this is giving a much higher confidence level in our decisions"*

Each department at ZF used a wide range of engineering and collaboration tools. The siloed, disparate nature of these tools meant that teams often found themselves working from data that was already weeks old by the time it hit their inboxes. Wolfgang worked with his engineering partners to understand their needs for tools, how to use tools, what data was required. With Windchill and Navigate, product information is now easily accessible for anyone who needs it, without compromising security.

## Realized Benefits Case Study

### MAN TRUCK & BUS

MAN Truck & Bus, based in Munich, Germany, is a leading international provider of commercial vehicles and transport solutions in Europe.

#### **CHALLENGE**

MAN Truck & Bus prides itself on producing individualized products for each of its customers. However, juggling product information through the organization's various legacy enterprise systems was becoming too complicated to handle given the complex task of customization. Enterprise stakeholders needed access to product information without requiring comprehensive training and full permissions to engineering systems.

#### **SOLUTION:**

To ensure that they could smoothly make the transition from their legacy systems to Windchill while extending product data to the enterprise, MAN Truck & Bus turned to ThingWorx Navigate. Navigate made it possible for stakeholders to continue using legacy systems without requiring them to invest in the systems any further with new information. By deploying Navigate alongside Windchill, MAN Truck could easily customize their user experience without complex adjustments to the core PLM system. [Learn More](#)

*“Not only has ThingWorx Navigate made the transition from legacy systems to Windchill smoother, it has also demonstrated the value of extending product information to more stakeholders than we have previously.”*

**Martin Mundinus**

PLM Program Manager

MAN Truck & Bus

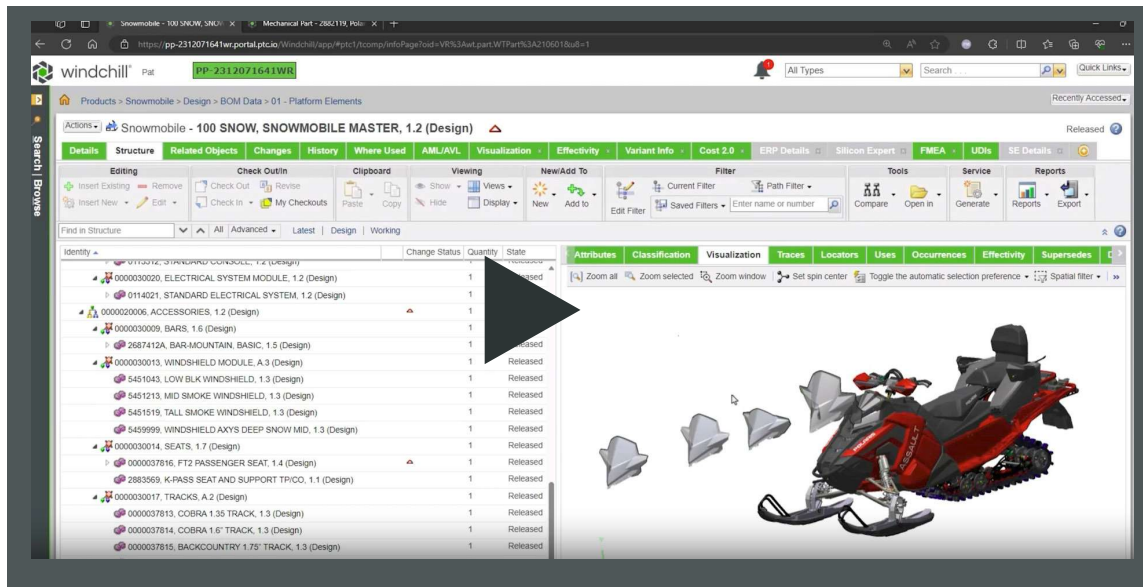


# See Enterprise Collaboration at Work

This interactive demo is a genuine representation of ThingWorx Navigate that leverages a sample data set. Take the guided tour to get a firsthand experience of the out-of-the-box ThingWorx Navigate View and Contribute applications. Within the demo you will experience:

- Seamless online connection to essential product data from Windchill, PTC's industry-leading PLM platform.
- Intuitive user interactions via an easily accessible web browser – with no need for training.
- Purpose-built, role or task-based apps allowing you to, for example, view a drawing or a parts list.
- Active PLM collaboration for reporting a problem and reviewing an engineering change.

- VIEW PART STRUCTURE
- VIEW DRAWING
- VIEW PART PROPERTIES
- VIEW DOCUMENT
- MY TASKS
- CHANGE REVIEW
- CHANGE APPROVAL
- REPORT A PROBLEM

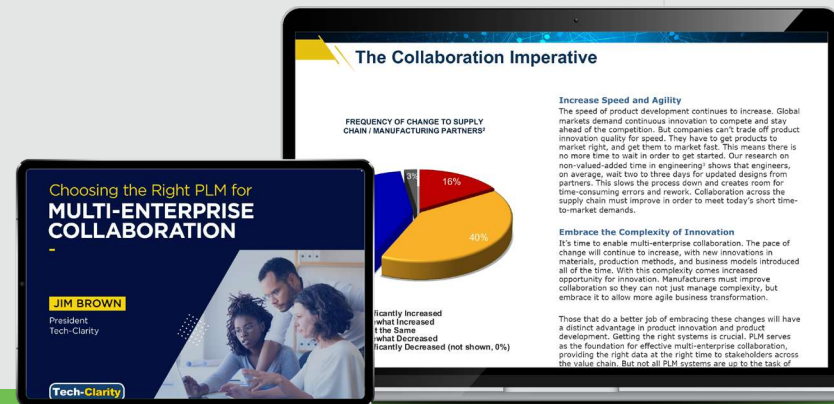


# Enterprise Collaboration Solutions: What to Consider

## Choosing the Right Tools for Enterprise Collaboration

Today's innovation requires efficient and effective collaboration across departments, customers, the supply chain, and regulators. With manufacturers pushing the boundaries of product innovation and development, they must be increasingly agile to react to customer needs and market opportunities in the global economy.

PLM serves as the foundation to improve collaboration across product development and enable agility, speed, and quality in innovation. See what industry analyst Tech Clarity has identified as key criteria to focus on when selecting a PLM solution and extending its capabilities for your organization.



Download your complimentary copy of the buyer's guide, **Choosing the Right PLM for Multi-Enterprise Collaboration** to learn:

[Learn More >](#)

- Why efficient collaboration is imperative to global market demands.
- How PLM streamlines the information exchange process within an enterprise.
- How low-code applications can improve product development collaboration.

## Learn More

[Click here](#) to explore more of these topics

[BOM Management](#)

[Collaborative Product Development](#)

[Engineering Change Management](#)

[Manufacturing Process Management](#)

[Model-Based Systems Engineering](#)

[Parts Classification](#)

[Product Configuration Management](#)

[Product Data Management](#)

[Product Variability Management](#)

[Quality Management](#)

[Requirements and Test Management](#)

[Service Process Management](#)

[Supply Chain Collaboration](#)





121 Seaport Blvd, Boston, MA 02210 : [ptc.com](http://ptc.com)

---

© 2024, PTC Inc. All rights reserved. Information described herein is furnished for informational use only, is subject to change without notice, and should not be taken as a guarantee, commitment, condition or offer by PTC. PTC, the PTC logo, and all other PTC product names and logos are trademarks or registered trademarks of PTC and/or its subsidiaries in the United States and other countries. All other product or company names are property of their respective owners.