



# Quantifying PLM Value: How Windchill Reduces Total Cost of Ownership





When companies evaluate PLM, the conversation often starts and ends with licensing. But in manufacturing, PLM total cost of ownership (TCO) is rarely driven by the software line item alone. The real costs show up in daily work: time lost searching for data, rework caused by version confusion, slow change cycles, BOM errors that reach the floor, and admin overhead that grows every year.

PTC Windchill is designed to centralize product data and streamline collaboration across engineering, manufacturing, supply chain, and service. The tool reduces the operational friction that drives “hidden” PLM costs. In this guide, we’ll walk through a practical, metrics-driven way to quantify PLM value and connect Windchill capabilities to measurable reductions in total cost of ownership.

## Why PLM Total Cost of Ownership Is More Than License Cost

A simple way to think about PLM TCO is:

$$\text{PLM TCO} = \text{Software} + \text{Services} + \text{Internal Effort} + \text{Productivity Drag} + \text{Quality/Execution Costs}$$

Here are the categories that typically matter most:

- Implementation and rollout** (process design, configuration, data migration)
- Integrations and customizations** (build + maintain over time)
- Administration and support** (tickets, user management, upgrades, infrastructure)
- Training and adoption** (time to proficiency, ongoing enablement)
- Operational waste** (data hunting, manual handoffs, duplicate entry)
- Quality and execution cost** (scrap, rework, expedite costs, late changes)

The good news: most of these categories are controllable. And the most meaningful savings tend to come from reducing recurring waste, not trimming first-year spend.

# Windchill: A Brief Overview

Windchill is a web-based PLM platform used to centralize product data and improve collaboration across teams involved in designing, building, sourcing, and supporting products. PTC positions Windchill as a way to tackle common inefficiencies (siloes tools, manual routing/approvals, redundant data entry, and low visibility into product information) so organizations can move faster with more control.

That combination (speed + control) is where TCO drops: fewer errors, fewer handoffs, fewer hours wasted, and fewer downstream disruptions.



## The 5 Biggest TCO Levers Windchill Impacts

### 1) Less Rework Through a Single Source of Truth

#### ■ The cost problem:

Multiple versions of product data lead to duplicated work, conflicting decisions, and rework. Engineering spends time reconciling what's "latest," and downstream teams build or buy to outdated information.

#### ■ How Windchill reduces TCO:

By centralizing product data and creating a single source of truth, Windchill reduces duplication and version confusion across teams.

#### What to measure:

- ✓ Hours/week spent locating or validating product information (by role)
- ✓ Hours/week spent recreating or reformatting data that already exists elsewhere
- ✓ % of rework tied to incorrect, outdated, or conflicting product data

#### Example value statement:

"If engineering and manufacturing engineering each spend 3 hours/week reconciling versions, a centralized source of truth can return hundreds of hours per year **before factoring in downstream rework avoided.**"

## 2) Faster Change Cycles = Lower Engineering + Manufacturing Cost

### ! The cost problem:

Slow or unclear change processes create late changes, rushed approvals, and rework. By the time an ECO is approved, teams may already be building the wrong revision or ordering parts that won't be used.

### ! How Windchill reduces TCO:

Windchill supports change management workflows and traceability that help accelerate implementing changes and introducing products faster **while maintaining control.**

### What to measure:

- ✓ ECO cycle time (submit → approve → release)
- ✓ Engineering hours per ECO (prep, routing, follow-ups)
- ✓ Late-stage changes (after prototype, after first build, after release)
- ✓ Expedite costs tied to change delays (premium freight, overtime, line disruption)

### Example value statement:

“Reducing ECO cycle time reduces follow-up time, reduces the chance of producing to the wrong revision, and minimizes expedite spend. Even a 10–20% improvement compounds quickly in high-change environments.”

## 3) Fewer BOM Errors and Better Downstream Execution

### ! The cost problem:

BOM and drawing mismatches create scrap, rework, line stoppages, and incorrect purchasing. These dollars hit fast and often, especially when changes don't ripple cleanly to downstream stakeholders.

### ! How Windchill reduces TCO:

Windchill is positioned to connect product definition (parts, structures, related documentation, workflows) across the lifecycle. This helps reduce discrepancies that lead to execution errors.

### What to measure:

- ✓ Scrap and rework costs attributable to incorrect product definitions of NCs or shop-floor deviations tied to wrong revision/BOM issues
- ✓ Procurement corrections: PO changes, returned parts, wrong builds, shortages
- ✓ Line-down or schedule disruption incidents and their cost

### Example value statement:

“Preventing just a handful of BOM-driven disruptions per quarter can offset a significant portion of PLM investment **especially in high-mix, variant-heavy environments.**”

## 4) Lower Training and Support Burden Through Role-Based Access (Windchill Navigate)

### ■ The cost problem:

Many PLM deployments become “expert-only.” That creates bottlenecks, training spend, and an ongoing support burden: users submit tickets or rely on gatekeepers to find basic product information.

### ■ How Windchill reduces TCO:

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### What to measure:

- ✓ Training hours per user (power users vs casual users)
- ✓ Hours of “how do I find...” support tickets per month
- ✓ Time-to-proficiency for new users
- ✓ Time spent searching for information (by department)

### Example value statement:

“When casual users can self-serve product data, you reduce ticket volume, remove busywork from PLM admins, and speed up downstream decisions.”

## 5) Reduced Customization and Upgrade Friction Through Standardization + Modernization Paths

### ■ The cost problem:

Heavy customization increases long-term cost: integrations break, upgrades become major projects, and maintaining “special logic” turns into permanent overhead.

### ■ How Windchill reduces TCO:

Manufacturers often reduce TCO by standardizing processes and limiting unnecessary customization **especially as they modernize environments**. PTC highlights cases where adopting Windchill+ and standardization can reduce update and API-related costs over time. For some organizations, upgrade cycles also become an opportunity to rehost in cloud environments like Azure/AWS to reduce infrastructure overhead.

### What to measure:

- ✓ Annual cost of maintaining customizations and integrations
- ✓ Upgrade effort (internal labor + consulting time)
- ✓ Infrastructure/admin effort (patching, backups, performance tuning)
- ✓ Number of “special workflows” that require ongoing maintenance

### Example value statement:

“The cheapest customization is the one you never build. Standardization reduces long-term support costs and makes upgrades predictable.”

# A Practical Model to Quantify PLM Value

**You don't need a complex finance model to estimate TCO impact. A simple worksheet with conservative assumptions works well for MOFU evaluation.**

## I Step 1: Establish Baselines (Current State)

Collect approximate baselines for:

- ✓ ECO volume/month and average cycle time
- ✓ Hours spent finding/validating product info by role
- ✓ Scrap/rework cost tied to product definition errors
- ✓ Hours of PLM support tickets/month + average time per ticket
- ✓ Annual upgrade/customization/integration spend

## I Step 2: Map Baselines to the 5 TCO Levers

Create a one-page table like: **Lever → Metric → Baseline → Target → Annual \$ Impact**

Examples:

- ✓ Data hunting hours/week → time savings → labor savings
- ✓ ECO cycle time → fewer expedite events → hard cost savings
- ✓ BOM errors → reduced scrap/rework → hard cost savings
- ✓ Support tickets → reduced admin effort → labor savings
- ✓ Upgrade effort → reduced consulting spend → hard savings

## I Step 3: Use Conservative Ranges

Avoid "best case." Use low/medium/high improvement ranges such as:

- ✓ 5–10–15% reduction in ECO cycle time
- ✓ 10–20–30% reduction in time spent searching for data
- ✓ 5–10–20% reduction in BOM-related issues
- ✓ 15–30–50% reduction in basic support tickets

## Step 4: Compare to Investment

Include:

- ✓ License/subscription cost
- ✓ Implementation services
- ✓ Internal labor (training, process, admin)
- ✓ Recurring annual overhead (support, upgrades, integration maintenance)

The goal is not perfection. The goal is a defensible, conservative story that aligns stakeholders.

# Sample Calculations

## Example A: ECO Cycle Time Reduction

If your team processes **120 ECOs/year**, and each ECO requires **3 hours of follow-up and coordination**, a **20% reduction** in cycle time and churn can return:

$120 \times 3 \text{ hours} \times 20\% = \mathbf{72 \text{ hours/year}}$  (just in coordination time)

Then add:

- ✓ fewer late changes
- ✓ fewer expedite events
- ✓ fewer downstream corrections

Windchill's change management positioning focuses on accelerating changes and improving traceability to reduce inefficiencies.

## Example B: BOM Error Reduction (Hard Dollar Savings)

If BOM-driven errors create **\$250k/year** in scrap/rework and you reduce that by **10%**, that's **\$25k/year** in hard savings before considering schedule impact.

Windchill's emphasis on connected product definition and lifecycle-wide product data management supports this reduction.

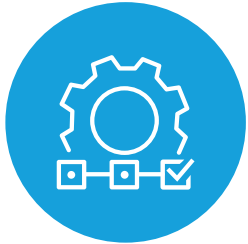
## Example C: Navigate-Enabled Self-Service

If 400 casual users each save **10 minutes/day** locating product data:

- ✓  $400 \text{ users} \times 10 \text{ minutes} \times 240 \text{ workdays} \approx \mathbf{16,000 \text{ hours/year}}$

Even if only a fraction is realized, it can be meaningful. Role-based access via Windchill Navigate is designed to support this type of value.

# Where the Biggest TCO Gains Usually Show Up



## Stage 1 — File/PDM pain:

version control, duplicates, search time



## Stage 2 — Change/BOM pain:

ECO delays, downstream confusion, late changes



## Stage 3 — Enterprise collaboration pain:

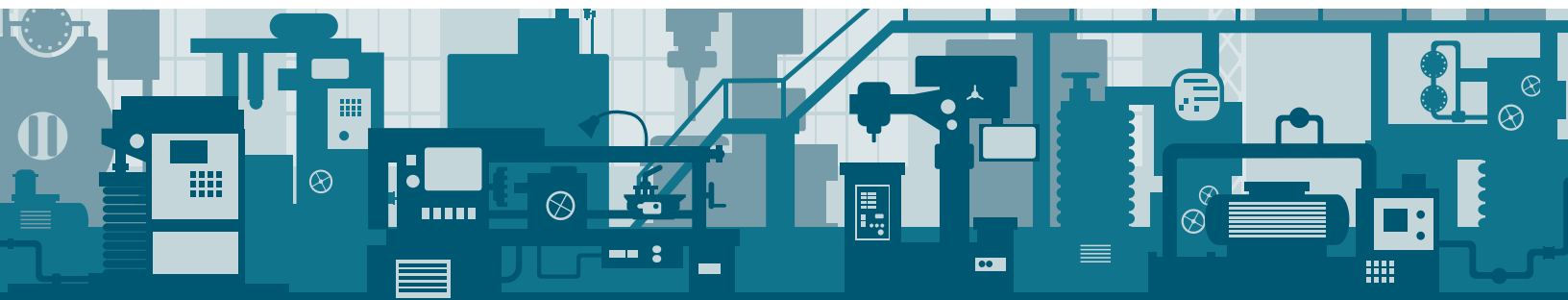
manufacturing/supply chain/service access gaps



## Stage 4 — Upgrade/customization pain:

standardize processes, reduce maintenance overhead

Your “best lever” depends on where friction is currently costing you the most.



## Common Traps That Inflate PLM TCO (and How to Avoid Them)

- ✓ Over-customizing workflows instead of standardizing processes
- ✓ Training everyone like a power user instead of enabling role-based consumption
- ✓ Treating PLM like an engineering-only tool, limiting enterprise ROI
- ✓ Ignoring adoption and governance, which drives workarounds and ticket volume

PLM cost doesn't rise because the tool is expensive. It rises because the organization has to work around it.



# Next Step: Build a Simple TCO Case in Your Environment

If you're evaluating Windchill (or trying to get more value from it), a short "PLM Value Assessment" can help you:

- ✓ pinpoint where PLM friction is creating real cost
- ✓ quantify the top 3 value levers with conservative assumptions
- ✓ prioritize improvements that reduce TCO without over-customizing

Windchill is positioned to help manufacturers connect and manage product data across the enterprise, reduce inefficiencies, and accelerate product development. Ready to take the next step? Find out why leading manufacturers choose Windchill.

**Next Step: Learn Why Companies Trust Windchill**

