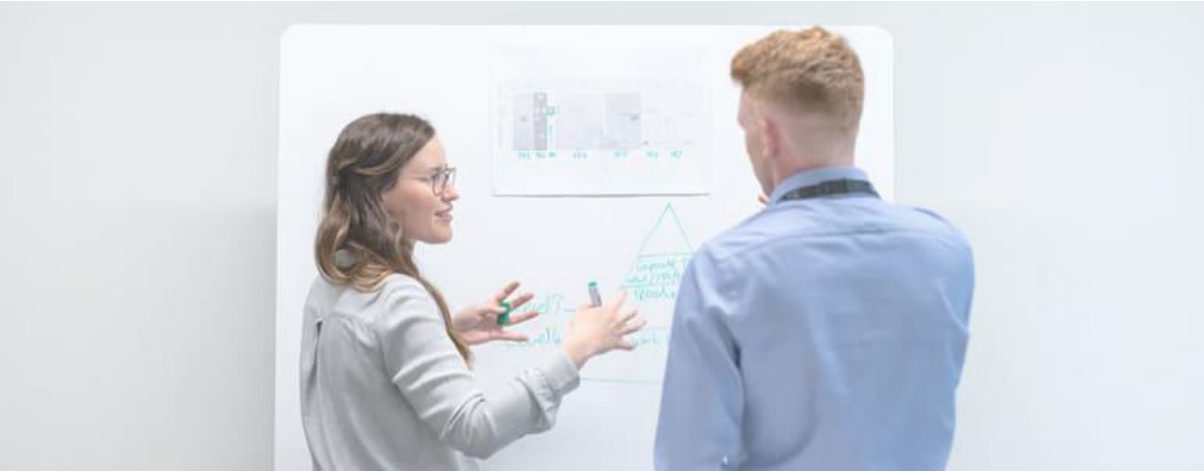
Improve Design Engineering Efficiency in 3 Simple Steps

DATA MANAGEMENT ENGINEERING & DESIGN HINTS, TIPS & HOW TOS



Engineering efficiency is a product of 3 key factors: optimized decision-making, data quality and effective collaboration.

Engineers are constantly making product development decisions. On any given project, there may be tens of thousands of decisions before a product design reaches manufacture. Individually, these decisions are important, but the cumulative impact can have a dramatic effect on the overall result. So, how can you set your Engineers up for success?

Optimize Engineering Decisions

Engineering decision-making is a core competency in product development. To ensure that your Engineers can get the most out of your data, you should provide access to that data in visual, collaborative and comparative formats to support decision making. More efficient decision-making means that Engineers have more time to innovate and explore additional product design options.

But having the right tools to explore data sets is a worthless luxury without the assurance that your data meets the high standards that customers would expect from your products. First and foremost, Engineers need high quality data to be able to make the decisions that shape the lifecycle of your product.

Ensure Data Quality

What is Product Data Quality (PDQ)?

Simply put, quality product data should fulfil the requirements of its users, applications and processes. This means that data should be accurate, relevant, complete, consistent and readily accessible. Your product data is as pivotal to product quality as its component parts – if not more so. Valuable data can impact business outcomes for decision makers, customers and regulatory bodies. So, handling your product data correctly from the get-go should be a high priority for achieving optimal engineering efficiency.

Data management is a complex and constant task

Organizations typically maintain data asset inventories which are held to a common standard for accuracy, validity and uniqueness. But bringing suppliers into the manufacturing mix can cause a dramatic increase in data quality management complexity. Different suppliers may use different quality checking profiles or CAD systems. But there are tools and methods which aim to ensure data quality for your organization as well as your suppliers.

Data should be accurate, relevant, complete, consistent and readily accessible

Quality assurance in virtual development

The Q-Checker product family for CATIA and 3DEXPERIENCE provides exceptional PDQ assurance both internally and externally. Suppliers can have confidence that their customers and partners are delivering accurate models based on a consistent standard of practices. While manufacturers benefit from several time-saving conveniences such as:

- Downstream application requirement capture
- Model result check seals for added security
- CAD data translation checkpoints
- Identification of common design process mistakes

Provide a Truly Collaborative Environment

Bringing products to market has never been more complex

Engineers flourish in an environment that helps them take advantage of all the information and expertise available to them. Having the right information, in context, in a timely manner improves decisions and leads to better products.

Manufacturers must take advantage of this opportunity to improve product cost, quality, compliance, and overall performance as the bar continues to be raised across the globe on engineering decisions.

Sharing information efficiently

In Computer-aided Design (CAD), an abundance of tools, applications and devices can lead to engineering data headaches. As users in other business areas frequently collaborate during the design process, a common collaborative data language can be a liberating prospect. As product design already takes place in 3D CAD systems, the next step is to include all users and processes in the use of 3D data.

Master Your 3D Process with Q-Checker, xCompare and Lite3D

Taking the platform approach

Purchasers see what they buy, before they buy, in 3D. Mobile devices can access assembly animations on the shop floor. Customers select spare parts from 3D catalogues, where they can spin and view 3D data from all angles. The data is reused as a CAD file or neutral format in follow-up processes and software applications. Initiatives like “3D Master” and “Model-Based Definition” ensure that 3D data contains all relevant information. And collaborative data use increases organizational engineering efficiency.

Using the Lite3D platform, customers can distribute quality 3D data and content. Go beyond engineering to provide an affordable, common corporate language that frees users from cumbersome native CAD data.

In Our Experience…

Product Lifecycle Management supports engineering efficiency by providing a single source of truth – the right information, accessible in the right context. PLM software can help people collaborate, ensure the correct processes are used, and provide readily accessible, accurate, relevant, complete and consistent data. More than this, PLM tools can aid engineering efficiency by keeping track of decision-making and ensuring that complex products reach markets in time to compete.

Discover more Design Engineering Solutions at the TECHNIA Software PLM Innovation Forum