

5 Reasons to Use a Shared Mechatronic BOM: Bring Mechanical and Electrical Engineering Together with a Shared BOM

In machine building and plant engineering, bill of materials are often created separately in MCAD and ECAD systems. Each department works with its own data, changes have to be coordinated manually, and the same information may be maintained in multiple places. A shared mechatronic bill of

materials (BOM) brings mechanical and electrical data together in a single structure. The following five reasons show how a shared BOM can improve data consistency, simplify collaboration, and make engineering changes easier to manage.



**1**

One BOM Instead of Duplicate Data

The mechatronic bill of materials creates a shared data foundation for mechanical engineering, electrical engineering, and downstream processes. Instead of maintaining and consolidating separate BOMs, teams work with consistent product data across disciplines. This reduces duplicate data entry, manual coordination, and the risk of errors when BOMs are brought together.

**2**

Improve Collaboration Between MCAD and ECAD

Mechanical and electrical engineering no longer operate in silos. A shared BOM gives both disciplines visibility into relevant components, changes, versions, and dependencies. This makes it easier to coordinate engineering work and helps teams identify the impact of changes across disciplines.

**3**

Maintain Consistent Data from Engineering to ERP

A shared bill of materials provides consistent product data for ERP and other downstream systems. Components, assemblies, and engineering changes can move through a connected process – from development to purchasing, manufacturing, and service.

**4**

Manage Changes and Variants More Effectively

Changes to mechanical or electrical components often affect multiple assemblies and systems. The mechatronic bill of materials makes these dependencies visible. Changes and product variants can be managed in a consistent, traceable way, reducing the risk of overlooked dependencies.

**5**

Reduce Manual Effort and Improve Efficiency

The mechatronic BOM connects mechanical and electrical engineering data with downstream processes instead of relying on separate data sets and manual handoffs. This creates a more consistent flow of product information from engineering to purchasing, manufacturing, and other business functions.

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