

# Putting the Brakes on Excel: Why the Electronics Manufacturing Industry Must Embrace BOM Management Tools.

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A SiliconExpert White Paper





## ***Summary***

The electronics manufacturing industry often relies on spreadsheet programs such as Microsoft Excel for the creation and management of its Bills of Materials (BOMs). But the always-fluid, always-changing landscape of the industry has given rise to a new method for managing bills of materials—the BOM management tool. BOM management tools are superior to static solutions such as Excel because they:

- Are more convenient and efficient
- Are automatically updated with the latest market data
- Can automatically generate & disseminate alerts
- Are error proof from manual mistakes

This paper will explore the deficiencies of Microsoft Excel BOM management and show how the use of a BOM management tool can improve productivity and efficiency and can reduce error.

## ***Managing BOMs with Microsoft Excel: A Costly Mistake***

In the electronics manufacturing industry, proper BOM management is essential to productivity. Product data must be continuously updated and always available to ensure that all parties are acting on current information. But despite this need for BOMs to be fluid, living documents, many businesses still rely on static tools such as Microsoft Excel.

Cost restrictions and familiarity often are the driving factors behind the selection of Excel as the BOM manager of choice. But the use of Excel and other static tools for BOM management results in a number of issues that limit productivity and create widespread inefficiencies. Live BOM management tools offer a better solution, one that can at last help businesses generate and maintain the live, fluid BOMs the industry requires.

## ***The Convenience and Efficiency of a BOM Management Tool***

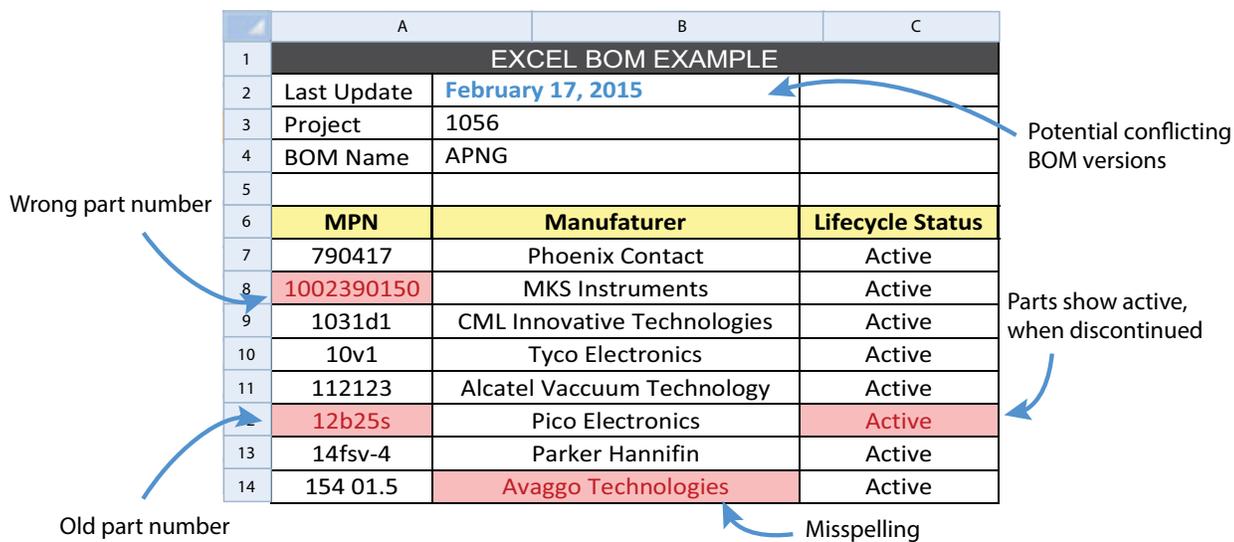
Utilizing Excel is an inefficient, inconvenient method for managing BOMs. Manually updating data is time-consuming and prone to error. As BOMs often are disseminated via email, multiple versions may exist and the latest version may not be available to those who need it when they need it.

By relying on a live BOM management tool, businesses can ensure that their BOM data is always available to the right people. The BOM exists as a single collaborative version, which can conveniently and immediately be accessed by anyone who needs it. This eliminates the versioning problems created by Excel while also improving document security by reducing the amount of trafficking the BOM will undergo.

Most BOM data is populated automatically by a third-party, reducing required man hours and eliminating the costly mistakes of manually managing BOMs. While Excel BOMs are often filled with misspellings, incomplete information, or outright inaccuracies, BOMs created with a management tool offer always-complete, always-accurate data sets that can more easily be accessed, manipulated, and interpreted.

An easy, efficient transition process further heightens the efficiency and convenience of a BOM management tool. When Excel BOMs are uploaded into the tool, they are automatically “scrubbed,” repairing inaccurate information such as partial or incorrect part numbers. And if a manufacturer has been acquired or has changed names, the BOM is automatically updated to reflect this—even if the initial Excel BOM uses the previous nomenclature.

**Figure A. Common issues with manually managing BOMs**



	A	B	C
1	EXCEL BOM EXAMPLE		
2	Last Update	February 17, 2015	
3	Project	1056	
4	BOM Name	APNG	
5			
6	<b>MPN</b>	<b>Manufacturer</b>	<b>Lifecycle Status</b>
7	790417	Phoenix Contact	Active
8	1002390150	MKS Instruments	Active
9	1031d1	CML Innovative Technologies	Active
10	10v1	Tyco Electronics	Active
11	112123	Alcatel Vacuum Technology	Active
12	12b25s	Pico Electronics	Active
13	14fsv-4	Parker Hannifin	Active
14	154 01.5	Avaggo Technologies	Active

Annotations in the image:

- Wrong part number: points to row 8 (1002390150)
- Old part number: points to row 12 (12b25s)
- Misspelling: points to row 14 (Avaggo Technologies)
- Potential conflicting BOM versions: points to the Last Update date (February 17, 2015)
- Parts show active, when discontinued: points to the Active status in row 12

***BOM Management Tools: Automatically Populated and Updated***

While populating BOM data manually can be difficult, keeping that data up-to-date poses an even greater challenge. Since part information is always changing, a single day or even a single hour can mean the difference between an accurate BOM and an out-of-date one. The delay between the issuance of product change information and the manual entry of that data into the BOM can result in lost revenue, wasted time, and misdirected efforts.

By contrast, a BOM management tool is kept up-to-date by a third-party specialized, dedicated staff who can apply data changes at a rapid pace without any user input. Many BOM management tools include this service as a part of their overall package. When the manufacturer issues a PCN or other information regarding product change, the staff can respond quickly to update the appropriate data across all BOMs, ensuring minimum delay between the effective date of the change and the reflection of that change within the BOM. In this way, a BOM management tool offers so much more than error elimination—it offers access to a virtually always-true data set that otherwise would be nearly impossible to create or maintain.

With better, more accurate information at their fingertips, businesses can gain greater visibility into the electronics market and make more fiscally intelligent decisions. Many BOM management tools also can automatically generate charts, graphs, and other visualization aids to help businesses take better advantage of this increased electronic component intelligence.

**Figure B. Advantages to utilizing BOM management tools**

Give read/write permissions to specific users

BOM SOFTWARE VIEW					
Row	Uploaded MPN	Verified MPN	Verified Supplier		Match Status
1	ADS8411IPFBTG4	<a href="#">ADS8411IPFBTG4</a>	Texas Instruments		Exact
2	CY29946AXI	<a href="#">CY29946AXI</a>	Cypress Semiconductor		Exact
3	CY29946AIXT	<a href="#">CY29946AIXT</a>	Cypress Semiconductor		Exact
4	557G-06LF	<a href="#">557G-06LF</a>	Integrated Device Technology		Exact

**Recent Updates: 6 hours ago**

Constantly scrubbed for accuracy

Single collaborative version for all users

Datasheets & PCNs/Obsolescence notices instantly reflected

## ***Alerts: Going Beyond BOM Management***

The relationship between BOMs and change alerts is a close one—or rather, it should be. When manufacturers release a PCN or other change information becomes available, the BOM must adapt quickly to reflect the new information. Product change info and BOM info must work together, matching appropriate information with the corresponding sections of the BOM and ensuring that this information is delivered to the right people. But developing such a relationship between product change info and BOMs is impossible when using a static solution such as Excel.

Product change info must be analyzed and processed manually, and cannot be reflected within the appropriate BOM until someone physically changes the data appropriately. Alerts are routed in a system entirely separate from the BOM, creating the potential for inefficient communication. BOM management tools can generate alerts automatically. These alerts are specifically tailored to the BOM and can be directly routed to those who need them. PCNs are analyzed by a knowledgeable third party, exposing the intelligence behind the raw PCN data. Obsolescence data is conveyed quickly, providing maximum foresight. Alerts also can be generated for datasheet changes, assembly site changes, supplier acquisitions, packaging changes, and a host of other factors that may impact product selection and management.

## ***BOM Management: Use the Right Tool for the Job***

While Microsoft Excel and other spreadsheet programs are useful for a number of different tasks, they simply were not created to manage BOMs. They will never have the sufficient amount of flexibility or fluidity to turn a BOM into the living document that it needs to be. But BOM management tools are expressly created with the BOM in mind, built from the ground up to breathe life into BOMs of all types and all degrees of complexity.

As the electronics manufacturing industry moves away from Microsoft Excel, the use of BOM management tools becomes necessary to stay competitive in the marketplace. Those who rely on a live, fluid BOM solution will find the latest market data at their fingertips and will run more efficient, more productive operations. Those who stick with static solutions like Excel will fall behind.

### *About SiliconExpert*

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