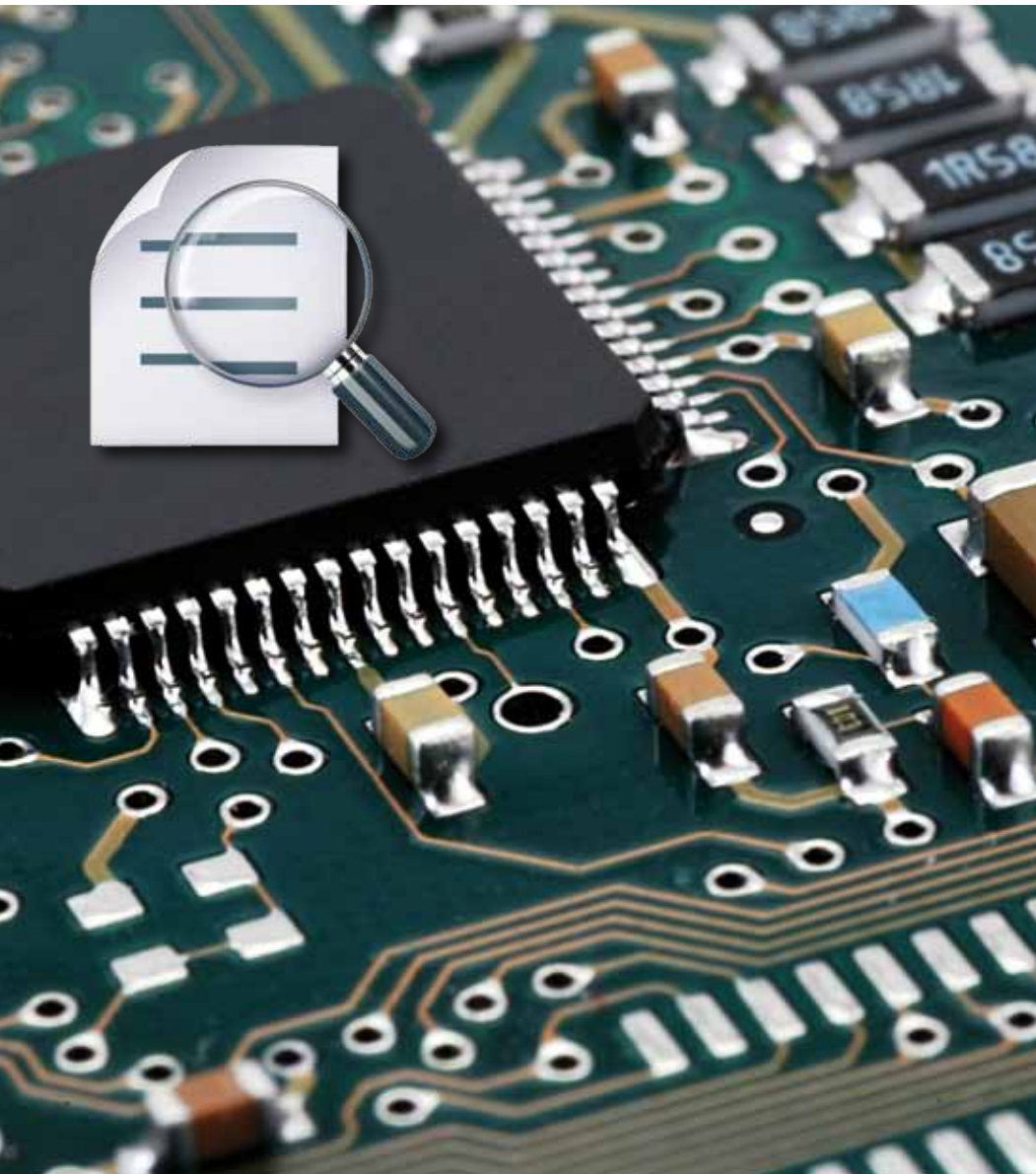


BOM CONNECTOR™

Put an end to your BOM Processing Problems
Produce better quotes in a fraction of the time!

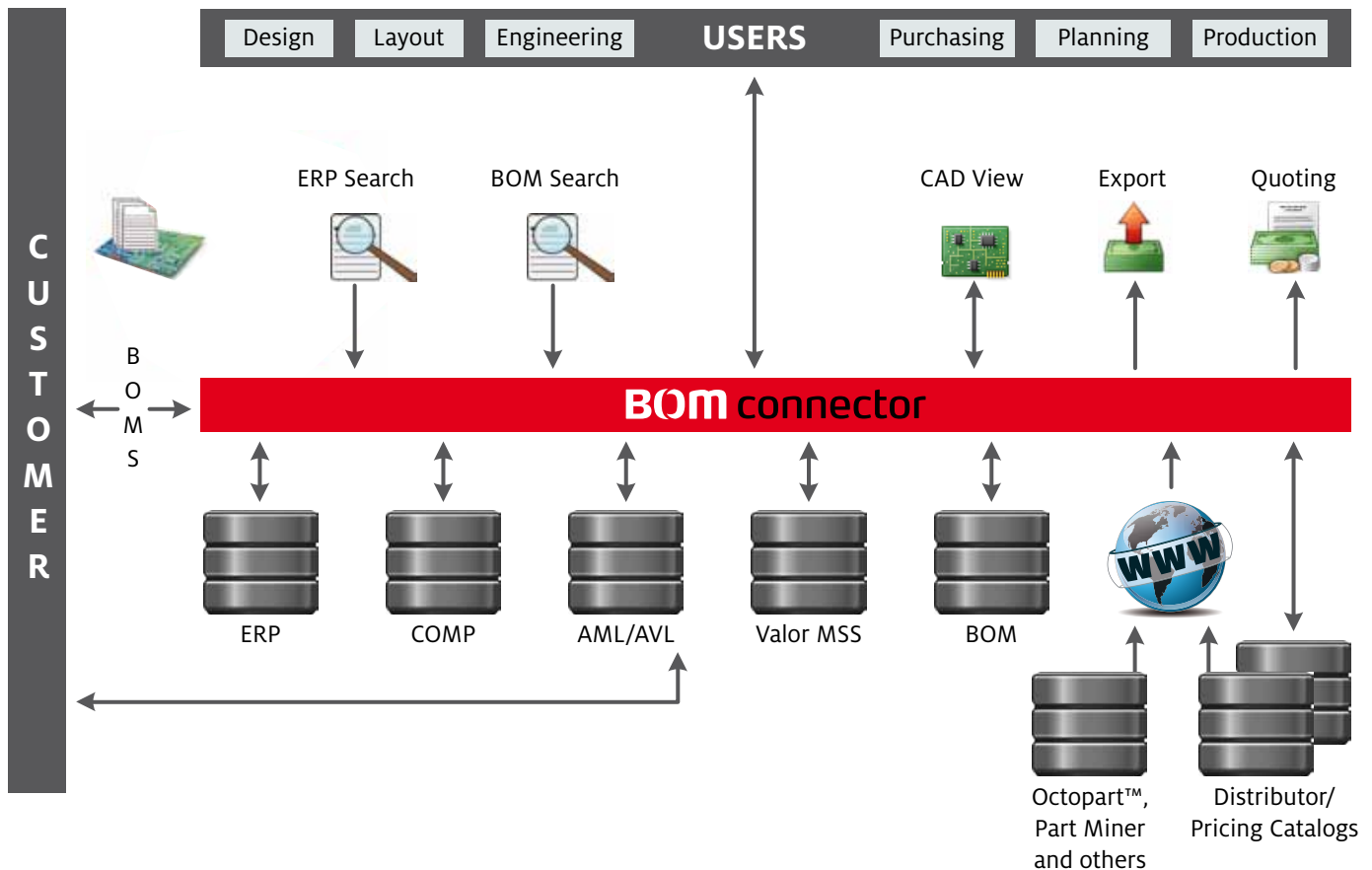
BOM
connector



CircuitByte

BOM CONNECTOR™

A “Must Have” Tool for Every Electronic Manufacturer!



Dealing with BOM data is one of the biggest headaches faced by both OEM and EMS manufacturers.

EMS manufacturers are confronted daily with a wide variety of BOM formats and ever-changing content. Usually the only rule that applies is “there are no rules”. Matching customer parts to internal parts, comparing different BOM revisions and communicating with purchasing are too often

done manually, which is mistake-prone and can easily take hours or even days of effort. Preparing accurate quotations means constantly checking for current component pricing and delivery conditions. A good BOM tool should help with all these tasks.

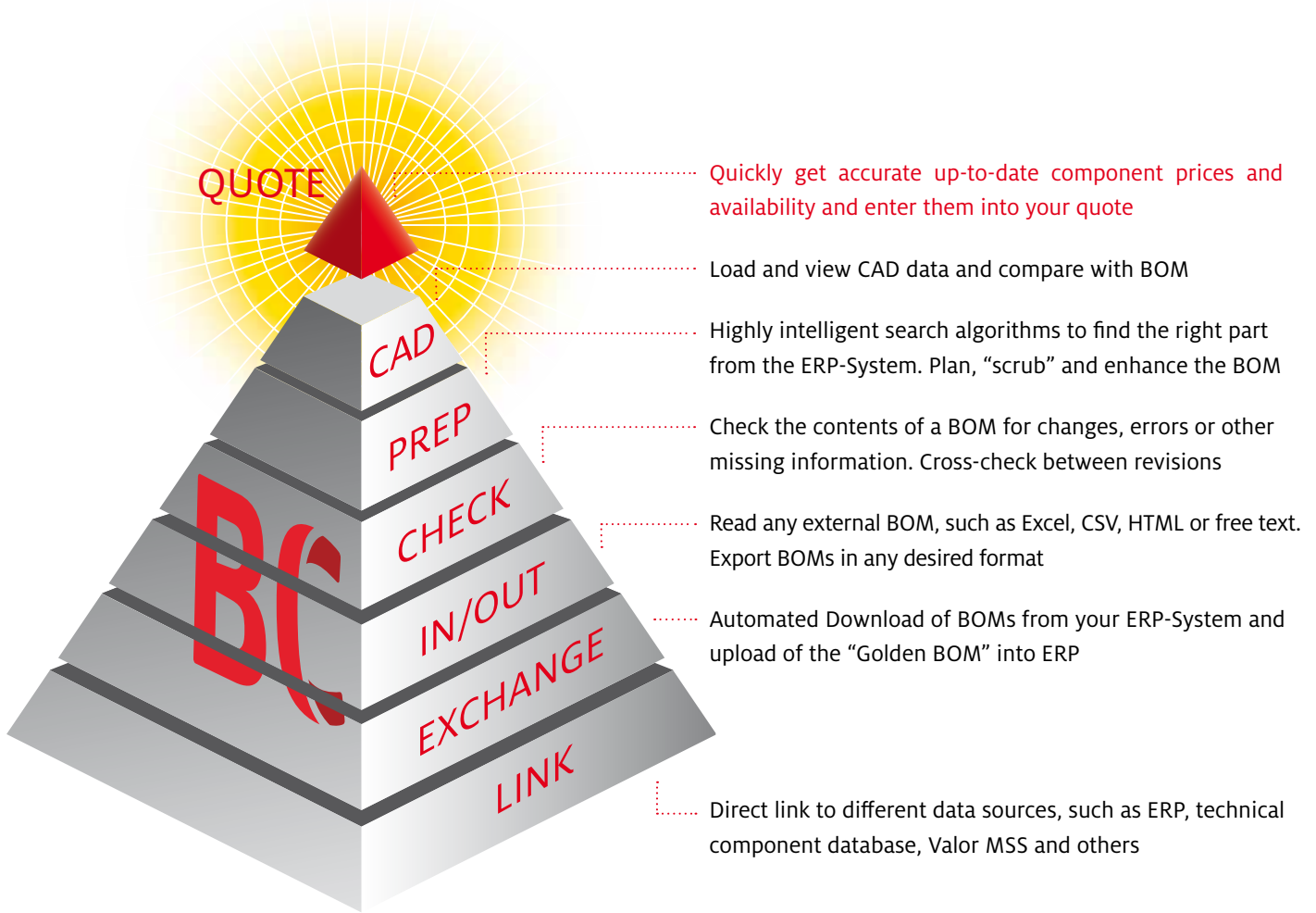
BOM Connector™ is exactly that tool!

Why BOM Connector™ Should Be Part Of Your Process Flow

- Because working with BOMs is a serious drain on time resources.
- Because when it comes to BOM data there are no rules
- Too much time is lost searching, scrubbing, editing saving and loading BOMs.
- The term “time is money” is nowhere as appropriate as in electronic manufacturing.
- Dealing with BOM data is one of the biggest headaches faced by both OEM and EMS manufacturers.
- Because the earlier these problems are caught, the better.
- BOM Connector™ links all necessary data sources to create a correct “Golden BOM”.
- Quotations can be prepared quicker and more accurately.
- Parts purchasing is greatly simplified.
- Because BOM Connector™ links your ERP-System directly into quoting, planning and production tasks

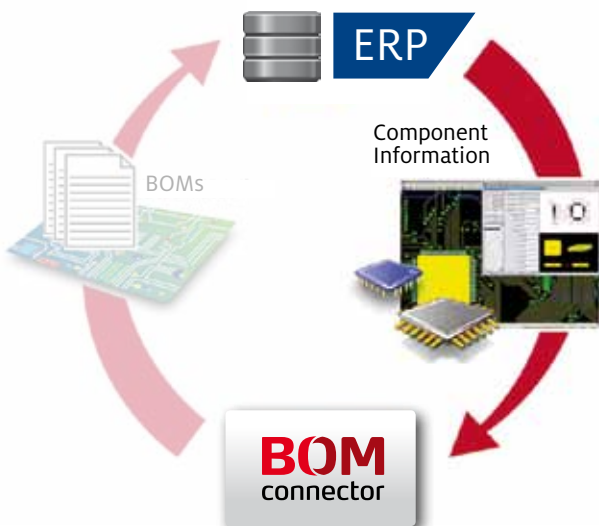
Bom Connector™ Modules

A Modular System for All Your Requirements



BC-LINK

Connection to ERP-System and Other Data Sources



A direct ERP data source link is the “backbone” of BOM Connector™ and gives direct access to all necessary ERP data. BOM Connector™ BC-LINK includes a “connection wizard” that allows it to connect dynamically to nearly every ERP-System, including all SAP versions. ERP data is brought smoothly into the BOM Connector™ backend database, so searching and other tasks can be performed without effecting ERP-System performance.

A big plus for SAP users – BOM Connector™ interfaces via standard scripts and “BAPI” remote function calls, so it’s always compatible with future versions and no additional costs are incurred on the SAP side.

BC-IN/OUT

Import BOMs and Export in a Common Format

Use BOM Connector™ to read in virtually any BOM quickly and easily. All standard formats are supported, including CSV, XLS, XML, HTML and free text. Field names can be “mapped” and a consistency check performed, so that regardless of the source, the result in BOM Connector™ is always identical and verified. Additional “scrubbing” steps can be performed au-

tomatically during the import process, such as separating description field into individual information such as value and package, or properly identifying manufacturer names and numbers (MPNs).

The result is an easily-readable BOM displayed and ready for the next steps or for direct output to a standardized format.

BC-PREP

Preparing Customer BOMs and Production Planning

This module is at the heart of BOM Connector™. Using the various search routines, the user can quickly and easily find the most suitable part from within the ERP-System for a given customer part. A particularly innovative “SmartSearch”, for example, is a big time saver. With “Smartsearch” the part’s description field, or fields, are evaluated and broken down into individual elements, so that “Cap 100NF 10PCT 0603” gets assigned as »CAP« »100NF« »10PCT« »0603«. The system searches the ERP data for the partnumbers that come closest in function, with an intelligent “fuzzy logic” method, independent of notation and sequence.

As shown below, the search algorithm properly interprets »10%« and »10PCT«, as well as »0.1UF« and »100NF«. Parts which best match the search criteria are displayed in a best-match-first sequence. The user simply selects the desired part with a double-click and the ERP information is added to the BOM. The correspondence between customer partnumber and internal partnumber is stored in a “Customer Info Set” (CIS) table for future reference, meaning the system gets

smarter with each usage. The customer BOM doesn’t contain partnumbers? No problem! BOM Connector™ creates a unique ID “code” from the description field(s) as a reference. For future use, you can use the “CIS Search” to quickly find parts that were already matched.

Additional search features include the “MPN Search” should the customer BOM contain manufacturer part numbers or if the customer has provided an approved manufacturer/vendor list (AML/AVL). A configurable “operator search” finds parts based on common statements (equals, non-equals, contains, begins with, etc.).

And last-but-not-least, a manual “Google-like” search which lets you find parts based on any user-entered criterial. Any additional information the user needs in the BOM, such as manufacturing station or process can be entered interactively. The resulting “Golden BOM” can be exported in in any format with user-created templates.

The BC-Exchange module can then upload the BOM directly to the ERP-System!

IPN	CPN	Quantity	RefList	Description	Device Type	Subclass
28	20-575-1038	1.0	U77	AHC1G08 SSOP5	IC	74AHC1G08
47	20-575-1040	1.0	U73	AHCT14 TSSOP14 65MM	IC	74AHCT14
56	20-565-1101	4.0	C263, C282, C283, C315	C 100NF 16 X7R 10 0603 100N+10PCT/-10PCT	Capacitor	74AHC08
31	20-575-1024	1.0	C286	C 100UF 1620 PTH200 105X60,100U+20PCT/-20PCT	capacit	
56	20-565-1102	4.0	C205, C206, C207, C208	C 10NF 50 X7R 5 0603 10N+5PCT/-5PCT	capacit	
44	20-565-1025	1.0	C280	C 10UF 6P3 X5R 20 805,10U+20PCT/-20PCT	capacit	
56	20-565-1050	2.0	C251, C276	C 1UF 10 X5R 10 0603 1U+10PCT/-10PCT	Capacit	

MATERIAL	DESCRIPTION	SORT	UTMS	PRICE	CODE	WIDTH	PRFG	PRIM	BY_VENDOR
56 QW63751	CAP 0.1UF 16V 10% X7R MLC 0603	QUADPRO	EA	0.001	IR	0.0			
56 QW64560	CAP 100NF 16V 10% 0603 X7R MLC	QUAD1	EA	0.0078	IR	0.0			
56 TR01658	CAP 100NF 10% 16V X7R 0603	AMETX	EA	0.001	IR	1.0		CL10B104K08NNNC	6424

BC-CHECK

Revision Compare and Error Checking

All manufacturers, whether EMS or OEM, are confronted with a daily reality: BOM data is subject to change with little or no notice. And these changes need to make their way smoothly through the manufacturing process, often in the middle of the manufacturing process. If the wrong revision ends up on the production floor or in a quotation, the consequences are uncomfortable, to say the least.

That's why we've put a long list of "checkpoints" into BOM Connector™'s BC-Check module. To ensure BOM changes and errors get discovered *before* they hurt your manufacturing flow.



Here are just a few:

- ✓ Check the BOM against the CAD design
- ✓ Check new customer BOM against old customer BOM
- ✓ Check customer BOM against ERP BOM
- ✓ Check current ERP BOM against earlier ERP BOM

BC-CAD

View Design Data & Integrate it With the BOM



CAD_VALUE	CAD_TOL	CAD_DEVICEYPE	CAD_TECHNOLOGY	CAD_DESCRIPTION
430K	5	Resistor	SMD	R430K 5 603.430K-5%/.52
362	5	Resistor	SMD	R362 1 603.362+1%/1%.
1.27K	5	Resistor	SMD	R1K27 1 603.1.27K-1%/1%.

To achieve "golden" status, it's often necessary to enhance the BOM with data from the CAD layout. Thanks to BOM Connector™'s CAD link, the user can automatically extract design-specific information such as technology, top/bottom side or pin pitch and add it to the BOM. The BC-PREP module can then use this to automatically make assignments such as manufacturing station or process.

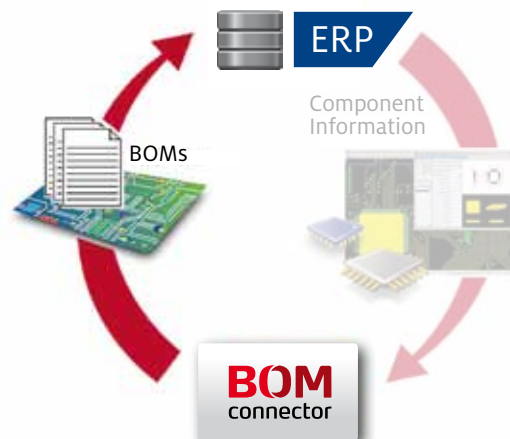
An integrated viewer lets you view the PCB and search for design items like components, nets and testpoints. A cross-probe feature between PCB and BOM, is a big help when searching for the right part in your ERP-System. Thanks to its direct link to Valor MSS Process Preparation (vPlan), virtually all CAD formats are supported.

BC-EXCHANGE

Direct ERP Link for Completed BOMs

With BOM Connector™'s direct ERP interface, simply type in a project number and see a list of all available BOMs in the system, along with their revision information. Choose a BOM and it is automatically loaded into BOM Connector™. No unwieldy export and import of intermediate files!

Similarly, when finished planning the "Golden BOM", upload it directly into the ERP-System or export it into a pre-defined "ERP-ready" format.



BC-QUOTE

Quoting and “Part Sourcing Assistant”

Getting the most accurate prices is key to calculating manufacturing costs and quoting these to customers. BOM Connector™’s BC-Quote module helps you do this in several ways. If your ERP-System contains correct pricing, these will of course be assigned during the BC-Prep process and used to create a quotation. However, since component prices are constantly changing, other sources are usually required. The BOM Connector™ Distributor Catalog Interface (DCI) dynamically imports current prices from distributor-supplied Excel pricelists, which it then uses for cost calculations. An integrated Octopart™ Interface searches for prices in this popular online portal based on manufacturer partnumbers

(MPN) contained in the BOM or in the approved vendor list. A “QuickPrice” function compares the prices found in all different sources, making it very easy to identify the best price. Based on a user-entered planned production quantity, BC-Quote will automatically find the appropriate bulk price. A built-in “currency calculator” takes into account supplier prices in different currencies, with exchange rates taken on-line from the European Central Bank.

Any parts without a price can be exported into a distributor RFQ and automatically sent via email to a list of preferred distributors. The returned, completed RFQ can be read back into BOM Connector™ for use in the quotation.

Source	DISTRIBUTOR	SKU	SUPPLIER	MPN	STOCK	DESCRIPTION	CUR	PRICE1	QTY1	PRICE2	QTY2	PRICE3	QTY3
Preferred													
	Bristol Electro...	GRM188R71C104KA01D	Murata	GRM188R71C104KA01D	239862	0603 100 nF 16 V×QR ±10 % Tolerance SMT ...	USD	0.0022	1				
	Future Elect...	GRM188R71C104KA01D	Murata	GRM188R71C104KA01D	1528000	0603 100 nF 16 V×QR ±10 % Tolerance SMT ...	USD	0.0028	4000	0.0026	24000	0.0021	216000
	Newark	14T3312	Murata	GRM188R71C104KA01D	1296	0603 100 nF 16 V×QR ±10 % Tolerance SMT ...	USD	0.023	1	0.021	250	0.012	5000
	RS Compon...	2207922	Murata	GRM188R71C104KA01D	18250	0603 100 nF 16 V×QR ±10 % Tolerance SMT ...							
Neutral													
	Bison Techn...	SKJMURATA-GRM188...	Murata	GRM188R71C104KA01D	4	0603 100 nF 16 V×QR ±10 % Tolerance SMT ...							
	Chip One Stop	MURA-0090078	Murata	GRM188R71C104KA01D	202901	0603 100 nF 16 V×QR ±10 % Tolerance SMT ...	USD	0.06	50	0.04	100	0.02	1000
	Chip One Stop	MURA-0066572	Murata	GRM188R71C104KA01D	61995	0603 100 nF 16 V×QR ±10 % Tolerance SMT ...	USD	0.0099	9000	0.00273	12000	0.002	52000
	Component E...	GRM188R71C104KA01D	Murata	GRM188R71C104KA01D	3000	0603 100 nF 16 V×QR ±10 % Tolerance SMT ...							

The screenshot above shows how BC-Quote graphically displays prices found in the Octopart™ online portal for a Murata part. Distributors shown in red have either insufficient stock or require a minimum order far higher than required for the planned production quantity. The dark-green price is the current “best price” for that quantity. The user can easily select it with a mouse-click and use it for customer quoting and parts procurement. The price is stored in BOM Connector™’s pricing database for future use. As shown at the right, users can manually enter, edit, and track price information as well.

A Universal Tool for Quoting and Purchasing

- Drastically reduce the time needed to prepare quotations
- Get up-to-the-minute prices, wherever they are
- Octopart™ Interface with “Bestprice” function
- Directly import distributor catalogs (i.e. AVNET, Silica, etc.) and search for prices
- Support for multiple currencies and cross-rates
- “QuickPrice” to compare current prices from multiple sources (i.e. ERP, distributor catalogs, online portals, etc.)
- “Bulk price” function takes into account planned production and order quantities to get the best scale pricing
- Store prices in the database for tracking and use in future quotations
- Automatically generate and email a quotation request (RFQ) to your list of suppliers
- Read-back feature for completed supplier RFQs
- Generate a formatted quotation for your customer per mouse-click

Here's what our customers have to say:

» We often had to make up to three calls to get the right BOM into our manufacturing. «

Hermann Kraus, Siemens AG
Industry Automation Division

» For each order we write about a dozen quotes. So the time we save here really affects our bottom-line. «

Thomas Markofsky,
MSC Technologies (an AVNET Company)

» The ability to combine CAD and BOM information is a great additional feature .«

Wolfgang Blumenschein, RAFI GmbH & Co. KG

»Before BOM Connector, matching customer partnumbers to our internal parts was without a doubt the most time-consuming, repetitive task we had as an EMS provider. «

Beat Holenstein, ECR AG

Bundles for Every Size of Company:

Module:	Single	Basic	Advanced	Site	Enterprise
BC-LINK	●	●	●	●	●
BC-IN/OUT	●	●	●	●	●
BC-PREP	●	●	●	●	●
BC-CHECK	●	●	●	●	●
BC-CAD	—	●	●	●	●
BC-EXCHANGE	—	—	●	●	●
BC-QUOTE	—	—	●	●	●
Octopart™ Interface	—	—	●	●	●
Valor/MSS Direct Interface	—	●	●	●	●
WAN/Cloud Package	—	—	—	—	●
Number of Seats	1	3	5	unlimited (Site)	unlimited

Valor MSS and BOM Connector™



BOM Connector™ is tightly integrated with the industry-leading Valor MSS product family from Mentor Graphics. Load a BOM or PCB design from the MSS database, or directly “push” your completed “Golden” BOM into MSS to start the manufacturing/planning process. It’s that easy! And with the BC-Link module you can “sync” your entire MSS Process Preparation (vPlan) Master Part Library with your ERP-System!

CircuitByte

A Partner Who Understands Your Business

With **CircuitByte** you have more than just a software supplier. You have a reliable, long-term partner. In today's fast-changing electronics market, that's more important than ever.

A dedicated team of software developers and applications engineers with years of industry experience are on call for on-site installation and integration. Regular customer-driven updates keep our software state-of-the-art.

And since software is only as good as the support behind it, an experienced support-hotline staff is ready to answer your questions.

At **CircuitByte** we've dedicated ourselves to helping our customers build better electronic products faster. Contact us to find out how we can help your company as well.

