



Optymo for Buyers

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Introduction

Buying electronic parts is often a very challenging phase of the manufacturing process, as the electronics market has a multitude of parameters that have to be taken into account. Most electronic parts exist as various types, are produced by different manufacturers and are supplied through several distributors and channels. As a result, the same part may exist with several references, in which each single digit makes a difference, impacting price and performance.

Substitutes and equivalents provide alternate sources for some parts, but they usually need to be approved by engineering or customers prior to purchase, depending on the context of use or operational environment.

There are several stages where Buyers have to investigate the market for sources, prices, and availabilities:

- Calculating the BOM cost to compare with the product budget
- Producing quotes for a customer or planning production budgets
- Actually buying the parts for manufacturing

Several specific factors such as packaging, minimum order quantity and delivery requirements may have a significant impact, not only on the purchase price of the parts, but also on the overall manufacturing cost when parts remain after production is finished.

With a BOM including several dozens of parts, selecting the best supplier with the best price can quickly become a significant issue, with the time for preparing a quote or actually buying parts for a BOM often measured in days.

This is exactly where Optymo helps users. Designed specifically for the electronics industry, Optymo provides accurate and crucial information in real time for buyers to save time and money, to capitalize on their daily work and to add value instead of spending time on tedious administrative tasks.

Importing BOMs

It all starts with BOMs, whether they are the output of the EDA tool or as a spreadsheet file. Optymo speeds up the importing of a BOM from a minimum set of data, accelerating the import process for recurring formats. The imported data is immediately completed with the additional information already in the database for the selected parts (suppliers and manufacturers references, substitutes,

RoHS compatibility etc.).

ItemNum	Designator	Quantity	MainName	MainRef	PartName
1	CS3A, CS3B, CS4A, CS4B	4	Cornell Dubilier Electronics (CDE)	DCMC20U100BC2B	CAP ALUM 20000UF 100V SCREW - DCMC20U100BC2B
2	C1, C2, C4	3	Panasonic Electronic Components	ECQ-E4103KF	CAP FILM 10000PF 400VDC RADIAL - ECQ-E4103KF
3	CS1, CS2, CS7, CS10	6	AVX Corporation	SR211C104KAR	CAP CER 0.1UF 100V 10% RADIAL - SR211C104KAR
4	CS11, CS14	4	Panasonic Electronic Components	ECQ-E2104KF	CAP FILM 0.1UF 250VDC RADIAL - ECQ-E2104KF
5	CS5A, CS5B, CS6A, CS6B	4	Panasonic Electronic Components	ECQ-E1105KF	CAP FILM 1UF 100VDC RADIAL - ECQ-E1105KF
6	J1, J5	2	Molex Inc	0026605030	CONN HEADER 2POS. 156 R/A TIN - 0026605030
7	J2, J4A, J4B, J9	4	Molex Inc	0026605020	CONN HEADER 2POS. 156 R/A TIN - 0026605020
8	J3A, J3B	2	Molex Inc	0026605040	CONN HEADER 4POS. 156 R/A TIN - 0026605040
9	J7, J8, J11, J15	7	Molex Inc	0022053021	CONN HEADER 2POS. 100 R/A TIN - 0022053021
10	D1	1	Vishay Semicon		
11	DSM	1	Micro Commere		
12	RBLD1, RBLD4	4	Yageo		
13	RFAN	1	Yageo		
14	RR1, RR3	3	Vishay Dale		
15	RS	1	Yageo		
16	RZ1	1	Panasonic Elect		
17	S1	1	C&K Component		
18	UV1	1	CTS Thermal Ma		
19	CS8, CS2	2	PANASONIC		
20	CS8	1	AVX		
21	D5	1	Diodes		

The screenshot shows the 'BOM File - (Production) General (DEMO BOM) Rev. A - DNP' window. It includes a 'List of components' table with columns: #, Part Number, Component, DS, Manufacturer, Manufacturer reference, Qty, MFR nbr, Designator, Unit, RoHS, Configuration option, Mounting, Operating Temperature, and Stock Location. The table lists various electronic components like capacitors and connectors with their respective manufacturers and quantities.

Copy and Paste your BOM in to Optymo

Creating Parts

Creating new parts in Optymo's database is done in a matter of a few clicks by the user, using EDI (Electronic Data Interchange) feature from a supplier site or a search engine. Once a part has been selected on a supplier's web site, a single click brings it into Optymo's database, with all relevant data.

For instance, using the Octopart EDI which is integrated with Optymo, new parts can be created immediately in the database, with references, packaging and availability from several suppliers at once.

Searching Parts

With native support of multiple references for the same part, as well as substitutes and equivalents management, Optymo helps buyers select parts that are in the database (along with the current stock level status), or find the best alternative on the market. Parts selected and newly included in the database are stored automatically with all relevant data including prices per volumes, packaging, minimum order, and delivery time. All of the data can be updated automatically in one click at any time. This saves time by having no more tedious copy and paste actions or manual typing and eradicates the introduction of errors on supplier references.

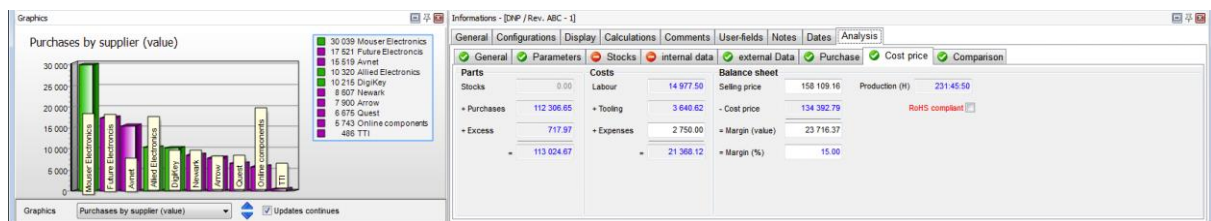
The screenshot shows the 'Parts file' window for a capacitor. It displays details such as 'Main category: Electronics', 'Sub categories: Capacitor, Ceramic', 'Part Name: CAP CER 220PF 50V 10% X7R 0603', 'Status: Not defined', 'UOM: Reference', and 'Supplier data' including 'Manufacturer: Murata Electronics North America' and 'Part number: 490-1483-2-ND'. It also shows a table for 'Multiple' quantities and 'Packaging' options.

Optymo's database also contains additional information such as RoHS compliance, obsolescence status or other technical information provided by suppliers.

All possible suppliers referenced for a given part are displayed together in the Parts window for direct comparison from the same record. Optymo's Smart search engine looks in the database for parts that match with the selection criteria (price, availability, package type etc.), which is significantly quicker than undertaking the research manually.

Computing BOM Cost

It is a fact in the industry that 80% of the cost of a product is determined at the design stage, making it critical to be able to compare the actual cost against the target price before committing to further expenditure of the full development phase.



This is very straightforward using Optymo because once a BOM is in the database; a simple click initiates the calculation of its cost for a given volume, with or without labor cost and with or without substitutes. The user can validate a cost versus an expected budget based on current pricing data, because Optymo checks if prices are out of date and updates them automatically, based on predefined criteria.

Preparing Quotations

Whether when quoting a customer or establishing the production cost, buyers are often asked to provide accurate budget reports. Optymo can calculate in seconds the per unit and total cost for a given volume of a BOM, providing for each part the suggested supplier with their corresponding reference, packaging and availability. Additionally the total production cost for a specified volume showing any unused parts, the latest price paid and maximum prices provide additional indicators for the buyer to present for consideration.

The screenshot shows the 'Comparative data' table in the Optymo software. The table has columns for Scenario, Quantity, Stock, Purchases, Surpluses, Total purchases, Total value, BOM value, Lead time, Sav. total, Sav. BOM, Stock 0\$, and Costs.

Scenario	Quantity	Stock	Purchases	Surpluses	Total purchases	Total value	BOM value	Lead time	Sav. total	Sav. BOM	Stock 0\$	Costs
Rev. A - 1 (250)	250	10 172.92	832.65	0.00	832.65	12 626.06	50.50	1	0.00	0.00	0.00	1 620.49
Rev. A - 1 (500)	500	19 573.10	2 096.95	134.00	2 230.95	25 045.02	50.09	1	0.00	0.00	0.00	3 240.97
Rev. A - 1 (1000)	1000	35 922.69	6 535.42	153.67	6 689.29	49 093.92	49.09	1	0.00	0.00	0.00	6 481.94
Rev. A - 1 (2500)	2500	56 533.94	27 864.88	551.33	28 416.21	101 155.01	40.46	1	0.00	0.00	0.00	16 204.86
Rev. A - 1 (5000)	5000	84 174.07	64 425.94	516.34	64 942.28	181 526.07	36.31	1	0.00	0.00	0.00	32 409.72

With this precise and current information, one or a range of quotations can be prepared quickly without additional effort, and Optymo users can respond to their customers in a matter of hours instead of days or even weeks.

Selecting Suppliers and buying Parts

When the time comes to purchase parts, Optymo calculates the actual needs for parts based on the planned production run, a specific order or a combination of both, taking into consideration various parameters such as current inventory, use of substitutes, open orders etc. With Optymo, buyers have immediate access to current stock levels, forecast orders from the sales department and allocations and are able to purchase parts in the appropriate quantities for manufacturing to avoid overstocking or creating a parts shortage.

The screenshot shows the Optymo software interface with two main tables. The left table, 'Forecast amount by suppliers', lists various suppliers with their respective quantities, currencies, and RFQ numbers. The right table, 'Breakdown of purchases by currency', summarizes the total amounts in different currencies.

Supplier	OK	%	Items	Currency	Supplier currency amount	Local currency amount	Coverage %	Nbr Ref	RFQ#	Sent	Received
Mouser Electronics	<input checked="" type="checkbox"/>	0	18	CAS	54 317.25	42 002.20	32.78	223	RFQ1606-60	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Newark	<input checked="" type="checkbox"/>	0	86	US\$	33 681.14	33 681.12	26.29	1062	RFQ1606-58	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Future Electronics	<input checked="" type="checkbox"/>	0	36	US\$	22 520.32	22 520.32	17.58	157	RFQ1606-59	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Arrow	<input checked="" type="checkbox"/>	0	54	US\$	16 226.13	16 226.13	12.66	255	RFQ1606-64	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
DigiKey	<input checked="" type="checkbox"/>	0	39	CAS	17 284.00	13 365.33	10.43	640	RFQ1606-62	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Colecraft	<input checked="" type="checkbox"/>	0	1	US\$	305.00	305.00	0.23	2	RFQ1606-68	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

Currency	Tax	Foreign currency amount	Local currency amount	%
American Dollar	1	72 732.59	72 732.57	56.77
Canadian Dollar	1.2932	71 601.25	55 367.53	43.22
TOTAL			128 100.11	

Based on overall needs and information in the database, Optymo suggests suppliers for the different parts, and prepares several RFQs automatically at once to send out for firm pricing as necessary.

Depending on the purchasing process, RFQs are prepared as spreadsheets to be emailed to suppliers, or prices can be obtained directly through web services provided by suppliers. Optymo's flexibility enables buyers to adopt whichever process is appropriate for the need, such as when the requirement is for the fastest delivery for prototypes or small volumes and getting the best deals from online providers, or requesting pricing associated with larger volumes for a production run.

Providing accurate and complete forms to suppliers with exact references to the parts that they carry enables them to give rapid responses in the same format, which allows the user to import them directly into Optymo's database.

In addition, the fully integrated EDI with online vendors is a real asset as it gives the user the ability to check prices online automatically in just a few mouse clicks. Obtaining pricing in real time from multiple vendors will highlight any special offers that are available and can be taken up immediately, which could save the company a significant amount of money with no extra workload.

Generally only a small quantity of manual entries is needed to complete the prices for everything specified in a BOM. Once Optymo has all of the data in its database various reports can be produced based on the stored prices. For instance, Optymo is able to compute the cost of a given BOM for various quantities in a range around that of the current RFQ and provide in a few seconds a graphical summary of unit and total costs including parts remaining after production is completed. This type

of production information is of great value to the EMS in building strong relationships with its customers. Also it allows an EMS to optimize production volumes based on scheduled shipment dates and unit cost.

Optymo becomes a great tool for improving margins and increasing customers' satisfaction without additional work or putting the production schedule at risk.

With all the calculations completed and the optimum production volume determined and agreed, Optymo simplifies the final steps by confirming the final supplier(s) selection, automatically preparing the covering purchase order(s), managing the incoming delivery notes and the production work order as appropriate.

When ordering from online suppliers, the RFQ is simply updated and transformed into a purchase order and placed directly online via the EDI integration, making the process fully automated and accurate.

Optymo's powerful reporting system provides users with benchmarking data such as the period of receipt of their customer's purchase order from the initial quote. The metrics are very useful data to assist with the analysis of the quotation process and to keep track of margins over time.

Optimized Inventory Management

Because Optymo natively supports multiple references and substitutes, it avoids users buying the same part from different suppliers or manufacturers several times, which decreases overstocking and the financial impact of unused parts that eventually are thrown away. By looking at Optymo's database, designers could also select parts based on the actual inventory, decreasing the need to buy parts that already are in stock, which will reduce manufacturing cost and also operational cost by avoiding unnecessary work for the purchasing department.

Suppliers Relationship

Optymo keeps track of all transactions for parts, and also traces supplier's performance.

Buyers can measure at any time the volume of business with suppliers, evaluate their quality according to parameters they define in Optymo and provide key data to base future negotiations.

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