



## Focus: Supply Chain & Production

It's 3 a.m. and your smartphone is buzzing. A supplier of a critical component was hit by a hurricane.

Production facilities are severely damaged. It could take months to come back on line – if ever. With your operation lean, you only have hours to choose another supplier. You've got a few options, but you know you're going to have downtime and the cost is going to be higher. How many products will the change affect? Which assets will be most impacted? And what will happen to product profitability?

Time is ticking. Which supplier gets your call first thing in the morning?

## Can you Simulate how changes across the Supply Chain affect Assets, Customers and Products?

While the scenario described is certainly a dramatic one, it illustrates the value of real-time, actual cost data to the performance of analyses and projections. Traditional business systems like ERP and SCM can be effective at using standard costs in backwards-looking performance monitoring, but they present a challenge when modeling and predicting effects of cost changes across linked elements like upstream and downstream partners, assets and facilities, and products and customers.

Often contained in siloed systems and one-off spreadsheets, *actual costs* are critical to the ability to perform simulations that are credible, reliable, and actionable.

A customer used pVelocity to identify EBIT leakage due to scrap / inefficient machinery/ freight costs, resulting in increased margin of \$3.0M\*

(\* USD)

### Simulations in Seconds

A pVelocity simulation screen showing the recipe for a product and its associated current and projected margin based on a raw material cost change.

Product Raw Material List View		Add Bookmark		Current		Projected												
Selected Market: PERSONAL CARE All: <input type="checkbox"/>				Margin	24.8%	0%	5%	10%	20%	30%								
Selected Product: ALBACURE 612 BULK - Baden				Price (€/Kg)	0.2977	0.2282	0.2381	0.2514	0.2828	0.3232								
				Margin (€/Kg)	0.0714	0.00	0.0119	0.0251	0.0566	0.0970								
Source Plant	Material Code	Raw Material Description	Material Qty %	Cost simulation	Mat. Cost \$/lb 2009-4	Mat. Cost \$/lb 2009-5	Mat. Cost \$/lb 2009-6	Mat. Cost \$/lb 2009-7	Mat. Cost \$/lb 2009-8	Mat. Cost \$/lb 2009-9	Mat. Cost \$/lb 2009-10	Mat. Cost \$/lb 2009-11	Mat. Cost \$/lb 2009-12	Avg last 3 Months \$/lb	Mat. Cost \$/lb 2010-1	Mat. Cost \$/lb 2010-2	Mat. Cost \$/lb 2010-3	
Baden	BA_026115	P-CHLORO M XYLENOL	1.83	7.4693	7.4693	7.4693	7.4693	7.4693	7.4693	7.4693	7.4693	7.4693	7.4693	7.4693	7.4693	7.4693	7.4693	
Baden	BA_023735	LAURYL ALCOHOL, NATURAL (1214)	3.80	0.6652	0.7471	0.7320	0.7290	0.7030	0.6830	0.6787	0.6724	0.6720	0.6652	0.6699	0.6554	0.6489	0.6351	
Baden	BA_023445	CHLOROSULFONIC ACID	2.42	0.2396	0.1791	0.1887	0.1868	0.2015	0.2161	0.2205	0.2319	0.2396	0.2396	0.2370	0.2370	0.2370	0.2370	
Baden	BA_022535	PROPYLENE GLYCOL TECH	0.41	1.1041	1.1041	1.1041	1.1041	1.1041	1.1041	1.1041	1.1041	1.1041	1.1041	1.1041	1.1041	1.1041	1.1041	
Baden	BA_025115	DECYL ALCOHOL 85% (10124A)	0.29	1.1710	1.1710	1.1710	1.1710	1.1710	1.1710	1.1710	1.1710	1.1710	1.1710	1.1710	1.1710	1.1710	1.1710	
Baden	BA_025730	AMMONIA AQUEOUS 19%	2.28	0.0929	0.0929	0.0929	0.0929	0.0929	0.0929	0.0929	0.0929	0.0929	0.0929	0.0929	0.0929	0.0929	0.0929	
Baden	BA_023755	CITRIC ACID USP FCC ANHYDROUS	0.02	0.7028	0.7028	0.7028	0.7028	0.7028	0.7028	0.7028	0.7028	0.7028	0.7028	0.7028	0.7028	0.7028	0.7028	
Baden	BA_029485	PHOSPHORIC ACID 85%	0.03	0.5018	0.5018	0.5018	0.5018	0.5018	0.5018	0.5018	0.5018	0.5018	0.5018	0.5018	0.5018	0.5018	0.5018	
Baden	BA_022885	EDTA ACID	0.00	2.6887	2.6887	2.6887	2.6887	2.6887	2.6887	2.6887	2.6887	2.6887	2.6887	2.6887	2.6887	2.6887	2.6887	
Baden	BA_028495	FORMALDEHYDE 37% 6.5-15% MECH	0.02	0.3098	0.3098	0.3098	0.3098	0.3098	0.3098	0.3098	0.3098	0.3098	0.3098	0.3098	0.3098	0.3098	0.3098	
Baden	BA_027365	UV TREATED WATER	80.14	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Baden	BA_341751	SIPOTHIX 1941 475 CHP	6.91	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Baden	BA_383385	ATRI-COSOLV HG 408 LB/185KG	2.62	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Mat. Cost \$/lb:				100.76	0.1786	0.1802	0.1794	0.1797	0.1791	0.1787	0.1786	0.1787	0.1788	0.1786	0.1787	0.1782	0.1779	0.1774

## Providing an Accurate basis for Current Product Costing and Pricing

pVelocity's Profit & Cost Simulation software is the only solution that consolidates actual cost data from enterprise systems and sources to ensure that you are working with the most up-to-date costs that affect materials or components, assets, facilities, freight, energy,

packaging and more. pVelocity uses this data to provide:

- Powerful cost visibility inside and outside the enterprise
- Instant "what-if" simulations to support real-time scenario modeling and decisions



A pVelocity Executive Dashboard showing Volume Performance, Customer Comparison, Product Comparison, and Profitability

### Use pVelocity Simulation to Analyze the Effects of Changing Your Supply Chain

The pVelocity Cost Simulator provides a “sandbox” based on actual cost data to assess and model different scenarios like:

- Re-allocation of production resources from lower margin products to higher performing lines
- Material substitutions, cost adjustments, or volume increases
- The adjustment of yield of any number of production orders by reducing scrap or increasing equipment effectiveness

### Model and Forecast Outcomes with Confidence

- First, use actual cost data to categorize and segment affected products, assets, and facilities by contribution margin, volume, and revenue
- Then, drill deep to determine products and assets affected by material or component shortages or changes
- Follow with simulations to model the risk and impact of price increases on sales volume, downstream fulfillment, and operational efficiency

### Use Actual Cost Data to Optimize Current and Future Performance

	TACTICAL	STRATEGIC
PLAN	<ul style="list-style-type: none"> <li>• Analyze and simulate the effect of alternative solutions such as substitutions</li> </ul>	<ul style="list-style-type: none"> <li>• Model relationships between:                             <ul style="list-style-type: none"> <li>» Customers &amp; Products</li> <li>» Raw Materials &amp; Equipment</li> <li>» Upstream and downstream partners</li> </ul> </li> </ul>
SOURCE	<ul style="list-style-type: none"> <li>• Monitor cost trends of raw materials used in key products and customer accounts</li> </ul>	<ul style="list-style-type: none"> <li>• Adjust upstream service level agreements on delivery performance, return rates, etc.</li> <li>• Make vs. buy decision analysis</li> </ul>
MAKE	<ul style="list-style-type: none"> <li>• Analyze, simulate and execute margin improvement tactics to react to changing costs and material availability issues</li> </ul>	<ul style="list-style-type: none"> <li>• Initiate product engineering collaboration discussions with downstream and upstream partners</li> </ul>
DELIVER	<ul style="list-style-type: none"> <li>• Examine freight and packaging options and their impact on customer margins</li> </ul>	<ul style="list-style-type: none"> <li>• Model relocation of production to different facilities to lower overall Cost-to-Serve or to increase fulfillment performance</li> </ul>

To learn more about how other companies have benefited from immediate, detailed insight into projected product and customer profitability, visit [www.pVelocity.com](http://www.pVelocity.com) for case studies and sample simulations.