NUCLEUS RESEARCH

PTC WINDCHILL SRAM

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THE BOTTOM LINE

SRAM deployed PTC Windchill to integrate and unify the engineering processes for all its brands. The company's rapid growth through acquisition resulted in engineering and development groups that were not able to communicate and share information across departments. The company needed a solution that would support its holistic business process approach to the creation and management of product data, with PLM integrating processes, technology and people into an information backbone to facilitate a lean enterprise. Nucleus found that PTC Windchill enabled SRAM to create uniform product data management and workflow practices, resulting in increased engineering productivity, improved customer satisfaction, and more accurate decision making across the enterprise.

ROI: **128%**
Payback: **1 year**
Average annual benefit: **$1,372,434**

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THE COMPANY

Headquartered in Chicago, SRAM is a global manufacturer of bicycle components. The company is composed of several brands, including Rock Shox, Avid, Truvativ, Zipp, and Quarq. Started 25 years ago with the advent of the Grip Shift, SRAM continues to grow its business to supply a full line of bicycle components for casual and expert riders.

THE CHALLENGE

The company's fast growth through acquisition brought five different engineering processes together into a single company, fragmenting the processes and communication among each unit. Prior to implementing PTC Windchill, each unit's engineers were using their company's pre-existing methods, making it difficult to share information across business units and unify communications between engineering, development, and manufacturing.

Cost : Benefit Ratio | **1 : 2.5**

Like many manufacturing companies, SRAM is heavily dependent on CAD as part of its engineering processes. The company needed a solution with a strong CAD integration that could also create uniform workflows and product data management practices across the company to increase the productivity of its engineers, provide greater information transparency among departments, and streamline product development.

THE STRATEGY

The company examined several solutions looking at a variety of features, including the strength of the CAD integration available. Evaluating other solutions, SRAM found that they did not offer the appropriate balance of functionality. For example, SAP's solution was too transactional and engineering-driven, while others were too focused on project management. The company ultimately chose to deploy PTC Windchill because it was a product development oriented solution that offered the most robust integration with CAD, a strong workflow engine, and broad baseline functionality that it was able to extend to directly support its processes without customizing the core PTC Windchill toolset.

TYPES OF BENEFITS

The company started the deployment in 2007, taking approximately eight months from start to finish. The company did acknowledge that the deployment planning period was longer than it anticipated because it planned to roll the solution out to its

16 locations and 450 users overnight, rather than on a site-by-site basis. PTC advisory services were engaged to aid the deployment. The company also purchased four new servers to consolidate information storage for each engineering department in a single location. Users attended four, half day training sessions prior to the deployment date.

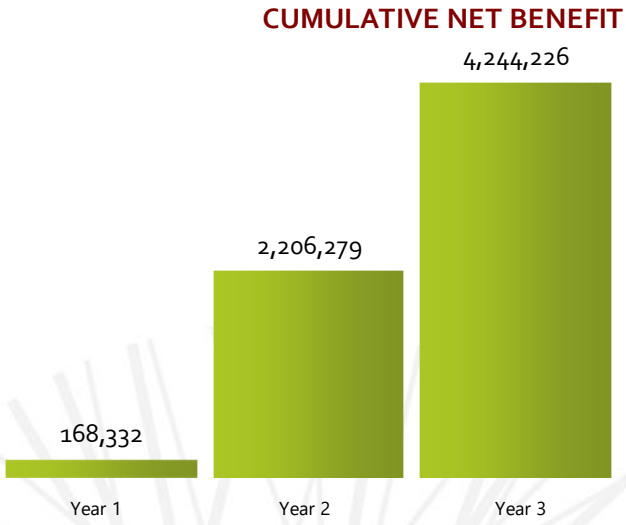
SRAM's engineering operations are now unified with product life cycle management that provides a strong workflow and product data management capabilities that are highly integrated with CAD, supporting its continuous improvement approach throughout the organization. The company was able to implement multiple enterprise processes simultaneously at the time of deployment, including enterprise change management, document management, uniform drawing standards, and a single part number system for all brands.

KEY BENEFIT AREAS

- The unified and streamlined engineering process enabled SRAM to increase the number of projects handled by engineering while at the same time empowering other business units with the collaboration tools to utilize the most accurate, up-to-date information. Key benefits of the project include:

- Increased engineer productivity. The product data management and CAD integration functionality of PTC Windchill has enabled the company's engineers to manage ongoing projects more efficiently. By eliminating redundant information and misplaced documents, engineers now save approximately one to two hours each week. The increased efficiency and time savings has made it possible to have four times the number of active projects being developed simultaneously compared with pre-deployment levels. The central data repository has also reduced data entry times and the risk for human error while entering information.

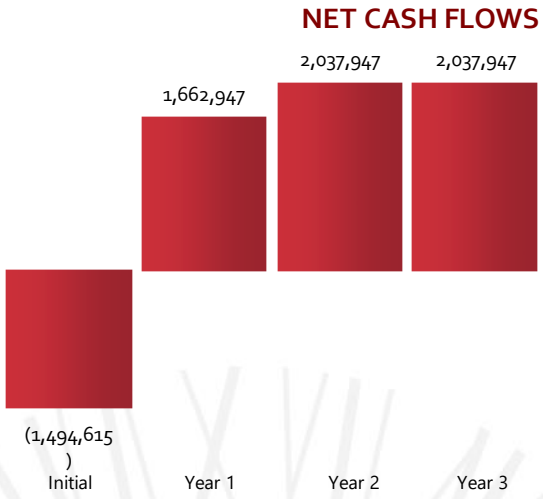
- Avoided costs. The increased productivity has allowed for more projects to be in development simultaneously without increasing the number of engineers. The company would have had to hire 15 engineers to be able to manage the same number of development projects that it is currently maintaining.



- Increased customer satisfaction. The robust workflow engine in PTC Windchill has enabled development and engineering teams to more precisely roadmap development and manufacturing, enabling the company to give customers confirmed ship dates with greater lead times for new components. The company has also tightly integrated the solution with its sales department, enabling sales teams with the collaboration tools to examine and execute custom component deals with the confidence that they can be delivered on time and at a profit for the company and the customer.
- Improved decision making. As part of its continuous improvement model, SRAM has integrated PTC Windchill across multiple business applications, including ERP, sales, and analytics, to provide current and accurate development, manufacturing, and procurement information to all business units to drive faster, more precise decision making across the organization

KEY COST AREAS

Costs of the project included software license and maintenance fees, hardware, personnel time to implement and support the application, user training time, and consulting costs. PTC advisory services were engaged prior to the deployment and for the first year after deployment to assist with further configuration.



BEST PRACTICES

The scope and breadth of manufacturing requires tight integration and efficient communication among multiple departments to ensure that projects make it from engineering to the customer on time and within narrow cost ranges. To maintain these elements, a product lifecycle management solution must provide a balance of functionality that is not exclusive to engineering, but is relevant to and adoptable among multiple business groups.

The broad set of base functionality combined with the ability to configure and integrate the solution across the organization enabled SRAM to derive value from the solution in multiple business units. The workflow engine, robust integration tools, and product data management capabilities have allowed the company to adopt, as an organization, an ideology of continuous improvement across business units, from sales to manufacturing.

CALCULATING THE ROI

Nucleus quantified the initial and ongoing costs of software subscription fees, hardware, personnel time to implement and support the application, employee training time, and consulting over a 3-year period to calculate SRAM's total investment in PTC Windchill.

Direct benefits quantified included the avoided hiring of addition engineers, and the elimination of a license for legacy software. The indirect benefit quantified included the increase in engineer productivity driven by the deployment, calculated based on the average annual fully loaded cost of the employees. These productivity savings

were quantified based on the average annual fully loaded cost of an employee using a correction factor to account for the inefficient transfer between time saved and additional time worked.

FINANCIAL ANALYSIS

SRAM's PTC Windchill Project

Annual ROI: 128%
Payback period: 0.9 years

BENEFITS	Pre-start	Year 1	Year 2	Year 3
Direct	0	1,137,000	1,137,000	1,137,000
Indirect	0	1,216,947	1,216,947	1,216,947
Total per period	0	2,353,947	2,353,947	2,353,947

COSTS - CAPITALIZED ASSETS	Pre-start	Year 1	Year 2	Year 3
Software	0	0	0	0
Hardware	0	0	0	0
Project consulting and personnel	0	0	0	0
Total per period	0	0	0	0

COSTS - DEPRECIATION SCHEDULE	Pre-start	Year 1	Year 2	Year 3
Software	0	0	0	0
Hardware	0	0	0	0
Project consulting and personnel	0	0	0	0
Total per period	0	0	0	0

COSTS - EXPENSED	Pre-start	Year 1	Year 2	Year 3
Software	285,000	36,000	36,000	36,000
Hardware	150,000	0	0	0
Consulting	375,000	375,000	0	0
Personnel	175,000	280,000	280,000	280,000
Training	509,615	0	0	0
Other	0	0	0	0
Total per period	1,494,615	691,000	316,000	316,000

FINANCIAL ANALYSIS	Results	Year 1	Year 2	Year 3
All government taxes	45%			
Cost of capital	7.0%			
Net cash flow before taxes	(1,494,615)	1,662,947	2,037,947	2,037,947
Net cash flow after taxes	(822,038)	914,621	1,120,871	1,120,871
Annual ROI - direct and indirect benefits				**128%**
Annual ROI - direct benefits only				47%
Net Present Value (NPV)				1,926,724
Payback period				**0.9 years**
Average Annual Cost of Ownership				939,205
3-Year IRR				108%

All calculations are based on Nucleus Research's independent analysis of the expected costs and benefits associated with the solution.

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