

# *Swoosh*

Technologies & Solutions, L.L.C.

[www.SwooshTech.com](http://www.SwooshTech.com)



Offering a magnitude of services and solutions, Swoosh Technologies is a premiere CAD/CAM/CAE/PLM provider with over 25 years experience. Swoosh Technologies specializes in integrating new PLM solutions into companies helping them realize the fastest ROI, as well as assisting companies recognize the maximum benefit from their current PLM investments through training and consulting.

# SWOOSH: THE SECRET TO SUCCESS

To succeed in today's global business environment, industries and organizations are realizing more and more that PLM technology is crucial for having the ability to manage new and existing complex programs in the most efficient way possible. Thus improving supply-chain performance, product time-to-market, and secure collaboration are crucial parts of their success. At Swoosh Technologies, our focus is on multiple industries throughout North America that can experience the benefits of the latest PLM technologies. Swoosh's activities will only increase moving forward with the expansion of solutions and capabilities that address new industry challenges.



**SIEMENS**





## **Expertise through Experience.**

Swoosh's Product Lifecycle Management (PLM) and Product Data Management (PDM) Solutions enable organizations to better anticipate change, improve product traceability and compliance efforts, while creating new efficiencies across their entire enterprise.

However, delivering a World Class PLM solution does not simply mean providing the best available PLM software and hardware technologies available; a more in-depth look exposes effective deployment within a reasonable period of time, a realistic cost structure, practical problem-solving skills, and a commitment to providing a solid data infrastructure that will ensure product development information - the lifeblood of any project - is used effectively throughout the entire product lifecycle.

Swoosh Technologies' PLM implementation solutions facilitate the collaboration and comanagement of product information, between people, processes and business systems. Thus, allowing the consumers to benefit from a successful PLM application in less time and fewer disruptions.

Swoosh Technologies' value-added consulting and support services ensure you get the most out of your product data and PLM solutions while minimizing risk.

# **THE SECRET REVEALED...**

# The secret: Siemens PLM

Swoosh Technologies and Siemens PLM have partnered to bring world class solutions powered by Synchronous Technology (ST).

## CAD Solutions

### NX

Manufacturing companies are driven by increasing pressure to develop innovative products in shorter time frames, while maintaining high levels of quality. Even with mature, capable 3D CAD technology, many companies have failed to significantly improve their design processes, and the benefits of lower costs and shorter cycle times remain elusive.

Transformation of product development begins with the design process, which fuels the entire product lifecycle – from simulation and analysis through tooling design, manufacturing, assembly, service and support.

### SOLID EDGE

Solid Edge, a core component of Siemens' Velocity Series™ portfolio, is the most complete hybrid 2D/3D CAD system that uses synchronous technology for accelerated design, faster change, and improved imported reuse. With superior part and assembly modeling, drafting, transparent data management, and built-in finite element analysis, Solid Edge eases the growing complexity of product design.

The most recent addition continues to lead the industry by helping machine designers and enabling engineers to develop better products faster. This latest Solid Edge release allows manufacturers to design better with synchronous technology, collaborate in a multi-CAD environment using the JT data format, validate sheet metal designs faster, and reduce documentation costs with world-class drafting.





## CAM Solutions

### **NX**

NX CAM delivers a complete and proven solution for machine tool programming that enables companies to maximize the throughput of their most advanced machine tools. With NX CAM, companies can transform their NC programming and machining processes to dramatically reduce waste and significantly boost productivity.

Driven by the requirements of manufacturing companies worldwide, NX CAM offers great flexibility in machining methods and a wide range of machine tool programming capabilities.

### **CAM EXPRESS**

CAM Express is a full function, CAD neutral, NC programming system that is easy to deploy and increases productivity on the machine tools and in the programming shop. CAM Express establishes a new standard for CAM capability, with substantial advances in 5 axis machining, feature-based automation, and user experience.

Core machining functions are enhanced, programming automation is more powerful than ever, and users will enjoy the most productive working environment yet. Start unlocking the potential of your machine tools and programming staff today!

# CAE Solutions

## NX

Accelerate your analysis processes by up to ten times with NX. NX redefines CAE productivity by integrating leading geometry tools with powerful new analysis technology for modeling, simulation, automation and test correlation. Synchronizing simulation with design enables users to keep pace with design-analysis iterations, make better engineering decisions and deliver better products faster.

The keys to maximizing the value of simulation applications are to use them both as early as possible and then throughout the development process. To this end, Siemens PLM Software offers a comprehensive suite of Digital Lifecycle Simulation solutions designed to meet the needs of multiple users within any engineering enterprise.

## FEMAP

Accelerate your analysis processes by up to ten times with NX. NX redefines CAE productivity by integrating leading geometry tools with powerful new analysis technology for modeling, simulation, automation and test correlation. Synchronizing simulation with design enables users to keep pace with design-analysis iterations, make better engineering decisions and deliver better products faster.

The keys to maximizing the value of simulation applications are to use them both as early as possible and then throughout the development process. To this end, Siemens PLM Software offers a comprehensive suite of Digital Lifecycle Simulation solutions designed to meet the needs of multiple users within any engineering enterprise.



## Data Management

### TEAMCENTER

Teamcenter® software is the world's most widely used PLM system. Teamcenter powers innovation and improves productivity by connecting people with the product and process knowledge they need to function effectively in a globally oriented product lifecycle. Teamcenter's proven digital lifecycle management solutions are built on an open PLM foundation.

The benefits of Teamcenter PLM solutions are abundantly clear. You can see immediate and long term business results, including:

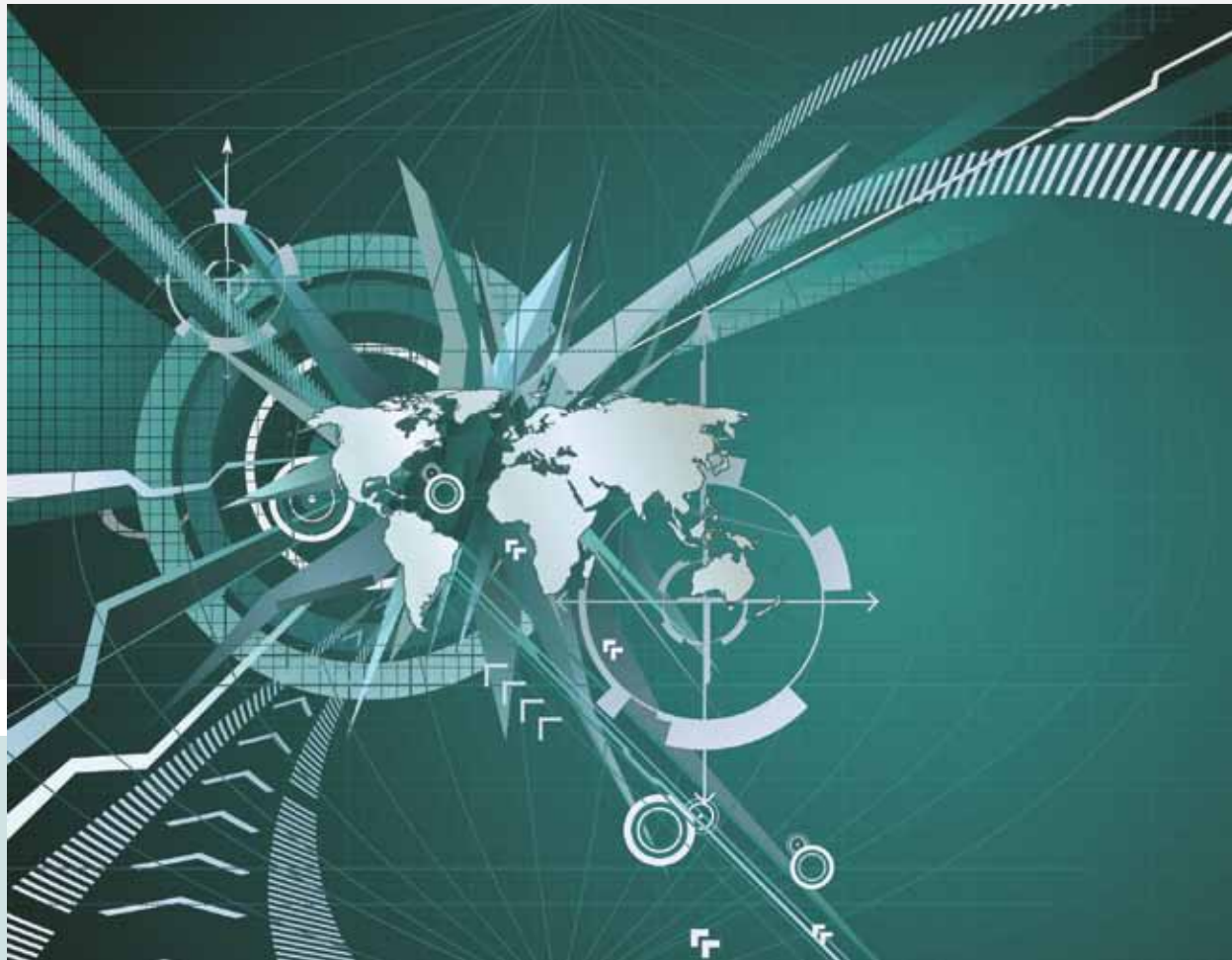
- Productivity,
- Teamwork,
- Manageability,
- Success.

### TEAMCENTER EXPRESS

The robust capabilities of Teamcenter™ Express provides the collaborative design management functionality that your engineering teams needs to manage design data and communicate both internally and externally to your organization. Teamcenter Express enable you to maximize the efficiency of the product development and other supporting engineering processes to deliver new and more innovative products faster than your competition, while minimizing your costs and improving the productivity of your organization.

Teamcenter Express helps mid-sized manufacturing companies transform their process of innovation by applying preconfigured best practices to everyday engineering tasks and processes.

<http://www.swooshtech.com/siemens/siemens-plm>



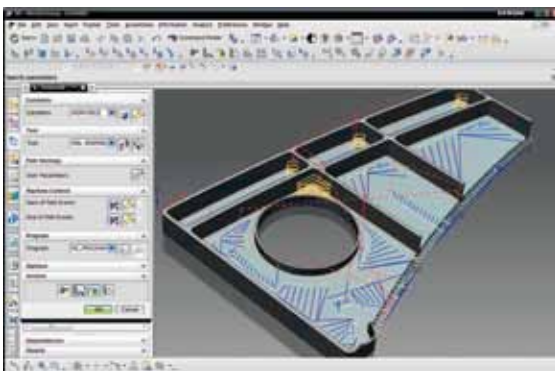
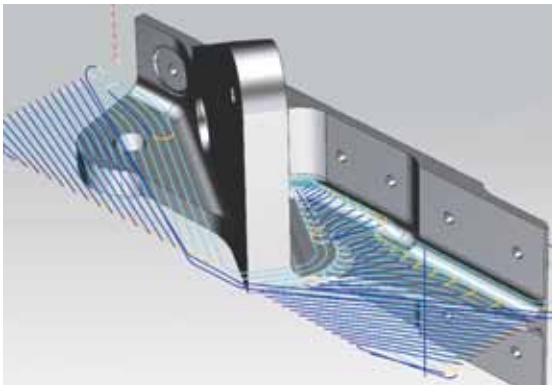
# The secret: VoluMill

Swoosh Technologies partners with Celeritive Technologies to bring VoluMill to CAM solutions.

## The only 2-axis and 3-axis toolpaths ever needed.

VoluMill is a high-performance toolpath engine from Celeritive Technologies that integrates directly into existing CAM systems. It handles any geometry, is easy to use, and outperforms all other toolpath technologies. Videos and references to cutting data can be located at [www.swooshtech.com/volumill](http://www.swooshtech.com/volumill) to help customers get started.

Using VoluMill in place of traditional roughing routines will reduce cycle times, extend the life of cutting tools, and place considerably less stress on machine tools, thereby reducing costs while increasing productivity. VoluMill provides these benefits by fully utilizing the capabilities of modern machining hardware to control the rate of material removal. It plans the toolpath based on the abilities designed into the machine tools and cutting tools, irrespective of the shape being cut. Traditional toolpath strategies, by contrast, are derived from the geometry being machined, filling the bounded area with a zigzag pattern, or offsetting the boundary geometry until it collapses on itself.



# 3X

Reduced Programming time

Extended Tool life

Deeper cuts

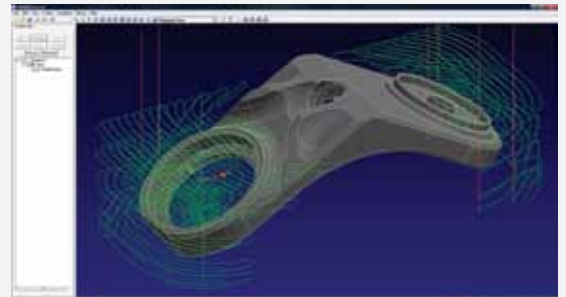
Fewer passes

Faster Feeds and Speeds



## Key Advantages and Benefits:

- High-performance, smart toolpath engine.
- Powerful, efficient toolpaths for open shapes.
- Intelligent slot milling and side milling options.
- Fast machining of small pockets.
- Up to 100% stepover with no uncut material.
- High-feed repositioning with floor clearance.
- Cleanup Milling.
- Automatic feedrate adjustment.



Download your  
**FREE**  
15 day trial  
**TODAY**

[www.swooshtech.com/volumill](http://www.swooshtech.com/volumill)

# The secret: InspectionXpert

Swoosh Technologies and Extensible CAD Technologies partner to save time and money when compiling inspection sheets and ballooning with InspectionXpert.

**InspectionXpert is inspection report automation and ballooning software that helps manufacturers generate inspection report forms and ballooned inspection drawings quickly and accurately.**

**Uniquely number dimensions in your CAD drawings with inspection balloons.**

Supported drawing formats include AutoCAD, CATIA V5, Pro/ENGINEER, PDF, Solid Edge, SolidWorks, TIF and more.

**Export dimensions from your CAD drawings to an inspection report form.**

Industry-standard formats such as AS9102 Form Three and PPAP are supported along with user-customizable report formats.

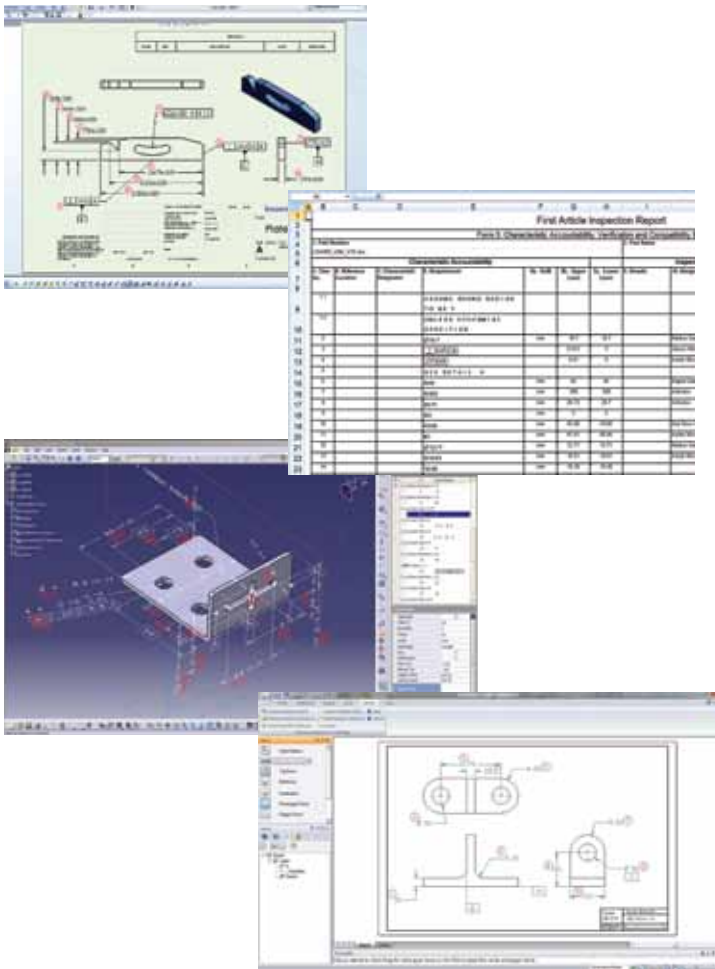
**Provide standard, accurate inspection report forms and drawings to inspectors.**

InspectionXpert is inspection report automation and ballooning software that helps manufacturers generate inspection report forms and ballooned inspection drawings quickly and accurately.

InspectionXpert First-Article works with over fifty file formats including PDF, TIFF and DWG. For even greater time-savings, our CAD-integrated InspectionXpert products work directly inside most popular CAD programs including SolidWorks, Solid Edge, AutoCAD, Pro/ENGINEER, and CATIA V5.



**INSPECTION  
XPERT**



### Saving Time, Saving Money

The most dramatic savings are the time-savings that are achieved by reducing the manual processes often associated with creating ballooned inspection drawings and inspection sheets. Companies implementing InspectionXpert will often achieve 100% return on investment in less than a month. View the ROI calculator [www.swooshtech.com/inspectionxpert](http://www.swooshtech.com/inspectionxpert) to calculate the Return on Investment for an organization.

<http://www.swooshtech.com/inspectionxpert>

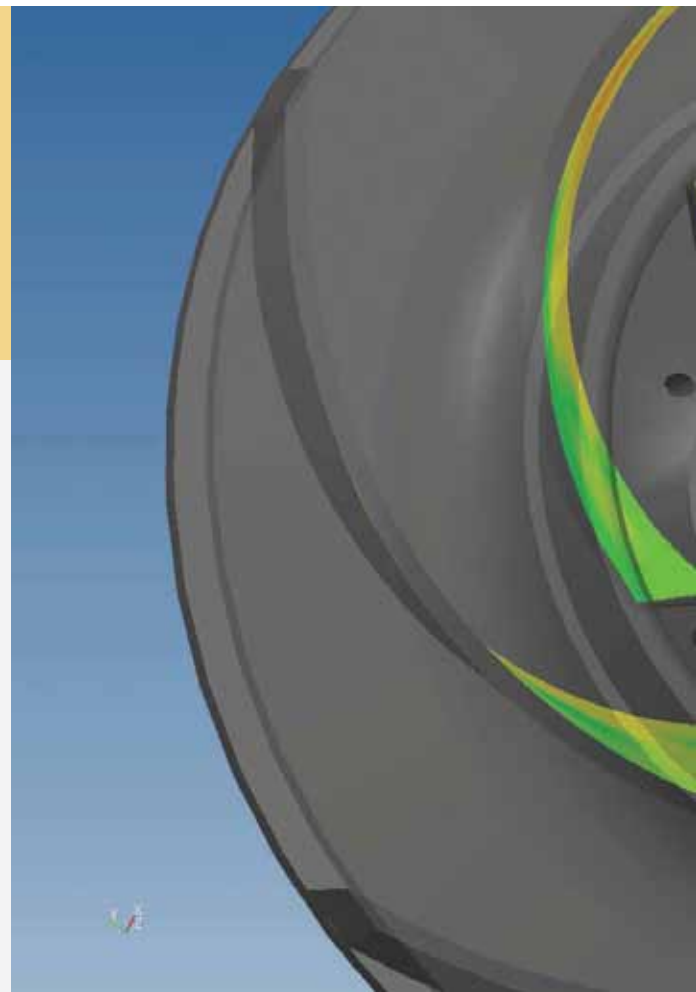
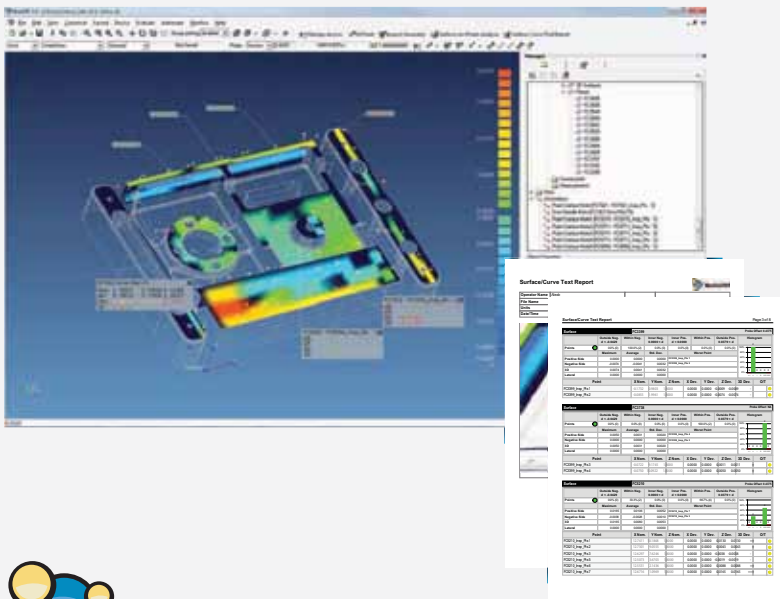


# The secret: BuildIT

Swoosh Technologies and BuildIT software have partnered to minimize software and training costs, Maximize manufacturing productivity, and Reduce errors between tasks and departments.

BuildIT is a complete software solution for 3D, portable metrology and related tasks. Made from application modules including BuildIT Desktop, BuildIT Brokers and BuildIT Databridges, the suite provides extensive functionality for measurement, inspection and reverse engineering.

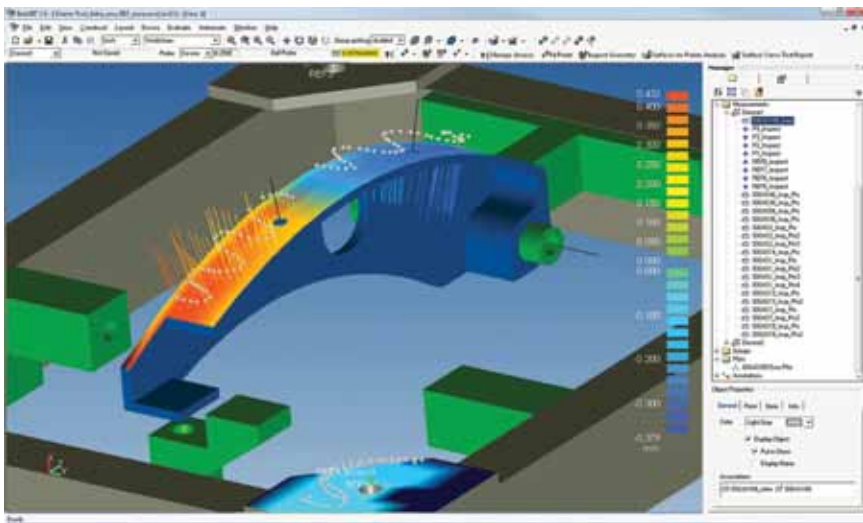
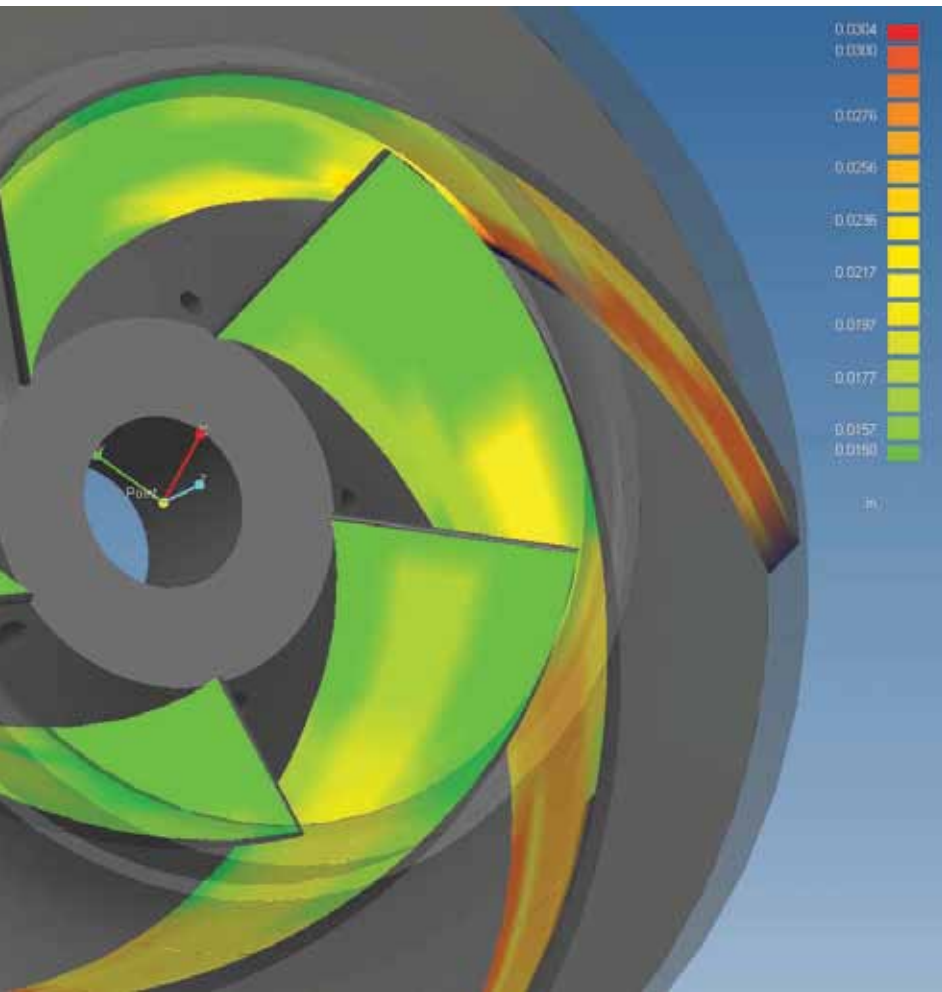
A versatile platform, BuildIT lets you determine the optimal configuration for your metrology needs; each module can be used independently for specific tasks, or can be combined to transform your manufacturing process into an integrated digital process. BuildIT is simple for the casual user, yet provides the depth and traceability that metrology experts require.



**BuildIT Desktop** is used to validate that manufactured parts conform to engineering specification. It also includes functionality for advanced alignment.

**BuildIT Brokers** extends the productivity of portable CMM devices by providing a single interface for real-time measurement with multiple, simultaneous devices. It can be used for tool-building and basic alignments.

**BuildIT Databridges**, allows reading and saving CAD data from industry standard engineering software, and BuildIT Viewer, a free viewer, is available for retrieving and sharing measurement data.



**Minimize software and training costs:** Consolidate your software investment into one package for multiple tasks to reduce software and training costs.

**Maximize manufacturing productivity:** BuildIT features consistent data and workflow to result in digital manufacturing productivity.

**Reduce errors between tasks and departments:** Digital design-through-manufacturing enables more efficient communication through all processes of shop floor measurement and production to engineering design. Consistent model and analysis database leaves no room for error in interpretation or data translation.

# Success

## Case Study: Helena

Helena Laboratories is a clinical laboratory instrument manufacturer and a successful customer of Swoosh Technologies. Its clients include major medical centers, small hospitals, large reference laboratories and small private doctors' laboratories. With hundreds of laboratory products and more than 40 registered patents, Helena continues to be a market leader in the design and development of new diagnostic tests.

Recently Helena decided to redesign one of its most popular products. Replacement parts for the unit were becoming scarce, and Helena needed to redesign it with new components.

Undertaking this and other major design work using SolidWorks seemed logical, but recent press and blog posts from SolidWorks users that Dassault planned to remove the Parasolid® software modeling kernel from its SolidWorks product worried Helena.

Under the guidance of Swoosh Technologies, Helena switched to Solid Edge® from SolidWorks software. Helena now achieves 100 percent conversion of its wireframe designs into Solid Edge and preserves its valuable data. There were added business and technical benefits too, such as the ability to upgrade to Teamcenter Express for product data management.



"I don't want to stagnate for 10 years...Solid Edge in the last three to four years has been working on a technological evolution while SolidWorks has been working on menu bar icons, shading and colors."

"We need a stable path for the next 5 to 10 years. We found that stability with Teamcenter Express and it's expandability to full-blown Teamcenter from Siemens PLM Software."

*Billy Oliver  
Design Engineer at Helena*



Swoosh Technologies unveils its secrets to better serve customers in multiple industries by utilizing Siemens PLM, VoluMill, InspectionXpert, and BuildIT software solutions. This is done to ensure every consumer maintains the success they deserve by increasing ROI and saving time and money.

## What Swoosh's Customers Have to Say:

### Case Study: GKN Aerospace

GKN Aerospace of St. Louis, Mo., conducted a sustainable machining cell project assessment that focused on minimizing and optimizing the inputs and outputs required to transform material into defense aerospace products that support fighters, transports, and helicopters. The assessment delivered a roadmap for technology solutions to reduce operational energy consumption and waste products at various tiers within the manufacturing enterprise of GKN.

The project used assessment tools in the machining cell to conduct an energy consumption, expendables, and waste analysis to determine opportunities for inserting advanced sustainable technologies. Once handed a trial of VoluMill, the results were instantaneous. Testing showed a 205 percent increase in metal removal rates for the pocketing operations on a GKN standard test component. A review of the machine tool load indicated a reduction in per unit power consumption as well as overall power consumption during the machining operation. Finally, VoluMill allowed additional features to be machined with fewer tools.



"Admittedly, initial expectations were not very high, GKN has tested high-speed titanium machining technologies in the past without success. The results have shown that VoluMill toolpath software does work. The VoluMill test was one of those 'oh, wow' moments."

*James Morgan, Manufacturing Technology Division of the Air Force Research Laboratory Wright-Patterson Air Force Base*

"I was extremely pleased with the results. This mentoring class has reduced our NX CAM programming time by 40 %. The instructor did a fantastic job teaching ways to speed up our process. This was money well spent."

*Ulterra Drilling Technologies*

"Swoosh handled our PLM installation and training with great service and commitment. When there was an issue they supported us through the whole process. Their training services really focused on meeting the specific needs we had and saved us money and time."

*MeadWestvaco Corporation*

"The training provided by Swoosh was a tremendous boost in our production. By being able to now utilize all of the new functionality improvements that NX offers we have reduced design time by 15% in most cases."

*Gibbs Die Casting*

Ensuring the best support, training, and software, Swoosh Technologies invites you to get in on the secret. Call toll free or visit the website today.

**(888) 318-5104**  
**www.SwooshTech.com**



## Simple Solutions for Complex Times

***Swoosh Technologies & Solutions:*** Swoosh Technologies PLM has a long legacy of working in the fields of aerospace, automotive, off-road vehicles, and machinery design to leverage PLM solutions that help companies achieve business objectives of quality improvement, waste reduction, shorter cycle times and increased product innovation.

***Swoosh Technologies Educational Services:*** delivers complete product training for Solid Edge, NX Product Design & NX Manufacturing (basic to advanced full 5-axis), Teamcenter Engineering and Teamcenter Express. We offer off-site training at one of our three locations or on-site training at your destination. Our courseware is developed in-house and targeted specifically for your design and manufacturing requirements.

**WWW.SWOOSHTECH.COM**

**TOLL FREE: (888) 318-5104**

**DIRECT: (314) 549-8110**