IN THE FACE OF INTENSE GLOBAL COMPETITION, small and medium-size businesses (SMBs) are well aware that they must bring new products to market, and quickly. Many of those companies, however — even those using a product lifecycle management (PLM) solution — don’t have a formal process to support new product introduction (NPI). Ad hoc approaches are slowing them down, which means missed opportunities to capture market share and lifecycle revenues.

Fortunately, NPI solutions are more affordable and accessible than ever before, thanks to quick, cloud-based implementation and process templates that accelerate the setup. This whitepaper discusses how SMBs can benefit from formalizing NPI processes and highlights the success of a manufacturer in creating an NPI process.
Tools that automate the new product introduction process can transform product development without breaking the bank.

Small and medium-sized businesses (SMBs) in the manufacturing industry today face intense global competition. They are well aware of the need to bring new and innovative products to market — and that being late to market can sabotage success no matter how good the product.

Despite the need to gain every possible efficiency, few SMBs have an efficient, modern new product introduction (NPI) system in place. Some may have product lifecycle management (PLM) software to manage design and manufacturing but leave NPI to ad hoc processes evolved internally. Others have no PLM in place at all. Used with or without PLM, the NPI process is often a case of paper on glass — processes originally done on paper at a desk are now done on computer at a desk. Call it computerized inefficiency.

Ad hoc NPI doesn’t measure up
NPI begins at the very start of product development and is generally considered to be the use of recognized or internally learned best practices and related quality standards to create a method of launching a new product within a company. Done right, NPI sets the agenda for everything that follows in the product development process.

Although NPI is a well-established practice in product development, the traditional ad hoc approach to NPI is based on paper trails, e-mails, and documents that lack version control — which requires inefficient hands-on involvement of team members. For example, as a product is being produced, users must communicate information, but every time a piece of information moves from one person to another within a company, it is a transaction, and every transaction is a friction point that uses energy and steals time.

In an ad hoc NPI system, a task as simple as, “Please send me the specifications list” is high friction. Person A has to find the spreadsheet, possibly update it, and then e-mail a copy to Person B. Now two copies of the spreadsheet exist and we have an e-mail transaction that can’t be easily audited — both of which will likely result in future friction points. There is no version control, no file security. Any questions or problems that arise necessitate continued back-and-forth messages that don’t become part of the project record and may not update all relevant team members, therefore leading to even more friction points.

This example is just one information request involving two people. Repeated hundreds of times for all aspects of NPI, such inefficiencies generate significant amounts of time wasted just tracking down and sharing information. A study in Engineering Practice in a Global Context: Understanding the Technical and the Social, by Bill Williams, José Figueiredo, and James Trevelyan, estimates that as much as a fifth of an engineer’s time is spent looking for information, a reality that’s simply
deploy smartphones and notebook computers, you can afford to deploy NPI software.

**CAMS: TRANSFORMATIVE TECHNOLOGY**

IT industry analysts are tracking the rise of what is called the Fifth Wave of computer technology. The first four waves were mainframes, mini-computers, personal computers and client–server computing, and the World Wide Web era. The Fifth Wave is the interconnection of four new technologies: cloud, analytics (data services), mobile computing, and social media/technology. The four technologies go by two acronyms: CAMS (most commonly), and SMAC (part of a trademarked term by consulting firm Cognizant). The way the four technologies are blended make for endless possibilities of new work methods and products.

In our personal lives, we can create data (a photo, for instance) on a mobile device, use analytics to identify faces, save it in a cloud where others can access it, and share a clip through social media. The CAMS technologies make it easy; we have quickly learned to take such a fluid, creative process for granted. Yet back in the office, unacceptable in today’s business environment. All project information should be accessible by all who need it, when they need it. If team members have to ask for key information, your business process is broken.

What’s the answer for SMBs? Cloud-based NPI, integrated with cloud-based product lifecycle management (PLM), automates the process so users don’t get stuck and waste time, and the project moves along efficiently. The goal of all product data software is to minimize transactions, making every necessary transaction as friction-free as possible. Continuing the example cited above, Person B could access the current specifications list without asking Person A or anyone else to send it. The list is always current and accessible to all who need it.

Implementing an NPI system allows your team to think strategically about business processes as well as goals. Unfortunately, in the past, such strategic thinking was often hijacked by the cost of a traditional PLM system. Luckily, advances in technology allow SMBs access to cutting edge tools without breaking the bank. If you can afford to

The goal of all product data software is to minimize transactions, making every necessary transaction as friction-free as possible.
tasks such as NPI are still stuck in e-mail and spreadsheets. Why should we benefit from CAMS technologies in our personal lives more than in our professional lives?

Business processes drive how we create new products. Most of NPI is about creating information and passing it along to someone, or requesting information from someone. Either way, it is making a request of someone for their time and attention. Using CAMS technologies, business processes like NPI can become more service-oriented, where the information is accessible and automatically usable. It changes NPI from an “on request” process to an “on demand” workflow:

- Cloud = on-demand computer power
- Analytics = on-demand insight
- Mobile = on-demand access
- Social = on-demand collaboration.

CAMS technologies make it possible to replace workflow born of physical processes with new digital processes, more affordably than ever before. Cloud computing changes the economics of computer use, workflow optimization, and storage. Mobile flattens hierarchy by allowing a distributed workflow; it eliminates the “under one roof” production mindset. Social technology automates and digitizes working relationships, making communications about new product introduction — useful data that is tracked.

Such CAMS-based change is not so much incremental as it is transformative and disruptive. Cell phones were an incremental improvement over landline phones; smartphones with CAMS apps have been transformative and disruptive.

AUTODESK PLM 360: TRANSFORMATIVE NPI

A new generation of NPI tools, available with the cloud-based Autodesk PLM 360, is delivering transformation value. Offering a configurable NPI process workflow and based on industry best practices, it provides a graphical representation of your process, visible to anyone within the organization, promoting widespread understanding of the requirements of teams and individuals in getting a product to market. NPI progress is managed in real time, providing a common view of the current status of the development of all products, helping to quickly identify and resolve potential bottlenecks.

Greg Dohrman, professional services manager at IMAGINiT Technologies, states that, “We have reached a point where a technology-driven approach for NPI is very attainable for small-to mid-sized businesses. The new cloud-based solutions like PLM 360 offer immediate NPI best practices while securely extending the visibility to a much broader user base through ease of use and support for mobile devices.”

REAL-WORLD NPI AT QFC

The benefits of making automated NPI part of the PLM process are best illustrated with a real-world example. Furniture manufacturer QFC has survived fierce competition from competitors in emerging economies by focusing on business process excellence and product quality. In a market where most manufacturers deliver custom sofas in eight to ten weeks, QFC offers seven-day delivery and ships an average of 6,000 sofas per week, all designed and manufactured in-house.
Management decided it had to automate its NPI process and looked at several alternatives. It chose Autodesk PLM 360 for several reasons, says cofounder David Bramwell, including its cloud-based deployment strategy and ease of customization. “The ease of use and simplification of the software has enabled us to accelerate and exceed all our project milestones. We have focused more on building the process within PLM to match our processes in the business,” while continuing to use existing features in the product.

QFC deployed its Autodesk PLM 360–based NPI tools in five days. “The software has been a breeze to use, right from our implementation training we were able to get to building right away,” says Bramwell.

**CLOUD-BASED NPI: ANYTIME, ANYWHERE**

PLM is not an app that you just install and go. PLM is a methodology enabled by software. The software business analyst firm Gartner defines PLM as “a philosophy, process, and discipline supported by software for managing products through the stages of their lifecycles, from concept through retirement.” Even with the ease of use inherent in Autodesk PLM 360, new users have to take time to consider their needs, their strategies, and their goals before implementing the software. Some companies do the business planning and product customization internally, and others turn to expert help for these initial steps.

Autodesk PLM 360 is cloud-based — also happens to be right-sized for SMBs in cost, customization, and accessibility. Using a cloud-based NPI means team members have access to product data from any Internet-connected device, anywhere, anytime. The data you create as part of the NPI process is immediately available to the rest of the product development and manufacturing team. Dohrman adds that, “IMAGINiT tailors PLM 360 to meet a company’s specific product and process requirements. This results in continuous dataflow throughout an organization and yields big efficiency gains while improving quality.”

NPI can be used in the field and in the office. Here’s an example of Autodesk PLM 360-NPI from a mobile device. The clean interface makes it easy to keep your projects on track.