# SEAL SYSTEMS
THE DIGITAL PAPER FACTORY

# The Digital Factory Ebook

## The Future of Manufacturing Is Digital

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# How Manufacturing Companies Drive Growth in a Digital World

*By Debra Garls*
*SAP Account Manager, SEAL Systems, Inc.*

Manufacturing companies are driving growth by implementing digital manufacturing solutions. Read on to learn how you too can drive growth with these digital innovations.

## What Is Digital Manufacturing?

Digital manufacturing is the term given to the integrated approach to manufacturing that is centered around a computer system. It eliminates the many errors associated with paper processes and makes it possible to achieve higher productivity and process efficiency.

## Is Digital Manufacturing for You?

Companies that can benefit from a digital manufacturing solution have the below in common:

- Have production orders that require attachments like instructions, drawings, photos, specification lists, and bills of materials
- Want the ability to update information quickly and easily
- Need to collect scrap information, build quantities, and notes directly from the plant floor
- Want to support workers by providing them with 3D animations (SAP Visual Enterprise) of production processes
- Need to give access to only the required information for a specific operation but restrict access to other items in the document package

# How Do You Compare to Your Competitors?

Going digital is one of the biggest trends today. With the lure of higher efficiency, productivity, and cost savings, it is not surprising that more manufacturing companies are implementing a digital solution. To see how you compare to your competitors, below are some statistics from PricewaterhouseCoopers about manufacturing digital solutions:

- **91%** of industrial companies are investing in digital factories
- **3 out of 4** manufacturing companies set up digital factories to react to customer preferences more quickly
- **86%** of operations decision-makers believe digital industrial transformation is critical for growth and competitiveness
- **$92 billion** is the economic potential for digital twins in the manufacturing industry (by 2025)
- **90%** of top management believe that digitization offers their companies more opportunities than risks

# What Is a Digital Factory & How Does It Make a Difference?

*By David Salamanek*
*Managing Director, SEAL Systems, Inc.*

As technology evolves at exponential rates, and requirements become more complex than ever, innovative methods are required to address how businesses operate when creating goods and products.

## Manufacturing Today

In the field of manufacturing, we see new solutions to age-old problems of inventory management, planning and execution, production routing, scalability, sustainability, and much more. Luckily for all of us, we live in an ever-changing and improving world with automated solutions and applications driving most of these issues to the sidelines. With today's software platforms, a company can bring a plant online and build complicated products from receiving inventory to shipping pallets without the risk of staging materials or producing output in hopes that they are successful or move onto the next operation. This hyper-awareness of our business gives us peace of mind, but this does not happen automatically.

## The Digital Factory

One of the most critical areas of predictive intelligence for a digital factory is in machining and producing precision parts. The production orders sent to the workstation, the data collected from the actual manufacturing work, and the analysis of performance can make all the difference in a healthy and efficient plant operation. Digital applications have transformed the procedures and functions of manufacturers and their workforce. Put simply, digital enables better workflow.

**Benefit #1** – Using simple to navigate touch screen operations and instructions, the machinist can easily work through their day and complete more parts more effectively than through old paper processes and complicated software screens.

## Worker Sign Off

Collection of information from the worksite and procedure sign-offs are important as proof of execution and anticipating delivery to the next operational step keep the factory flowing properly.

**Benefit #2** – Pulling data collection into the application, the worker can sign off on what they've accomplished and make note of any anomalies, including taking pictures that inform the production planners of any issues in the design or workflow.

# Quantify Scrapped Materials

Finally, putting scrap in a bin can be properly quantified and logged. The best practice for scrap in the past was a large heap. With digital applications like our Paperless Production, the information around scrap becomes just as valuable as saving the leftovers. A company can sum and sort this information, analyze lost productivity or failed production processes, and react quickly to changing plant issues.

**Benefit #3** - With the simple entry of quantity and description at the work center, the production floor worker can identify what scrap and how much has been created. All steps are digitally traceable and carry with them the best industry practices as well as regulatory compliance to save time and money, reduce errors, and improve document security.

# Real-Time Updates

With the right application, manufacturing workflows are supercharged with digital file review, touch-screen kiosk data collection, and proper finalize steps for completing jobs. Data collection on a machine allows workers to see their current jobs and report completion totals in real-time. Complex document packages are automatically assembled and distributed at key points in the production routing to suppliers and customers.

# The Results

A digital factory results in a fit and agile plant floor with the right information, at the right fingertips, at the right time.

# Paperless Manufacturing: Take Your Production Process to Digital

*By David Salamanek*
*Managing Director, SEAL Systems, Inc.*

A digital solution can revolutionize manufacturing production processes for any enterprise. By implementing a paperless production solution, work time and errors are substantially reduced.

## Increased Flexibility

Manufacturing dynamics are known to change quickly, whether from changing customer demand, material shortages, or adjustments to the production quantities, shop floor workers and plant managers need to have access to up-to-date and accurate information to be able to take quick action to adapt– without slowing down production.

### Why Digitize Your Production Orders?

Through digital production orders, the information is shared via touch screens with the speed of a finger. Through paperless manufacturing, the changes to the production workflow are seamless and are transparent to the shop floor worker – they see on-demand details and up to the minute results. *If an update is made to an order a shop floor worker is working on, a push notification will let the worker know what change was made so that they can make immediate adjustments.*

## Secure Proprietary Files

Proprietary designs of the products manufacturing plants are building, can easily become unaccounted for or lost – even when these documents are considered highly sensitive. While no manufacturing plant wants to lose sensitive information, it can happen with hand-offs of paper-based production orders from one workstation to another. Paper carries a high risk of being misplaced or lost.

### Why Digital Paper?

As companies insist on verifiable proof that their documents are properly maintained, a digital manufacturing application provides peace of mind by having the documents accessible through a secure dasboard.

# Greater Efficiency

Planning time can be wasted in researching the progress of each order before scheduling the next shift. In addition, the lack of status updates on orders adds additional risk, since an order's status might not be known until the order is behind schedule.

## *Why Digital Manufacturing?*

By using paperless manufacturing, status reports are immediate and automated. Orders are intuitively searchable, as updates can be viewed when the order moves through each workstation. If an order falls behind, a notification can be shared automatically so the appropriate action can take place to reduce delays.

Relevant production information is also digitally captured without the need for paper logbooks. By storing quantity produced, scrap results, and notes for the shop floor to report back to the planning and execute on group, work time is streamlined, and reliability increased.

# Reduced Paper

Paper has carried a significant factor in many manufacturing processes. It has been generally used to print paper orders, reports, work instructions, designs, etc. The amount of paper used can be a staggering cost. For example, TotallyPaperless.com, reports that an average four-drawer filing cabinet can cost a company up to $25,000 to fill – and $2,000 annually to maintain.

## *Why Do You Need a Digital Paper Factory?*

A paperless manufacturing solution can eliminate all but the necessary paper – and can improve plant organization with a digital platform.

# 5 Benefits to a Digital Manufacturing Solution

*By Debra Garls*
*SAP Account Manager, SEAL Systems, Inc.*

SEAL Systems' digital manufacturing solution – Paperless Production – provides many benefits by streamlining the production process. To best illustrate this, we have compiled a list of five benefits you can experience when a digital manufacturing solution is implemented.

## Make Production Orders Available Automatically

SEAL Systems' Paperless Production software automatically sends the data from SAP to the appropriate workstation along with other documents such as drawings, test reports, specification lists, etc. So, workers have all the information they need to do a particular job. Therefore, you no longer need to print and distribute production orders – and that includes all relevant additional documents that are linked to specific production resources and tools, material planning documents and/or documents related to service objects.

## Changes to Production Orders - or Modification to Drawings

Changes or modifications to drawings that are made in SAP are automatically distributed to workstations, which means production specifications are based on the most recent information. You don't have to print the order or drawing again, and you don't have to search for the order on the production line or swap old drawings for newer ones. With our digital manufacturing solution, the updates are made seamlessly in the process.

## Updates Made Easy

The printed production order is not only the source of information for the production order itself, it is also the medium for all updates within the manufacturing process. From: What? When? and How many?; all the way through to the manual notes related to work times, scrap from production orders, delays, supply chain changes, order updates and delivery dates.

With Paperless Production, this time-consuming, manual process is no longer a problem because changes are automatically stored in the system with a click of a button.

That means:

• You can make simple updates direct from a workstation.
• There are no breaks in communication caused by paper delays.
• There is a documented transaction history.
• Your production management receives updates on material quantities, scrap, the causes of scrap, serial numbers, batches, and QA data.

# Know What/Where the Production Is Taking Place

Production management finally has access to the most current facts and figures. They do not have to wait until someone has entered the data into the system. With our solution, they have the report at their fingertips in real-time. Discrepancies between targets and actuals can be directly analyzed and corrected. All of this helps ensure smooth production operations.

# Decrease Paper and Printer Costs

In addition to the savings on paper, the cost of keeping the printer working properly can be a staggering amount. In a Dash users report, a railroad equipment manufacturer **cut production lead times by 3-4 days** across the board by moving their processes to digital. With a digital manufacturing solution that makes information accessible on touchscreens, this savings can be experienced while also eliminating the waste of completed production orders.

# Transform Your Company Into a Digital Factory

With a solution that is out-of-the-box, modular, and scalable – SEAL Systems' Paperless Production software is easily implemented.

# Digital Production: Increase Your Capacity with a Mobile Solution

*By Debra Garls*
*SAP Account Manager, SEAL Systems, Inc.*

Now that most manufacturing companies are coming back online, companies are having to adjust to new requirements like social distancing. To address these new challenges, increasing production capacity is the best solution to meet demand in a timely manner. In this blog, learn the top three ways a company can increase capacity, and how a new solution – digital production – can increase your capacity without being expensive or time-consuming.

## The Importance of Increasing Capacity

Understanding production capacity is vital for a manufacturing company to work at its optimal level and meet customer expectations. When a company is trying to increase its capacity, there are three options to choose from …

### Option 1: Hire New People

More people may be needed for production to meet orders. However, adding new employees is either impossible right now because of social distancing, or it is time-consuming because the new hires need to be trained.

### Option 2: Bring in Equipment

Adding new equipment can increase a company's production capacity. But new equipment is not a quick fix for this problem because it requires time to get the new equipment up and running, and it usually is accompanied with a high price tag.

### Option 3: Space

If you are in a manufacturing plant and you are already at capacity, you may not have the physical space to add more people or equipment. If this is the case, additional facilities and equipment will have to be purchased in order to expand production.

This process can take years, but you need to increase capacity now. Is there another option available?

# Increase Your Capacity by Making Your Processes More Efficient

All three of these options (hire new people, bring in equipment, and add space) can increase your capacity. However, all of these choices are time-consuming and expensive. But it does not have to be this way.

## *Option 4: A Digital Production Solution*

SEAL Systems' digital production solution, Paperless Production, increases production capacity by helping your current employees and equipment run more efficiently, requiring no additional space. With our software, all of your information is made digital, and makes the following possible:

- Feedback (working hours, material quantity, scrapped quantity) can be easily captured and put back into SAP
- Information is available to other work groups, so everyone is up-to-date
- Operators are always looking at accurate information
- Data and documents are encrypted for security
- And all of this is done through the software requiring less direct physical contact between employees

Clearly, by using a digital production solution, you can increase your capacity without having to bring more people on board, buy equipment, or increase space/add new facilities.

# About SEAL Systems, Inc.

SEAL Systems, Inc. is the leading provider of software solutions that help companies automate and digitize the collection, packaging, and distribution of complex documents and information.

SEAL Systems, Inc. achieves this by connecting your ERP, PLM, engineering, and software office systems to your fleet of output devices — company-wide and across locations, hardware, and software. We also seamlessly integrate your company's technology (e.g., printer languages, drivers, and operating systems).

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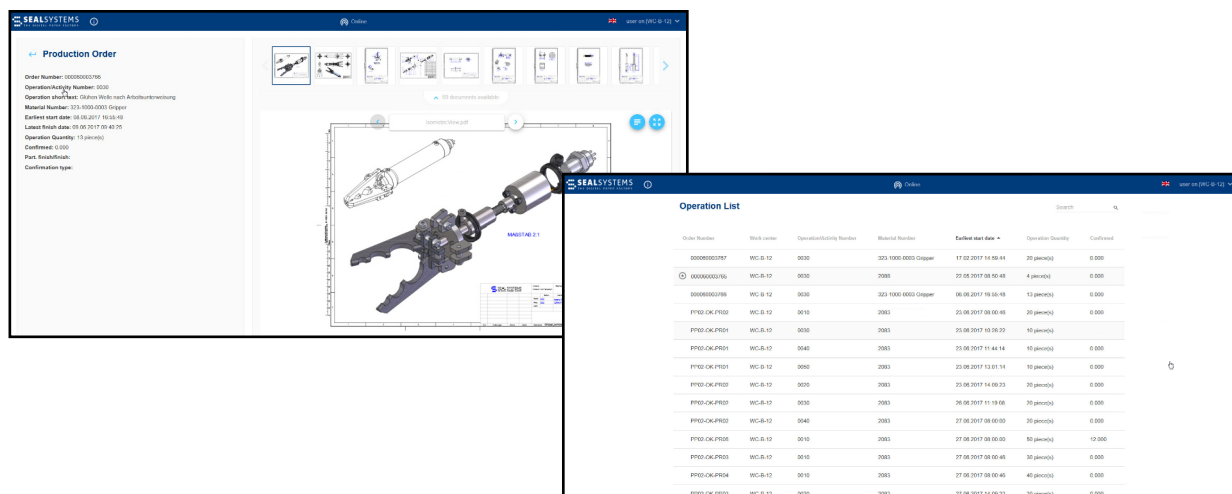
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