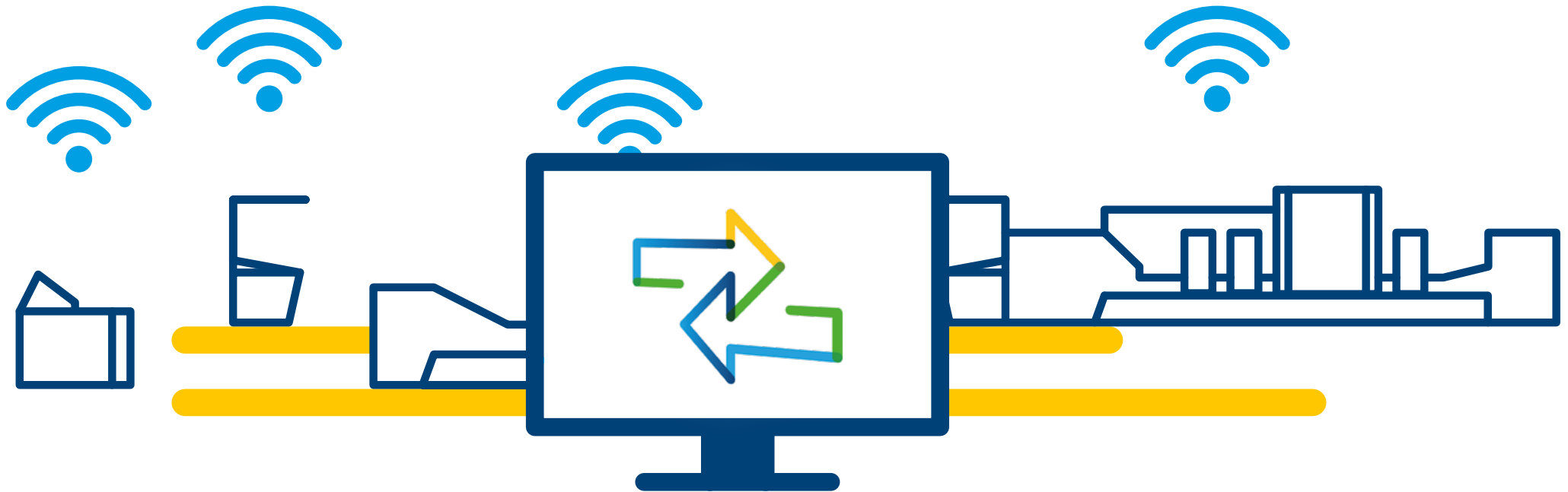




Whitepaper

Smart Print Shop.

Prerequisites and potential.



Driving the Smart Print Shop.

Increasing productivity and profit with smart production.

Digitization offers the printing industry many opportunities. Whoever wants to take advantage of these opportunities, however, must actively shape the change. New processes are the key to higher productivity – with consistent digitization and optimization of print production. With intelligent machines and processes that process print jobs completely autonomously. The operator only has to intervene if necessary. You can fully exploit the potential of your machines and often double your productivity. Push to Stop becomes a reality. Your print shop becomes a smart print shop.

➔ heidelberg.com/en/smartprintshop



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Push to Stop.



What characterizes a smart print shop with the Push to Stop standard?

There are two key prerequisites:

1.

A defined structure that describes and standardizes the processes. With the goal of reducing touchpoints along the workflow, defining rules for controlled production planning, and standardizing the handling of substrate materials and consumables. As well as the willingness to consistently adhere to and repeat these processes.

2.

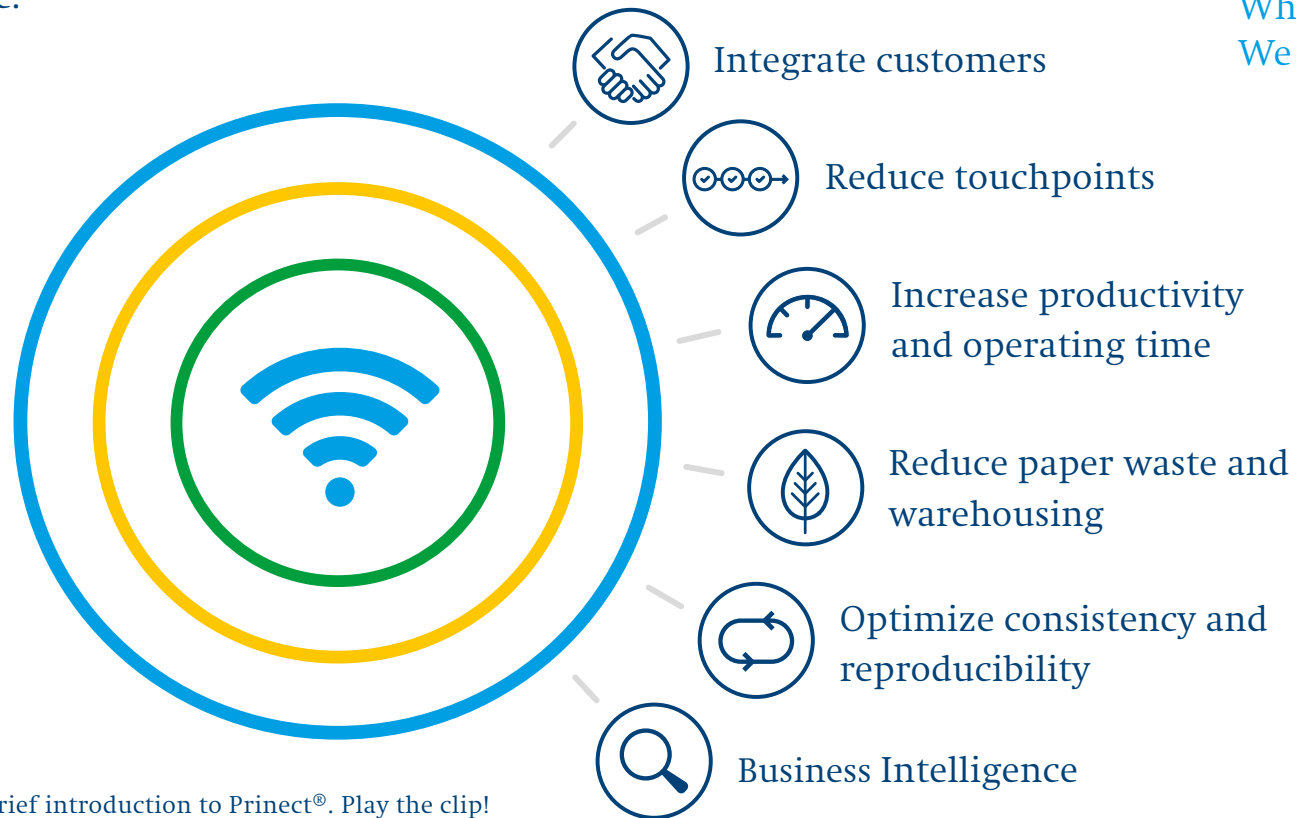
An integrated and comprehensive workflow required for the Push to Stop production standard. It raises productivity to a new level and ensures that the right data is always in the right place at the right time.



On their own, none of the aspects will deliver the expected improvements. Together, however, they open up new potential and business models. The performance of the print shop improves significantly.

Influencing factors

Operating a smart print shop with the Push to Stop standard calls for new and improved processes. Six key factors will help to make your print shop more profitable.



What opportunities exist?
What do solutions look like?
What are the benefits of optimization?
We show you the potential.



A brief introduction to Prinect®. Play the clip!

→ heidelberg.com/en/prinect_intro

01. Integrate customers

Web-based portals can be used for more than the direct marketing of printed products. In fact, online services offer entirely new opportunities for customer integration.

Web portals are changing the workflows in a print shop. Your customers can view their online and offline orders centrally, manage orders and budgets online, call up prices immediately, and be notified about current promotions online.

The possible applications and services are as varied as the customers. Depending on the segment and offering, they range from simple shopping with a mouse click to extensive B2B portals for special customer requirements. Such efficient and cost-effective sales and service platforms offer print shops a unique opportunity to open up new markets.

Portal solutions are online communication channels. Created to meet customer requirements in a way that addresses specific target groups. Automation tools and the connection to the production process give you maximum effectiveness. For your benefit and the customers' benefit.

More scalability

eCommerce portals enable you to grow in accordance with market demand. Simply by opening new sales channels. Depending on customer needs, new market segments can be opened up again and again.

More efficiency

Integrated into MIS/ERP and production, eCommerce portals increase efficiency by allowing customers to conveniently place their orders online. Your employees are no longer limited to taking orders; they have the scope for additional services. The data is not entered manually into different systems repeatedly. Defect susceptibility is reduced, while at the same time shipping is sped up and throughput is increased.

In addition, modern printing presses use automatically provided data to independently configure and start processes. Because manual data entry and job preparation are too cost- and time-intensive to hold their own in the market in the long term.



More customers

Varied product catalogs make eCommerce portals a powerful acquisition tool. Because customers not only prefer the online channel, they actually expect and demand it. Print shops and distributors can use customers' online searches for the best prices to pursue new contacts and from this make successful customer contacts.

More turnover

eCommerce portals work with automated recommendations for additional and follow-up sales. They provide individual purchase recommendations and encourage customers to purchase related products.

More customer service

Change your customer service. Integrated into an MIS, eCommerce portals provide individual account, order, history, and tracking information. In addition, products, services, and prices can be displayed, tailored to the customer's profile.

More sales

The Sales department also benefits from the support of the eCommerce portals. Employees working in the field or at other sites have a customer-specific, current overview of orders, pricing, and order history at all times.

More brands

eCommerce portals allow you design websites according to your specific needs. The possibilities are varied: from multi-brand websites through microsites for different distributors or special customers to international websites with multilingual content in different currencies.

More knowledge

eCommerce portals provide the basis for meaningful analyses. Print shops can easily measure and evaluate the success of marketing campaigns or the effectiveness of the Sales department, the product mix, the inventory turnover, and the customer retention. The intelligent data platform supplies valuable and reliable insights that exceed the possibilities of standard analysis tools.



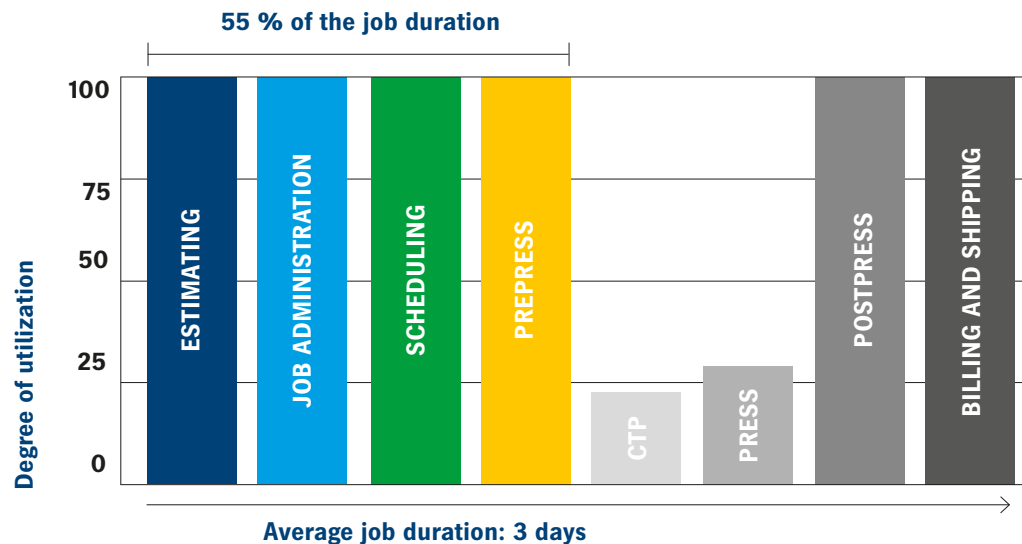
Benefits

Successful integration strengthens the bond with existing customers and addresses new customers. Service improves because a direct online response is possible. Content that comes directly from the customer makes the Smart Print Shop more efficient.

The result is shorter processing times, lower costs, and fewer defects in production. Additional and follow-up sales provide a way of generating extra turnover.

02. Reduce touchpoints

According to a study, the areas upstream and downstream of the printing press are already working near their capacity limit today. In contrast, the pressroom and the CtP area have considerable spare capacity. This can be exploited by reducing touchpoints.



Source: Heidelberg Research

What is a touchpoint?

A touchpoint is defined as any intervention by a person that influences the path of a printed product. Starting from the first customer contact through to the product's delivery. It makes no difference whether the intervention consists of executing a specific task or making a decision about further production steps, i.e. whether it is relevant for administration or production. Each touchpoint represents an interruption in the process. Possible consequences are defects, loss of time, and higher costs. Reducing touchpoints unlocks previously untapped profitability. Bottlenecks are eliminated. You can use the performance of the machines to increase your productivity.

Today, often only

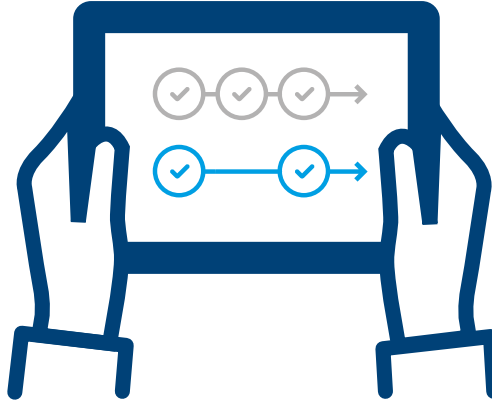
25%

of the printing press potential is exploited.



A print shop needs fifteen touchpoints on average to produce a product:

1. Estimating
2. Job creation in MIS including job ticket
3. Prepress PDF processing or native artwork
4. Imposition
5. Proofing and customer approval
6. Plate imaging
7. Production planning (capacity, distribution, sustainability, production, materials)
8. Plate sorting and delivery to the pressroom
9. Assignment of ink and paper
10. Press including production data acquisition
11. Postpress including production data acquisition
12. OK sheet approval
13. Quality control
14. Packaging and shipping
15. Billing



Each touchpoint is a separate production step in the workflow. Further interaction between people is necessary to execute it. On average, up to 75 substeps are required to exchange all the necessary information.



In the Smart Print Shop, the touchpoints are reduced to four interfaces:

1. Estimating (end-to-end)
2. Planning
3. Press and postpress
4. Shipping and billing

1st touchpoint

Estimating

Estimating plays a key role in the Smart Print Shop. Whereas in the past estimating determined the right price for a quotation, its main purpose now is to define the optimal end-to-end process automation – from customer, prepress, press, and postpress through to shipping.

This is supported by dynamic software that specifies the cheapest production method. Integrated customer portals and web-to-print technologies further simplify estimating, since the customer already defines their products during data entry.

The estimating provides information about the production costs as a basis for the quotation. However, a successful dynamic pricing also has to take into consideration the corporate strategy, the utilization, the market and competitive situation, and the specific customer requirements.

Work on native files can be separately calculated or communicated as added value.

2nd touchpoint

Planning

Planning is another touchpoint in the integrated workflow. The tasks involved are explained in detail in the next section “Reduce paper waste and warehousing”.

3rd touchpoint

Press and postpress

Press and postpress are a shared touchpoint in the integrated workflow. It is characterized by the fast presetting of the machines based on data already defined and entered during the estimating and production process. Push to Stop production with autonomous or navigated printing becomes a reality.

Integrated materials management provides transparency. It makes on-demand delivery the norm, in other words the right quantity of substrates and consumables is always available at the printing press.

4th touchpoint

Shipping and billing

Shipping is the last touchpoint in the integrated workflow. It is characterized by automated shipment tracking for the customer as well as automated billing, and it integrates the previously separate billing process.



Step by step to success

The reduction in touchpoints in the Smart Print Shop is achieved by means of highly functional software solutions that automate the processes in administration and production. These can be installed completely at once. Mostly, however, the touchpoints are gradually reduced. This makes it possible to further refine the processes and to take advantage of all the benefits.



Tomorrow
60 million
sheets per year.

Today
30 million
sheets per year.

Increase your
productivity by
100 %



Benefits

The reduction of touchpoints eliminates unnecessary process interruptions, possible sources of defects, and time losses in daily business. As a result, the throughput of the prepress and postpress production steps is increased. Typical workflow bottlenecks in print production are prevented. This unlocks previously untapped capacity and increases profitability as a whole.

03. Increase productivity and operating time

Success in a competitive market belongs to whoever sells more products and services per hour. Measured by the current level of productivity, an average print shop can double the number of sheets printed per hour – and improve the balance sheet directly with the additional production throughput.

High machine operating times and high productivity are crucial for the profitability of every print shop. But how are productivity and operating time connected?

The operating time is the available time in which the costs for machines and processes can be billed. The productivity is calculated from the quantity of salable products and/or services that are produced during the operating time.

You increase your productivity when all output devices are working as close as possible to their performance limit. An optimized job change from one product to the next additionally increases the number of salable hours. Idle phases, such as makeready times or waiting for information, substrates and consumables, on the other hand, must be minimized.

The task of increasing the operating time and productivity over the entire product cycle affects all employees in a print shop – from management down to the operators. It serves as a basis for a joint process analysis.

The goal? Determining the reason for every minute and second lost in administration and production. A method, incidentally, that is already in practice in many successful print shops.

Automatic availability

A cornerstone for greater printing press productivity is the automatic availability of all the data required for a job, without the operator having to enter further information in order to start the job. Because a printing press is much too expensive to serve as a data entry point. It must be printing constantly for the lowest costs per sheet – because only then does it earn money.

Productivity-oriented planning

Another factor influencing productivity is the optimal sequence of all the make-ready steps, in other words reducing make-ready times through productivity-oriented planning. The time required for changes to the ink profile must be taken into consideration here alongside washing the blankets, changing the sheet size and paper weight as well as imposition and the folding layout. Suitable planning is governed by paper size, paper weight, and ink coverage. Further details can be found in the section “Reduce paper waste and warehousing”.

Short throughput times

Integrated process automation shortens the throughput times in the Smart Print Shop. Delivery dates are reliably met. It becomes possible to plan production in a generally productivity-oriented way, for example by not changing the paper sizes with certain jobs and accepting the additional costs because the higher productivity more than outweighs them.

Standardized materials

Another prerequisite for significantly increasing the quantity of salable products per hour is the consistent quality of consumables and substrates. Machines and operators need optimal products to be able to keep providing the same service. Admittedly, color matching and achieving the defined delta-E values in daily business are not a problem. Nevertheless, the cheapest consumables and substrates do not automatically result in the lowest product costs, because they mean longer makeready times and lower production speeds.

An understanding of the specific behavior of consumables and substrates is a decisive step towards greater productivity. The correct handling of the influencing factors as well as continuous quality controls and appropriate color management processes are crucial to the success of a Smart Print Shop.



Benefits

Higher machine operating times, and therefore an increase in the salable sheets per hour, significantly reduce the average costs per product. The productivity increases because the additional production is associated with lower additional costs. Examples show that the number of salable sheets can be doubled to tripled in the Smart Print Shop.

04. Reduce paper waste and warehousing

Reduced paper waste and warehousing mean higher productivity and lower costs. To achieve maximum productivity with Push to Stop, optimal substrates and consumables must be used. This is the only way to ensure predictable and reproducible production with minimum paper waste.

What measures can be taken to change paper waste and warehousing?

Three factors are decisive for an optimal process: purchasing, quality, and planning. When these interact optimally, costly expenses can be reduced and better use can be made of machine capacities. Your print shop's utilization increases.

Purchasing as a success factor

Improvements in purchasing are simple and cost-effective measures that can be used by companies of all sizes. Introducing suitable techniques costs very little, and can be easily done by a company's own personnel. In addition, measures to control inventory and purchasing often result in better production performance.

The first step involves clarifying the costs for raw materials, warehousing, and waste disposal as well as making clear the influence of the goods on the company's performance to all those responsible. Staff from Purchasing should be represented on all teams dealing with product quality or environmental issues. The more the buyers know about the production, environmental, and maintenance processes, the better they can itemize quotations and make good purchasing decisions together with their contact partners.

Defined inspection criteria for all materials make good purchasing decisions easier. Further information about product features can be found in safety data sheets, information from paper, plate, and chemicals suppliers, and the technical literature. Minimum standards should also be defined for the approval of purchases.

The following must be taken into consideration:

- Influence on productivity
- Environmental risks
- Directions for handling and use
- Directions for storage
- Price and shelf life

Quality as a success factor

Agreements about the quality to be achieved are essential for reliably controlling processes. The only way to reliably reduce paper waste and keep it down in the long term is by agreeing and adhering unconditionally to quality levels. They are the basis for color management methods like ISO, G7, or in-house quality standards. It is important that the definitions are consistent and that the quality rules are strictly adhered to.

Consistent quality levels are also the most important prerequisite for constant processes without/with minimal changes to the printing press during production and between individual jobs. And they are crucial for high productivity.

Planning as a success factor

Changes mean idle time for the printing press. And therefore time that is not being used productively. For that reason, imposition, changes to sheet sizes, paper weights, ink setpoints, ink coverage, ink sequence, and washing the blankets must be planned so that as few changes as possible are required when producing various runs.

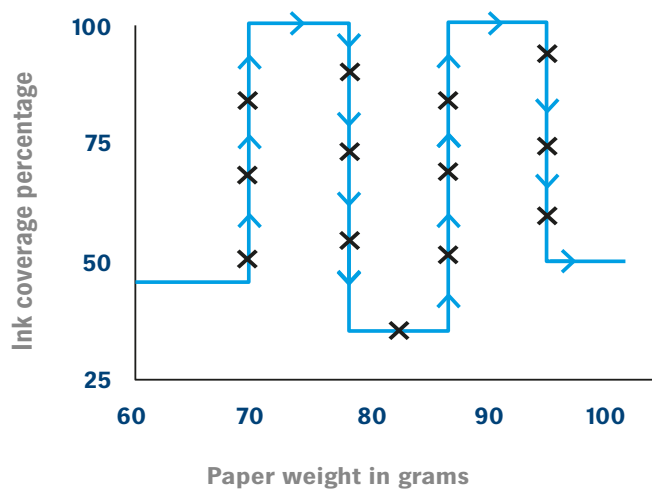
Planning in the Smart Print Shop has a hierarchical structure:

- Sheet size
- Paper weight
- Ink coverage
- Folding layout
- Delivery date

The planning input reduces the paper waste. By reusing settings from the previous run, the printing press always has the right settings for the next job.

The optimized planning hierarchy applies to four-color processes. Printing spot colors involves additional requirements for planning, whereby the general planning guidelines also apply here. If many spot colors are to be printed, multi-color technologies help to be able to continue using the planning hierarchy.

When producing numerous jobs that are printed one after the other in small runs, it is necessary to take into consideration the maximum capacity in platemaking and postpress. A job with a higher run may need to be slotted in so that CtP and postpress can keep up with the print production.



Environmentally friendly. Reduce waste.



Benefits

Optimized purchasing, defined quality targets, orderly substrate and material consumption, and hierarchical planning offer numerous benefits. It is crucial that the process makes the production costs transparent and that the print shop can precisely control the product price. It is able to exploit the performance of the printing press and produce more sheets per hour with less paper waste. The margin increases.

05. Optimize consistency and reproducibility

Determining and automating the optimal production method reduces the costs per printed product. Standardization and reproducibility are decisive key factors here.

The only way to achieve maximum reliability is by consistently using a defined production method. It ensures consistency and reproducibility, in quality, performance, and delivery. But this does not just affect the processes. The substrates as well as the consumables like plates, blankets, inks, ink fountain washing fluid, and coatings must be precisely defined.

Standards ensure consistency

To achieve a consistent quality and performance level with no major deviations, standards and processes must be defined. A Smart Print Shop needs standard processes to reduce touchpoints throughout the business from estimating to billing. This lets you fully exploit the actual potential of your output devices and use technologies that allow the operator to achieve maximum performance. Complete consistency requires real-time data transparency in all operational aspects like color reporting, substrate performance, change times, and OTIF (on-time and in-full). The standardized processes must be adhered to at all times so that each operator can deliver the same performance in each role.

Standards must be defined for different business and production processes:

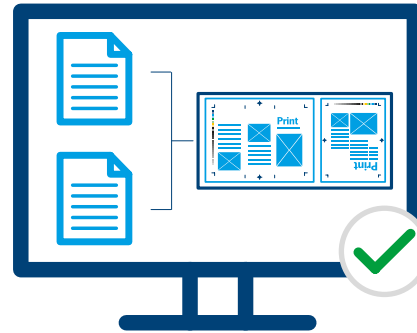
- Customer retention and job preparation: customer interaction
- Job workflow: reduction of touchpoints
- Color management: consistency and reproducibility
- Planning: increasing machine operating time and productivity
- Defect handling and repeat jobs
- Job estimating and employee performance
- Packaging, delivery, and billing

Reproducibility improves results

Reproducibility reduces deviations and defects. The machine operating time increases. The paper waste decreases. Reproducibility enables employees to learn their tasks more easily and master them more effectively.

Prerequisites for reproducibility:

- Using the same equipment
- Using the same monitoring tools
- Using the same measuring tools
- Identical conditions
- Repetition within a short period of time
- Identical targets



Printing press utilization of
100 %
in the integrated
workflow.



Benefits

By defining and consistently adhering to new standards, your business will operate closer to its maximum performance level. The Smart Print Shop ensures consistency by always following the same job processes – with less paper waste, faster delivery, and the avoidance of potential production problems. A well prepared job pool makes planning much easier and significantly more efficient.

06. Business Intelligence

By accessing big data, Business Intelligence (BI) enables companies of all sizes to improve their decision-making. Even small companies that do not collect large amounts of data draw valuable benefits from their better analytical base.

What is Business Intelligence?

Business Intelligence (BI) is a technology-based data analysis process. It provides information that enables users to make informed decisions. Business Intelligence includes a variety of tools, applications, and methods for compiling business data from in-house systems as well as from external sources, for preparing it for analysis, and for searching it. These analysis results are made accessible to decision makers and employees in the form of reports, dashboards, and graphs. The integrated approach reveals connections that cannot be identified using other methods.

Six good reasons for Business Intelligence:

1. It becomes easier to make decisions based on sound information.
2. It is a structured approach that leads to increased yields.
3. It brings advantages in competition with other players as well as with larger companies.
4. It makes the business more efficient overall.
5. It increases the quality of the customer service.
6. It reveals key factors for increasing a company's success and profitability.

Why should print shops use Business Intelligence?

Anyone who wants to analyze data without Business Intelligence will quickly come up against their limits or will need professional help (e.g. of the specialists from IT). Information is often compiled in the form of tables. Collecting data and preparing it in a way that is easy to understand is time consuming. The results are often not consistent or meaningful. An incorrect data analysis can make the difference between modest profit and great success, between loss and profit. Simpler, better, faster, and more efficient tools are needed for the important task of elevating a company to the next level of success.

Meaningful analyses reveal potential

Business Intelligence provides answers. You gain an insight into industry trends and discover market opportunities that you would otherwise have missed. You learn what customers expect of your company. The information can help you to transform your business so that it appeals to more customers.



Benefits

Business Intelligence is one of the most important control tools of the Smart Print Shop. Easy to use and with a clear user interface, it is also suitable for employees who shy away from technical innovations.

Business Intelligence is easy to use today.
So ask yourself: Do I need a Business Intelligence system?
And: Will it help me to make better decisions?

With Business Intelligence

- you can respond more quickly to business inquiries.
 - you get reports with important metrics – anytime and anywhere.
 - you gain valuable insights into customer behavior.
 - you identify opportunities for additional and follow-up sales.
 - you get to grips with rationalizations.
 - you improve efficiency.
 - you establish your actual production costs.
 - you optimize warehousing.
 - you gain a better understanding of the past, present, and future of your business.
-

Prinect

In the fast-moving printing industry of today, success goes to whoever provides the right price, the right production method, and the right consumables for the right substrate at the right time. Prinect solves these central tasks and makes them controllable.



Greater profitability in the Smart Print Shop with Prinect

It is the harmonious interaction of the six key factors that increases the profitability of a print shop in the long term: efficient interaction with customers via eCommerce portals, strictly reducing touchpoints in production and administration, increasing productivity and operating time while simultaneously reducing paper waste and warehousing, optimizing consistency and reproducibility and – last, but not least, consistently using Business Intelligence. Prinect offers you unique possibilities here.

Prinect makes smart production possible

As a central platform, Prinect seamlessly integrates all the steps involved in print production into consistent processes, from the customer contact through to the finished product and billing. Prinect makes smart production possible in the first place. So the estimating and presetting data is not just used for automating downstream production processes. Instead, the production workflow is intelligently controlled to obtain further presetting data for the machines. The automated production lines work to clear standards and fixed rules that are precisely adapted to the individual requirements. This prevents bottlenecks and quality problems, and increases customer satisfaction and your margins.

Modern production workflows are complex and can be influenced by many factors. That is precisely why print shops need to define and implement optimized processes for all work steps, their job structure, and alternative production steps. This is very easy with the Prinect software portfolio.



Smart Print Shop with Prinect

By defining and consistently adhering to new standards, you can make your business operate closer to its maximum performance level. The Smart Print Shop ensures consistency by always following the same job processes – with less paper waste, faster delivery, and the avoidance of potential production problems. A well prepared job pool makes planning much easier and significantly more efficient.

Prinect Smart BI

Originally only of interest to large companies because of its complexity and costs, the versatile and user-friendly Prinect Smart BI cloud solution from Heidelberg is now making Business Intelligence accessible to print shops too.

Well prepared, high-quality data is a prerequisite for Business Intelligence. Prinect Smart BI provides a simple and automated way of making this possible.

Data collection and consolidation in the cloud

Prinect Smart BI automates data processing in administration and production by replicating the data every 24 hours to a central, cloud-based database. There, the data from all areas is systematically combined, filtered, and cleaned up.

For maximum data security, Prinect Smart BI is based on Microsoft Azure, the industry's leading platform for cloud-based solutions. Microsoft Azure offers a secure, flexible, and scalable environment, as proven by countless certificates.

Print shop data



Prinect Data Warehouse



Reports



Data analysis changes decisions

Working with the analysis results from Prinect Smart BI is very easy. Dividing the collected data into modules with corresponding reports gives you easy and effortless access to results.

The data generated in the Business Manager is classified as “business data”, the data from the rest of the printing process as “production data”. You have both sources available and can monitor and analyze the entire process, from the first customer contact through to delivery and billing of the product. The integrated approach reveals connections – and allows you to make better decisions.

Knowing what is happening, with Prinect Smart BI

Prinect Smart BI offers secure access to standard reports with visualizations that document the status of your various activities including productivity and performance. The visualization is done using modifiable templates. You simply group your diagrams and reports in freely configurable dashboards, without the need for IT specialists. Access is protected with individual logins and secure interfaces.

The reports can be freely combined and visualized. In this way, with Prinect Smart BI you immediately find out which industries and products are profitable for you. And can use this knowledge to position yourself more successfully in the market.

Our satisfied customers

Prinect brings about a fundamental improvement in print shop processes. Successful print shop owners talk about their experience with Prinect.



“This year we were able to process 40 % more jobs in our business thanks to our fully implemented Prinect system. Furthermore Prinect provides cost transparency across the board.”

Neal Foster
North Star Printing, Spanish Fork, USA



“We’re a long-standing Prinect customer and are convinced of the possibilities offered by the software. The Prinect system has allowed us to guarantee production quality and respond to market requirements more flexibly. We’ve also achieved a level of transparency that wouldn't have been possible without Prinect.”

Florian Neumann
Stünings Medien GmbH, Krefeld, Germany

Simply get in touch

You and your company's success are our prime focus. To be able to realize this ideal, it is important for us to know your wishes and requirements. Only then can we offer you a customized printing solution that works perfectly for you.

We look forward to hearing from you!

Get in touch with us for more information, a customized offer and everything else about Heidelberg® you would like to know.

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