

**Print Service
Provider
Edition**



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Ricoh Software & Services | Ecosystem eBook Series



Produce: Flying Through Print Production

Flying Through Print Production

Commercial airline pilots must adjust for in-flight conditions to optimize the customer experience while also monitoring the aircraft's performance. Weather conditions may force pilots to change altitude for a smoother flight. A strong headwind due to the Jet Stream may also force flight direction and speed changes. In either case, the pilots may have to optimize fuel consumption (resources), choosing efficiency over speed.

The same decisions are made in print shops during production. Commercial printers must set up their businesses for successful print production by building input, management, and preparation elements into the print workflow that promote efficient use of resources – the fuel in the system. The challenge, like the pilot's, is accounting for the production variables that can shift at any moment. The ability to pass through print production successfully requires a flexible workflow environment, with as much automation as possible, to support the growing workloads, shorter delivery timeframes, and increasing requirements for cost control.

PRODUCE: Making it Happen

Your jobs are onboarded (INPUT), estimating and output specifications are under control (MANAGE), and your files are ready for production and output (PREPARE).

Now, everything needs to work together to match your customer's specifications and expectations. But how?

Print production is so much more than putting marks on paper. It's about document assembly, file optimization, and smart shop floor management enabling current job output and providing long-term flexibility to support the next generation of output.: It's about enabling continuous feed, sheet fed, labels, lighter and heavier substrates, and robotic insertion, to name a few.

Quality comes not from inspection, but from improvement of the production process.

W. Edward Demming



Producing Your Print Jobs

Making it Happen



- **Job processing: hardware alignment, quality controls**
- **Risk management**
- **Automated production minimizing manual intervention**

Warehousing and Distribution



- **Logic-based, automated fulfillment and tracking**
- **System of record for all related materials, labels and box content**
- **Centralized print operations**

Preparing for Output



- **Fulfillment capabilities: courier integration, labels and tracking**
- **Customer service alignment, job and asset archiving**
- **Financial reporting, cash flow management**

The Modern Commercial Printer

Every print facility juggles a diverse set of print jobs. For some, the standard print work may be sheet fed pages with some binding, while others may focus on print and mail that requires inserting and sorting. Today, many also use a range of wide-format devices for sign and label applications in addition to their production sheet fed and continuous feed presses. In addition, print service providers (PSPs) may also be looking for opportunities to expand into data-driven direct mail work to fill capacity on digital devices and deal with the growing requirements to archive direct mail work containing personal information. Each type of work has a specific file format and structure requirements to produce the optimal print.

So, where do you focus with so many production variables?

File optimization becomes essential so that the output arrives at its destination ready for use. With effective queue management and load balancing, optimized files can move from one process to another without manual handling.

Next are some considerations to create your most efficient production route.



Pro tip: Always be ready for change

Routes and resources can change or be modified without reasonable notice to create and apply a new plan. Logic, data and measurable alternatives are required for a smooth, positive outcome.

The Optimized Route for Printing

Print files in commercial printing typically originate in graphic design programs, but not always. Files to support data-driven marketing mail may also come from enterprise applications that may be unfamiliar. These data-driven files usually begin with templates and designs created in design programs then are passed into programs that identify the variable text and image content for final production. That path to becoming a print file can add redundant features that add complexity to downstream processing (e.g., the RIP or digital front end) or, at worst, cause processing errors or artifacts when printed.

Before the file arrives at the production step, it should be preflighted and optimized to avoid delays. Protect your bottom line and optimize all of your production processes.

In addition to file optimization, commercial printers are managing a higher number of orders and files due to shorter print runs. As order volumes decline and the number of jobs increases, the processing and management burden increases, as well as cost. In addition to the preflighting and optimization that should be part of every workflow, a great approach is to look at options for batching similar types of files to combine many small runs into more efficient longer runs.

Batching brings together jobs that share characteristics. Training manuals with limited graphic elements can pair with runs of letters and invoices, but not with image-rich brochures. But image-rich brochures and flyers from multiple clients could be batched together!

For offset print environments, a standard ink set can be the driver. For digital print environments, it might be the paper used, but there is more to consider: the goal is to create business rules for batching files based on the criteria that minimize resources, including materials and print times, for similar product types. Another common criterion is the colour profile used for a job, which is commonly determined by the specified paper. Specialized imposition software or an additional module in some print MIS solutions are the standard tools to create the business rules and create the batch print runs.

Using batching techniques creates a more efficient route for your print. It is an excellent path to faster throughput, reducing costs, and increasing capacity. The cost reductions come from maximizing substrate usage, reducing the time for printing, and minimizing changeovers and downtime. That same efficiency is what brings more capacity to the production floor.



What Does Produce Stage of Your Workflow Really Look Like?

Before you start, be sure to check the following:

- Do you understand the kind of a job it is and its overall fulfillment requirements? (ex. barcodes, mailing, postal optimization, etc).
- How does your shop handle device utilization to maximize production output and quality control?
- Are your distribution processes integrated into your overall operations?
- Is there an automated checks and balance system to track issues and mitigate costly errors?



With a robust PRODUCE Workflow

Produce

Making it happen.
Software and hardware
working together for
quality output.

Document management

Shipping and fulfillment

Job tracking

Archiving assets

Smart shop floor data collection

Barcodes

File optimization

Centralized job management

Omnichannel delivery

System of record

Postal optimization

Analytics

Without a robust PRODUCE workflow

Produce

Making it happen.
Software and hardware
working together for
quality output.

Mismanaged assets, costly errors

Tracking and delivery inaccuracies

Incorrect job finishing and diminished
output efficiencies

Job audit and re-order issues

Lack of real time data
for course correction

Piece level tracking
and fulfillment issues

Inefficient process management

Lack of visibility across the operation

Fulfillment inaccuracies

Disparate or incomplete job
and financial data

Execution errors, costly mailing

Poor business decision making


Smart Shop Floor Management

While batching work reduces the total number of print jobs flowing through the production floor, smart management is required to ensure capacity is available to meet delivery dates and customer requirements. The goal is to balance resources and adjust quickly to changing variables to reach the desired outcome. Many commercial PSPs still rely on spreadsheets or a physical planning board to monitor the flow of jobs and capacity constraints on the production floor. These manual systems are time-consuming and require an extreme level of expertise and interpersonal communication to avoid production errors and delays. Physical job tickets completed by production staff are often the record for shop floor activity, including material usage and time taken for specific tasks.

The efficient approach is to use software to manage the shop floor. Managers and operators need insight into the number of work-in-progress jobs, the status and whether the job is at risk of missing any deadlines. There are many software solutions that assist in managing the production floor, including scheduling and shop floor data collection modules of print MIS solutions, data analytic dashboards, and certain workflow management solutions. Ultimately, these tools provide staff with up-to-date information to perform their work and managers with data to monitor the health and status of the production floor, often through key performance indicators (KPIs).

How does it all work?

Check out the return on investment (ROI) in our customer use case, using logic, analytics and quality alignment to their hardware, software and distribution solutions.



**Production is not
the application of
tools on materials
but logic to work.**

Peter Drucker

ROI: PRODUCE Use Case

Without a robust PRODUCE System

- Currently processing and distributing hundreds of thousands of orders/month
- Invested in separate robotics and automation plus a new warehouse management system providing complete automation but lacking a knowledge of print
- Requires the printing to automated picking lines, including shipping labels, packing slips, planograms etc.
- Lack of a customer portal to enhance customer services activities and the customer experience

With a robust PRODUCE System:

RICOH ProcessDirector™, Cross Media Professional Services Practice, Managed Services, Customer Communications Management (CCM)

- Provided and maintained quality output of jobs between and on various inkjet systems
- Converted individual files to PDF for output, providing long-term flexibility to future output methods for continuous feed, cut sheet, labels, robotic insertions and more
- Bridged the gap between traditional hand-pick distribution and modern machine automated distribution with output logic
- Provided a system of record for all print related output, archiving all shipping labels and box content
- Centralized all print operations for their central operations as well as distributed materials



ROI SAVINGS:

Up to \$1M in Annual Cost Savings



The Bottom Line

The key to successful production is a deep understanding and training of the applications and processes used in production, and the different requirements for each product type. Optimization and smart print shop floor management are critical areas to increase the throughput, efficiency, and quality of work flying through the print shop. Mapping the workflow elements into a solid automated workflow enables smooth and efficient production from multiple job onboarding paths to multiple output channels without creating bottlenecks that cost time and money — a critical requirement for today's commercial print shops.

If you're ready to optimize your production workflow, [contact us](#) for more information and how a workflow assessment may help determine your workflow needs.

Get The Next eBook: Output

About Ricoh

Ricoh is empowering digital workplaces using innovative technologies and services enabling individuals to work smarter. For more than 80 years, Ricoh has been driving innovation and is a leading provider of document management solutions, IT services, communication services, commercial and industrial printing, digital cameras, and industrial systems.

Headquartered in Tokyo, Ricoh Group operates in approximately 200 countries and regions. In the financial year ended March 2019, Ricoh Group had worldwide sales of 2,013 billion yen (approx. 18.1 billion USD).

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