FO PRINT & Media AG
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Detailed Application Information

Focus: Printready, Signa, Meta, Color Solution

Background

Situation prior to introduction of Prinect workflow:

Brief profile of FO Print & Media AG:

- 1930: Entered in the commercial register as a joint-stock company under the name Fotorotar AG
- 1976: Moved from Zurich to a 20,000 m² commercial property in Egg
- Full-service printshop incorporating prepress, press, and postpress
- FO Print & Media AG is split into six sections:
  Fotorotar, Cyberfactory, Smartprint, Security, Publishing, and Services
- The company is active in six key areas: Offset printing, Smartprint (digital printing), Cyberfactory (Internet services), security printing (offset), publishing, and services (fulfillment). Workflow integration is only relevant for offset and security printing.

FO Print & Media AG organization chart:

- The six key areas are supported by prepress and postpress operations.
- The company has a total workforce of approximately 140.
FO Print & Media AG business model:

- Concentrating on high-quality color print products with short to medium runs.
- Demonstrating our expertise and advising customers.
- Achieving the fastest possible throughput with top-quality results.
- Giving top priority to integration.
- Using cutting-edge technology to always stay one step ahead.
- Providing a full graphics service (offset, digital, Internet, publishing, security printing, service)
- Focusing on standardized production conditions.

FO Print & Media AG equipment:

- Management software: Printplus
- Prepress: Mac, Windows, Printready, SignaStation, MetaDimension, plotter, Suprasetter (CtP)
- Offset printing: Prinect Pressroom Manager, SM 52/2, SM Anicolor 52/5+L, SM 102/2, CD 102/6, SM 102/10 combined with Mini Spots, Image Control
- Digital printing: 2 Xerox IGen3
- Postpress: Stahlfolder TH 82 6/6, ST 450 U/6 saddlestitcher, MBO 76 – 4 buckles/2 knives, MBO 66 – 4/4 buckles
- Fully integrated operation, from job management and prepress to offset printing.

Situation at FO Print & Media AG prior to the introduction of the integrated workflow (2002):

- Manual planning and control of production
- Separate systems for all production operations
- No digital integration
- Time-consuming and labor-intensive control of production processes
- No automatic feedback to the MIS and, consequently, no integrated actual costing → complex controlling

Guideline for future workflow development at FO Print & Media AG:

End-to-end integration of all sections will in future make it possible to use an electronic planning board that is fully integrated into the workflow. This will provide an overview of the production status and the capacity utilization of costing units that is always up-to-date.

Ultimate objective of full integration:
Fast, up-to-date information for all the relevant staff, enabling a rapid response based on the latest job and production status messages for all costing units.
Workflow prior to the introduction of Prinect

Delta-Workflow 1997

Fig. 1: Workflow situation before the integration project started

Brief description of the workflow as it was in 2002:

The arrows between the individual departments indicate that all information was forwarded manually.

- Costing and job management system not integrated.
- No electronic job folder, just a printed docket
- All production feedback verbal or written
- Some feedback was very imprecise and took a very long time
- Prepress consisted entirely of individual stand-alone solutions without any integration or automation whatsoever, from initial data acceptance to the printing plate.
- Pressroom not connected, color data transferred by flashcard or not at all
- Postpress also separate
Objectives

Quantitative/qualitative objective and motivation

Integration objectives

No more multiple entries; quick and easy monitoring of all relevant processes, resulting in reliable communication – both in-house and with the customer.

Job management/job preparation objectives

- Preliminary costing of all jobs
- Greater transparency, i.e. simple job tracking for the relevant staff
- Direct and up-to-date overview of jobs in the production process for informed communication with the customer at all times
- Statistical evaluations relating to sales, customer analyses, product groups, paper waste, and the machines’ level of utilization and capacity utilization

Prepress objectives

- No more manual job generation – electronic job folder transferred in JDF format
- Reliability when creating OK to print; RIPped data corresponds to the printing plate results
- No more time-consuming data checks thanks to fully automated and pre-configured data checking in the workflow
- Automated, interactive impositioning
- Considerable time saving: Higher throughput means increased productivity with the same or lower staffing levels

Press objectives

- Quicker press setup
- Small number of steps to get the color data to the press
- Reliable, automatically calculated color data sent directly to the press
- Less time to reach OK sheet stage
- Less paper waste
- No additional work/expense for actual costing
- Considerable time saving: Higher throughput means increased productivity with the same or lower staffing levels
- Efficient, systemized capacity utilization of presses as the most investment-intensive costing units
Postpress objectives

- Based on the Prinect JDF architecture, postpress is to be integrated by Prinect Postpress Manager with greater automation. This includes complete, automatic job transfer (as in the pressroom) with all administrative and technical job data for machine presetting, reporting on the exact production status and job status, and production data acquisition for automatic actual costing.
- Manual workstations are integrated into job planning and production data acquisition via the JDF-based Prinect Data Terminal.

Methodology

Decision criteria for the introduction of an MIS system

It must be possible to incorporate an MIS seamlessly into the company’s integration strategy and thus into the production workflow.
Taking into account the amount of time and money involved in replacing an MIS, it is preferable to upgrade the existing Printplus MIS and take any additional measures required.
It is possible to keep using Printplus at our company as long as it can be fully integrated into the production workflow.
The assessment was made based on the following decision criteria:

- The new MIS system must enable full integration, i.e. job data should only be recorded once and then distributed throughout the company online.
- Actual costing must be carried out in real time. It must be based on the relevant machine status and return to the MIS automatically.
- The MIS system must deliver reliable business management figures.
- The MIS system must be able to prepare costings quickly and simply and use these to generate quotes and orders.
- The MIS system must be able to track jobs.

Decision criteria for the purchase of a new workflow system:

The workflow system has to be a well-tested system, with a sufficient number of systems already installed and successful integration projects.
That is why we decided on Prinect Integration System.
The assessment was made based on the following decision criteria:

- It must be possible to transfer the job from the existing MIS to the workflow.
- The workflow must enable the prompt display of clearly structured status feedback.
- No time-consuming data checks thanks to the automation of data checking.
- The system must make all the company’s work processes accessible and transparent.
- Real-time supply of color and JDF data to the presses.
- Work is quicker and more reliable.
Implementation story

Project schedule and milestones

**Project phase 1:** *October 2003 to early 2004 – switch from Delta to Printready*

Printready installed in October 2003 (previously Delta workflow)
Final changeover from the previous Delta workflow to the new Prinect Printready System with MetaDimension RIPs in early 2004.

**Project phase 2:** *Introduction of Pressroom Manager in 2006*

Pressroom Manager replaced our existing Prepress Interface system. In addition to area coverage percentages, Pressroom Manager also provided us with important and comprehensive information and reports on the production run for the various jobs.

This project phase initially started as a field test. Following its success, FO Print & Media AG decided to continue using Pressroom Manager and even increase the level of integration with Prinect Integration System.

**Project phase 3:** *Introduction of Prinect Integration System and Prinect Color Solution with Mini Spot workflow (January – May 2007)*

**Prinect Color Solution:**
Following more success with Print Color Management, the PSO (Process Standard for Offset Printing) was established. This was followed by the introduction of Prinect Color Solution. Ongoing quality control is ensured by the Mini Spot workflow in conjunction with Prinect Image Control.

**Introduction of Prinect Integration System and integration with connection to Printplus in January 2007**
In order to ensure optimum integration system operation at FO Print & Media AG, we opted for a comprehensive redesign of our network. This was the first step in this project phase.
Prinect Integration System was successfully introduced after the network had been redesigned, with close cooperation between Printplus AG, Heidelberger Druckmaschinen AG and FO Print & Media AG.

**Project phase 4:** *Introduction of integrated production planning with the Prinect Scheduler from March 2008:*

Greater overview of the key costing units. Consequences of deadlines are clearly visible. Everything is displayed transparently in real time.
Resulting workflow/processes

Phase 1 – Switch from Delta workflow to Printready workflow (2004):

Brief description of the workflow as it was in 2004:
- Existing Delta workflow replaced by Printready and MetaDimension
- As a result, all prepress production with JDF from the DTP stage
- Simpler data handling
- Far fewer defective plates
- Number of staff cut from 11 to 5

Fig. 2: Workflow on completion of project phase 1
Phase 2 – Installation of Prinect Pressroom Manager (2006):

Brief description of the workflow as it was in 2006:
- Prinect Pressroom Manager installed
- End-to-end Color Solution (Mini Spot workflow) installed/introduced
- JDF integration – Printplus (MIS) \rightarrow press
- Printplus job data merged with color data from Pressroom Manager
- More reliable color presetting
- Time saving approx. 2.5 min./form -> result of change from PPI with flashcard to Pressroom Manager
- Material saving approx. 100 sheets/form

Brief description of the workflow as at February 2008:

- Prinect Integration System installed and implemented
- Job management, prepress, and pressroom fully integrated
- The very latest information on job and production progress available directly at all times
- Important function of job logging available and easy to follow
- Very transparent production monitoring with an excellent overview
- Rapid and reliable communication – both internal and with customers – is now possible thanks to the integrated workflow system.
Phase 4 – Future production workflow (2008)

Brief description of PLANNED workflow for 2008 and beyond:
- Implementation of interactive, fully integrated production planning (Prinect Scheduler)
- Automated, fully integrated JDF/JMF production and job processing workflow:
  Job management ➔ prepress ➔ press ➔ postpress
Description of benefits of the individual function blocks

Phase 1 – Switch from Delta workflow to Printready workflow (2004):

- Average 50% saving when merging and RIPping files -> number of staff in the printing form section cut from 6 before 2004 to 3 at present
- Sample creation made much simpler by the new, automated workflow.
- Fewer errors in the data and, consequently, less re-imaging of plates -> 90% fewer user errors thanks to better visual checking at all stages of the workflow.
Only a maximum of 10 plates/month now need to be re-imaged due to user errors as opposed to 100 before 2004
-> 90% reduction
- Less time is lost because data can be accessed from all workstations
- Jobs in progress monitored at all times
- On average, PDF data is transferred to the RIP 50% faster
- Production is less stressful
- Much greater flexibility when changing press -> job quickly adapted to new format
- 50 – 70% less time required for complex jobs -> e.g. previously 6-7 h, now often less than 2 h
- PPI already in operation with Delta and flashcard prior to 2004
- At least 32,000 plates/year in the 70 x 100 cm (27.56 x 39.37 in) format

Phase 2 – Installation of Prinect Pressroom Manager (2006):

- More reliable color presetting
- Current profile accuracy 90%, previously (Delta workflow and flashcard) 70%
- Data handling now much simpler
- Time saving with 1 h makeready time approx. 2.5 min./form -> result of change from PPI with flashcard to Pressroom Manager
- Material saving 100 sheets/form (approx. CHF 0.16/sheet for the 70 x 100 cm format)

Step 1: Introduction of Prinect Color Solution (Mini Spot workflow)

- Color profile even more accurate
- Time saving 2.5 min. during makeready
- Material saving 100 sheets/form (approx. CHF 0.16/sheet for the 70 x 100 cm format)
- Color Assistant helps optimize makeready times from form to form within a job
- Assessment of print quality is now more objective, i.e. based on measured values
- Print adjustments -> productivity improved based on the number of jobs produced
- Print quality now much higher -> there would be far more complaints without Color Solution and Integration System
- Much less time required for fine-tuning on the press – 2-3 times less each week
- Proofing process is now more reliable (certified) -> previously had to be calibrated and measured externally -> expensive service


- **Pressroom:**
  - Pressroom Manager: More accurate ink ordering is important because a very large number of spot colors are printed incorrectly. The greater accuracy lowers costs significantly
  - Integration System in conjunction with Pressroom Manager creates a better overview in real time

- **Job preparation:**
  - Now fewer problems to deal with during job preparation. Technical flow planning for the individual jobs is now much better -> 10% time saving
  - Thanks to standardization + integration, costing staff feel much better placed to put forward arguments to customers
  - There are approx. 350 costings per month

- **Prepress:**
  - 1 min. less to create the job
  - No more searching and fewer queries
  - Staff always have access to the right job
  - Job tracking is easier, i.e. 30% fewer internal telephone calls with 3 employees
NPV (net present value) and ROI (return on investment) calculations and conclusion

### Berechnung FO Print & Media AG - CIPPI Awards 2008

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<tr>
<th>Benefits (in savings)</th>
<th>2004</th>
<th>2005</th>
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<th>2007</th>
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<td><strong>Annual savings Milestone 1</strong></td>
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<td><strong>Annual savings Milestone 3</strong></td>
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<td><strong>Total annual savings</strong></td>
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<table>
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<th>Investment (products)</th>
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<td>Printready incl. Meta Dimension and Signa Station (Migration from older Heidelberg System)</td>
<td>31.387</td>
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<td>Printready implementation and Training</td>
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<td>Training and Data Migration</td>
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<td>PCM Services (Colour Management)</td>
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<td><strong>Total investment</strong></td>
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<th>Maintenance costs (recurring)</th>
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<td>Prepress &amp; CIP</td>
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<td><strong>Total annual costs</strong></td>
<td>56.497</td>
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| Net benefit (annually) | -56.497 | 289.543 | 136.712 | 338.535 | 674.801 | 674.801 |

| Discounted net benefit | -56.497 | 273.154 | 121.673 | 284.241 | 534.506 | 504.251 |

| NPV (Net Present Value in €) | 1.661.328 |
| ROI (Return on Investment) | 605% |
The exceptionally good net present value (NPV) of €1,661,328 and ROI of 605% were achieved thanks to the outstanding Prinect workflow system from Heidelberger Druckmaschinen and full integration with our Printplus industry software.

The following factors contributed to the great success of the integration project:

1. Clearly formulated vision of company management
2. Project planning with sufficient time for staff to complete the necessary learning curve
3. Excellent cooperation from all system suppliers
4. Outstanding quality of the workflow system and industry software (in terms of integration and individual functionality)
5. Management directly responsible for the project
6. Clear definition and tracking of objectives during the project

The NPV result shown above was based solely on clearly measurable factors (see description in pages 14 and 15). In addition to these easily measurable factors, the new workflow also resulted in many improvements that cannot be quantified or are difficult to quantify and therefore were not taken into account in the NPV calculation. These include:

1. Very quick and easy error analysis in the event of quality deviations
2. More stable job processing, making life less hectic and allowing all staff to concentrate on key tasks
3. Greater customer satisfaction and, as a result, long-term customer loyalty
4. Investment safeguarded through the integration of further process steps such as postpress by the workflow supplier Heidelberg

The streamlining achieved to date has put us in a much stronger position on the market. In addition, by investing in workflow integration we have laid the foundation for a permanent improvement in productivity because our processes and systems are now equipped for increasing automation. The workflow investment thus enables our company to grow further with the same cost structure, and its positive effect on profitability extends beyond the results currently measurable.
Conclusion

Thanks to the comprehensive integration made possible by the Prinect workflow system from Heidelberg, JDF/JMF-based integration has proved an unqualified success. By taking this step, FO Print & Media AG has put itself in an excellent position on the market. The success of this strategy is clear from the enthusiastic way it has been received by customers old and new.

We could not have chosen a better partner than Heidelberg for full integration. The modular Prinect system is growing quickly, which means that we also enjoy ever greater benefits. This is particularly clear from the diagram for Milestone 4. The workflow illustrated shows the configuration to be implemented from 2008. All the individual benefits and the various synergy effects will then produce huge overall benefits.

JDF definitely came along at the right time for us – and in the best possible form with the Heidelberg Prinect system.