

HEIDELBERG PRINECT DIGITAL SOLUTIONS FOR PRINT MANUFACTURING WORKFLOWS ADMINISTRATION

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Automation of technological processes in printing orders preparation currently offers a wide range of digital solutions for organizing workflows. These solutions encompass fundamental aspects of prepress, press, and post-press order composing and are predominantly modular. Therefore, companies of commercial printing can use individual components within certain bundle workflow solution, depending on the coverage of needs and customer's target audience.

The integrated print management system PRINECT by Heidelberger Druckmaschinen AG [1] within the Pressroom corporate concept offers a comprehensive approach to automating and optimizing processes in print production, which helps to increase resource efficiency, reduce costs, and enhance product quality (Figure 1). PRINECT component named **Prepress Manager** is responsible for preparing printed materials for production. This component encompasses a range of modules that provide a wide array of functional capabilities. The *Color Editor* module allows color calibration, creation and management of color profiles, as well as control over color gamut and color conversion. The *Layout Editor* module provides capabilities for cropping, merging, and aligning layout elements, as well as viewing and editing graphical elements. *Preflight+* automatically detects and corrects errors in files, converts data structures, and groups files for efficient printing. The *Signa Station* surface treatment module adds and manages surface treatments, employing special effects in file preparation for specific printing tasks.

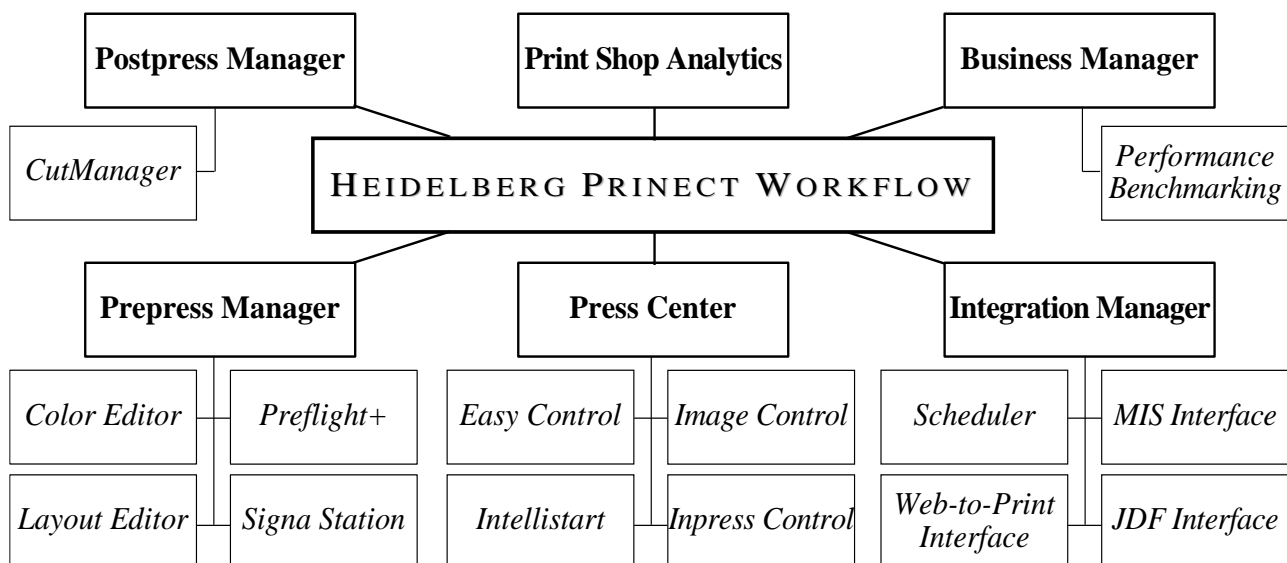


Figure 1 – Specialization of digital solutions in print management system
HEIDELBERG PRINECT WORKFLOW



The **Press Center XL 3** print management center, as a key component with the Speedmaster operating system, enables operators to monitor and control printing equipment from a single workstation. Specifically, *Easy Control* module provides operators with monitoring and control tools for printing machines. *Spectral Image Control 4* module automatically analyzes printed and non-printed areas during scanning using prepress data and incorporates them into the control process: detected errors are automatically adjusted by comparing them with an etalons database and test prints. *Intellistart 3* automatic print start module optimizes setup processes and reduces setup time for new tasks. Real-time automatic print quality control is provided by *Inpress Control 3*, which detects and corrects any quality deviations.

Postpress Manager component is responsible for the automated processing of orders in the post-printing segment, ensuring high quality and productivity. Particularly notable is the *CutManager* module, serving as an interface for data exchange between Prinect Postpress Manager and POLAR High-Speed Cutters [2]. Other functionalities of this component are currently unavailable as separate modules and require the presence of the **Integration Manager** component, which is responsible for integrating PRINECT with other production software tools, when deploying a unified information space, and supporting data exchange between different production locations.

Business Manager component is responsible for managing the business processes of printing machines, including accounting, finances, and order management. *Performance Benchmarking* module provides printing presses with ability to quickly and easily visualize the OEE metric and efficiently compare it with similar equipment from other manufacturers with similar configurations, enabling them to obtain personalized and objective productivity data. Therefore, real-time tracking of KPIs metrics is provided by the cloud-based component **Print Shop Analytics**. With the involvement of artificial intelligence, specific directions for further production optimization can be suggested. The notification system automatically informs authorized users of any issues or discrepancies. Generated informational panels with analytics and recommendations are available on mobile devices, in particular through the state-of-the-art solution Prinect Mobile [3] presented at Drupa 2024, allowing remote access to data and management of stages related to the printing process.

Thus, the HEIDELBERG PRINECT WORKFLOW print management system is distinguished not only by wide functional capabilities range but also by specialization of digital solutions for all technological stages needs in order processing. Its high level of integration and ability to automate workflows make PRINECT a key platform for enterprises seeking to achieve high efficiency, quality, and competitiveness in the printing industry. Third-party systems can naturally be integrated through standard interfaces (JDF/JMF/ PPF), although PRINECT users with full integration will have advantages in deploying a unified information space in profiled branches.

References

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