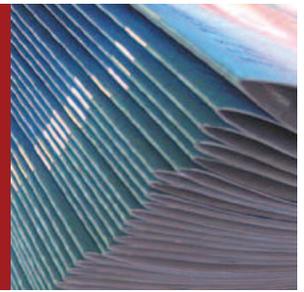# Videk Case Study:
Closed-Loop Integrity Assurance for High-Value, Personalized Booklet Production

Executive Summary:

- A major investment firm tasked a leading financial outsourcing provider with producing a more customer-centric booklet for communications with their high net-worth clients
- 100% booklet integrity was a mission-critical requirement for the program
- Teaming with Videk, the service bureau was able to create a closed-loop quality assurance system that combined vision-based inspection technology, data-rich barcodes and real-time database connectivity to ensure zero-defect booklets

Videk's VPS 9810 vision system placed inside the Bourg stacker, monitoring every page in real-time

The Business Challenge:

Videk's customer, a leading full-service outsourcing provider to the global financial industry, are experts at delivering products and services with the level of accuracy and quality required for mission-critical applications. In some cases, helping customers achieve their goals requires an innovative approach. Recently, a global investment institution presented the service provider with a business challenge; produce customized booklets containing detailed personal investment data for their elite group of high net-worth clients – a group who's sophistication and investment levels drove a need for incrementally higher engagement and service.

The booklets would consist of several different components – some pre-printed, some color, some monochrome, and most including account-specific variable data printed during the production process. A risk that had to be fully mitigated was the chance of 2 clients' data becoming cross-pollinated in a single book through incorrect page collation.

The challenge; produce a high-quality booklet combining color, black and white, highly sensitive variable data, pre-printed materials and various paper stocks – and assure 100% page-level integrity of every book.

The Solution:

Intelligent documents, embedded inspection technology & real-time database connection

A multi-part data-driven process

Production of the booklets would require a multi-part process including use of a Xerox iGen press for color materials and the Kodak E150 system for variable data printing on pre-printed forms, monochrome printing and booklet assembly. Videk's customer determined that this multi-step production process, combined with the sensitive nature of the data, meant that a system for process verification had to be included. This would ensure that every individual page was correlated to the final booklet in which it belonged.

Creating intelligent documents

To enable page-level identification and tracking, the service provider worked with Videk to create a workflow that capitalized on data-rich 2D bar coding, with a Data Matrix code containing key booklet assembly details – effectively placing all of the required production intelligence directly on the document.

With the bar codes in place, it was essential that process verification technology be integrated into the system at the point where the booklets were being finalized so there was no further risk of error. Videk's VPS 9810 cut sheet print verification system was placed inside of the Bourg stacker module on Kodak E150 print lines. This solution scans the barcode on every page as they enter the stacker, reading the bar coded information and performing a real-time database look-up to compare the printed page with original data file information.

Point-and-shoot job set-up

To prevent the possibility of incorrect inspection settings at the onset of the process, Videk's customer implemented a system connecting the print job data file to a bar coded job ticket. The operator simply scans this ticket with a Videk VisionSensor 2030 handheld scanner, automatically loading the VPS 9810 print verification system with the correct print job inspection data.

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Closed-Loop Integrity Assurance for High-Value, Personalized Booklet Production

■ Optimized error management

The system's response to error detection was also a critical consideration in the development of the solution. While halting operations at the first sign of a problem was the requirement, the method of stopping the printer in a way that eliminated the possibility of job confusion was essential. Videk consulted with the customer on methods for handling the stop function most effectively. In the event that an error is detected, the Videk system allows completion of the book within which the error(s) have occurred, and then initiates a controlled shut down of the printer.

"Managing how we stop the printer was a critical element in the solution for 2 main reasons." said Jim Reda, Vice President of Technology at Videk. "One being that it's far easier for an operator to handle reprinting or fixing a complete booklet with known errors, versus dealing with individual pages. Secondly, the ability to finish one booklet and stop further booklet production eliminated the opportunity for additional errors and waste"

Operator handling of an error that has been detected by the integrated vision system is tracked within the closed-loop system. A "make-right" station comprised of a networked server and Videk handheld scanner, enable the operator to update the production record for those booklets that have been repaired.

■ Post-job audit reporting

After the print run is complete, individuals can generate an audit report that enables overall comparison of actual output results to the source print data file. This report can then be used to re-confirm identified errors as well as confirm total job accuracy.

Benefits:

Staying true to its promise of delivering efficient, secure and scalable operational support, Videk's customer is able to deliver a more customer-centric investor communications tool to clients, capitalizing on the benefits of variable personal data while mitigating the risk of aggregating pages & information.
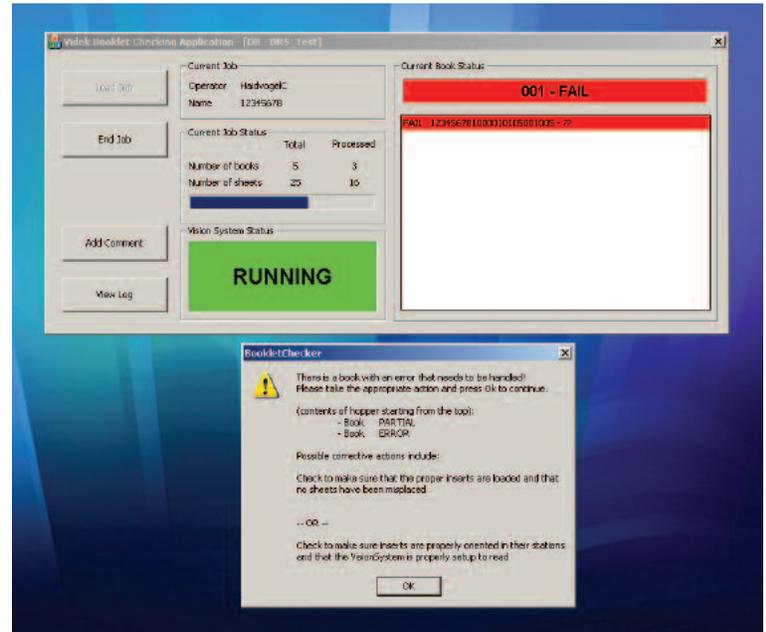
A custom user interface gives print operators clear visibility to job status and error notifications

"By stepping back and truly analyzing the total integrity requirement of our customer, we were able to create a fully automated process for assuring zero-defect quality in an application centered around the use of extremely sensitive variable data"

–Jim Reda, Vice President of Technology, Videk

Videk Technology Profile:

■ DocuVision VPS 9810 Cut Sheet Print Verification System

An advanced vision-based inspection system combining a line-scan camera, the DocuVision inspection software platform and an intuitive operator interface. The system is available in configurations for interoperability with a host of leading cut sheet printers.

■ RECON Manager

SQL-based software package that enables data collection and reporting, as well as diagnostics and configuration management for DocuVision systems

■ VisionSensor 2030

Handheld scanner for point & shoot reading of nearly any bar code