SOLUTION BRIEF

LAKE IMAGE

DISCOVERY
READ&PRINT
FOR RFID

MUST SEE 'EMS

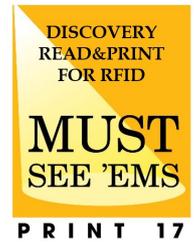PRINT 17

DISCOVERY READ&PRINT for RFID

End-to-End Offline, Read, Encode, Print and Verify Solution for Automated Production of RFID Tag and Labels

SOLUTION OVERVIEW

CHALLENGE

In today's fast paced retail environment, to remain competitive and profitable it is important that retailers and brand owners have a high level of real time visibility of inventory throughout the supply chain.

Furthermore, the constant flow of goods and services across national borders, and the heavy reliance on foreign manufacturing operations, make it harder than ever to ensure the authenticity of products. From high-end luxury goods to everyday household items, the presence of faked, forged, and pirated goods is growing at an alarming rate. Almost 10% of global merchandise trade is considered counterfeit which has enormous impact on brand owners and their bottom-line[†].

One of the most reliable solutions for brand-protection and inventory management is RFID technology. Wireless RFID label tags securely store encrypted data within the label that matches the printed information - essentially giving each item its own unique fingerprint, which allows easy tracking and product authentication across the entire supply chain.

Accuracy is critical to ensure that each label is manufactured to the highest level of quality, readability and integrity. When producing thousands of RFID Tags and Labels, multiple steps in the label production process (from RFID encoding to the printing of labels), will invariably introduce errors that undermine confidence in the RFID technology and increases production costs. Only a single, automated READ, ENCODE, PRINT and VALIDATE process ensures that each label has the correct encoded information, matches the printed data and is 100% readable when it is attached to the product.

SOLUTION

The Discovery READ&PRINT for RFID solution is a cost effective, offline, end-to-end RFID read encode, print and verify integrity management solution for high volume RFID tag label production. Figure 1. provides a simplified workflow diagram which illustrates how the system works.

- **Flexible Implementation:** The Discovery READ&PRINT for RFID solution lets you tailor the production steps so that you create a system that's right for you. Unlike some competitive solutions, we are hardware agnostic and can retrofit onto your existing equipment. We can source a range of RFID readers and encoders to meet your specific needs. All in all, Discovery is a cost-effective, easy-to-implement solution that helps you to build an integrated, end-to-end system.

- **Fast, Continuous Processing:** The process is remarkably fast and reliable, and lets you process thousands of labels per hour whilst maintaining 100% integrity at every stage. Defective RFIDs or printed labels are automatically identified, tracked and marked as "VOID" at the end of the line. Targeted RFID encoders and readers ensure that the signal from one tag does not interfere with another tag, enabling even faster throughput.

- **High Performance, Cost effective Inkjet Printing:** Discovery READ&PRINT for RFID uses the latest thermal print-head technology which provides unparalleled performance, quality, flexibility and economy. It generates less ink spread with 20% smaller size droplets (24pl vs. 30pl for competitive solutions), resulting in sharper edges on graphics, crisper fonts and a more refined printed image. It delivers higher quality and lower costs with less ink consumption.

SOLUTION COMPONENTS

READ&PRINT

- **Discovery READ&PRINT Software -** for asynchronous multi zone tracking, reading (RFID, 1 & 2D barcodes, OCR), matching, data base look-ups, integrity control, data verification and post print verification

- **SQL Database -** Superfast data storage and management

- Inkjet Heads - Discovery READ&PRINT dual-jet thermal inkjet print-head technology provides unparalleled performance, quality, flexibility and cost performance

- **Readers & Encoders -** High performance area scan cameras, RFID encoders & readers, brackets, triggers and cabling

- **Equipment Control -** Operator Alarms, Warnings or Stop

- **Discovery Roll Review software (Optional) -** in combination with Discovery READ&PRINT enables Quality Control departments to review all defect tags identified during a production run before creating reprints

Logging & Reporting

- **Full report and audit logging** - maintains a detailed audit file of all pages, statuses and errors which can be downloaded as a CSV, fed into an MIS system and can be formatted into file reprint/remake files for automated reprint processing

DISCOVERY
READ & PRINT

SOLUTION BRIEF

Inventory data containing details of each SKU (Stock Keeping Unit) loaded into SQL database

RFID Tag Label

1	2	3	4	5	6
RFID READER	RFID ENCODER	INKJET PRINT HEAD	RFID VERIFIER	PRINT VERIFIER	MARKER UNIT for Faulty Tags

RFID Tag Labels

1. Initial RFID Serial # read. Discovery READ&PRINT associates it to a SKU
2. Encodes EPC with the required product data.
3. SKU barcode and inventory data Inkjet printed onto label
4. Verifies RFID encoded data. If bad then flagged for Divert
5. Area scan camera verifies printed data & grades barcode. If bad then flagged for Divert
6. Flagged labels are marked as "VOID" and removed or discarded
7. Discovery READ&PRINT for RFID manages the entire process for 100% label readability and integrity
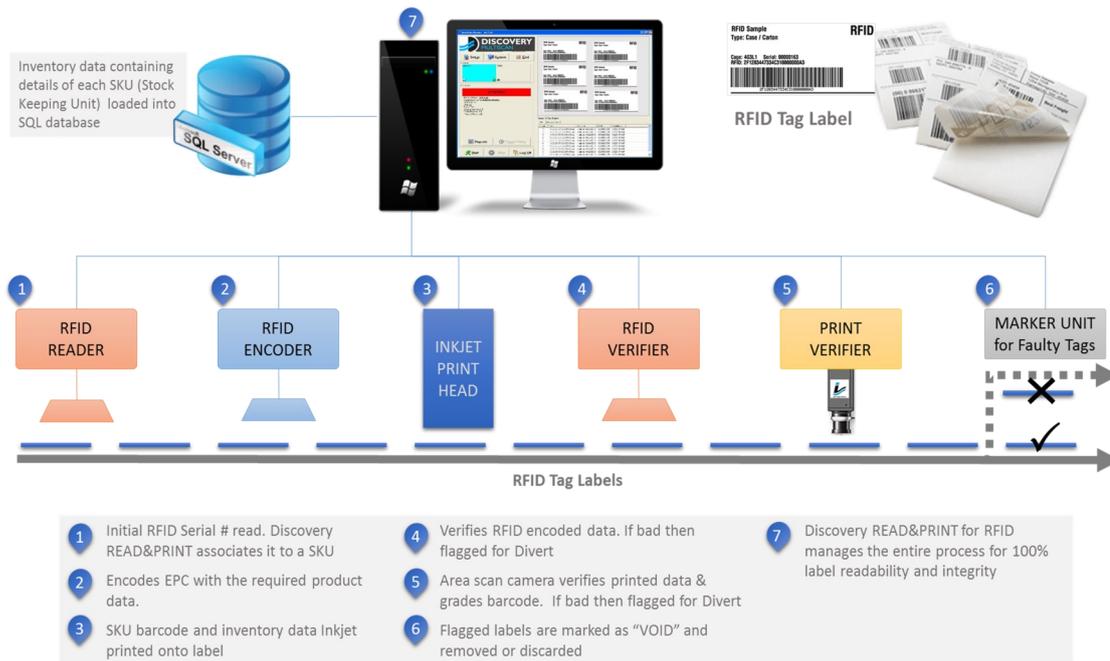
FIGURE 1: Illustration of a RFID Read, Encode, Print and Verify Workflow

ADVANTAGES

- **Packaged Solution** - All solution components, implemented to your requirements at a low, affordable price
- **Machine independent** - Can be retro-fitted to any existing or new finishing equipment
- **Scalable** - adaptable to grow as you grow
- **Reliable** - based on Discovery Multiscan with over 3500 installs, ensure our solutions are maintained and robust
- **Flexible** - Ability to provide a multitude of verification capabilities simultaneously on the same piece of equipment
- **Supported** - Comprehensive maintenance contracts featuring remote diagnostics

BENEFITS

- **Improved Productivity** - Automates labor intensive finishing processes, increasing throughputs and meeting SLA targets
- **Increased Customer Satisfaction** - 100% integrity and automated processes ensure your customers get a quality product and the best price
- **Lower Costs** - Automation reduces cost per item, lowers operating costs and increases profit margins
- **Less Scrap / Less Waste** - Immediately prevent costly scrapping of large runs of mail and printed product due to production errors. Prevents costly reprints
- **Meeting Compliance** - Ensure all jobs comply to industry and government regulations

ABOUT LAKE IMAGE SYSTEMS

We are a leading provider of integrity management and print quality inspection systems for the mailing, labelling and packaging industry. Our systems inspect, verify, track and report on millions of documents, printed pieces, plastic cards and packages daily. With over 3500 installations worldwide and manufacturing in Europe and the USA, Lake Image Systems provides turnkey integrity solutions which identify defective print, generate detailed audit trail reports and feed ADF and MIS architecture with piece/pack level information.

CONTACT

Learn more about the power of our tailored solutions by visiting www.lakeimage.com or by contacting one of our sales representatives in your regions.

Lake Image Systems Ltd
The Forum Icknield Way Tring
Hertfordshire HP23 4JX England
T: +44 (0)1442 892700
F: +44 (0)1442 892792
E: sales @ lakeimage.com

Lake Image Systems Inc
205 Summit Point Drive Suite 2
Henrietta NY 14467 USA
T: 001 585 321 3630
F: 001 585 321 3788
E: salesna @ lakeimage.com

Lake Image Systems France
165 Avenue du Prado
13272 MARSEILLE
CEDEX 08 FRANCE
T: +33 (0)4 91 17 90 62
F: +33 (0)4 91 17 90 63
E: euLIS @ lakeimage.com

Lake Image Systems Asia
21 Woodlands Close
#02-24 Primz Bizhub
SINGAPORE 737854
T: +65 97 22 34 90
E: LISasia @ lakeimage.com