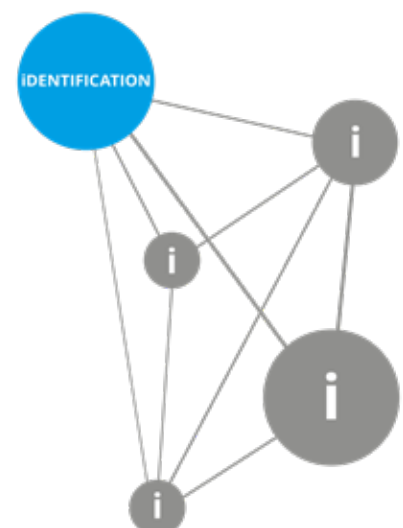PRODUCTION TRACK & TRACE SYSTEM

HARMONY SOLUTION

- Real time Track & Trace system for 100% traceability
- Designed for multiple applications in one system
- Central Dashboard with live-cockpit
- Reliable Tracking ID print and read-back solution
- Compliant to industrial security standards

i5 EXPERTISE

IDENTIFICATION

HARMONY Solution

Today's challenge in the production of sensitive products in the security printing industry is the reliable and complete tracking of all individual products throughout the various process steps in print works and finishing department. With the HARMONY solution ZEISER provides a set of seamless integrated systems for Track & Trace in the security substrate production, print works and finishing area.

HARMONY is the flexible, scalable and expandable Track & Trace solution starting from a single machine up to complex production machine environments and for various applications. Printers and cameras are integrated for high quality ID print, verification and tracking. HARMONY offers data exchange to ERP systems and supports external devices via open interfaces based on our comprehensive plugin concept.

With the data provided by HARMONY you can control quality, fulfill regulatory compliance requirements (e.g. ECB) and have all necessary data to analyze and optimize the entire production workflow on all connected machines and workstations.

The central HARMONY dashboard offers you full transparency over all connected machines, for all orders and productions steps; provides performance/OEE indicators and enhanced production planning capabilities and the intuitive operator HMI supports you in your production to avoid human errors.
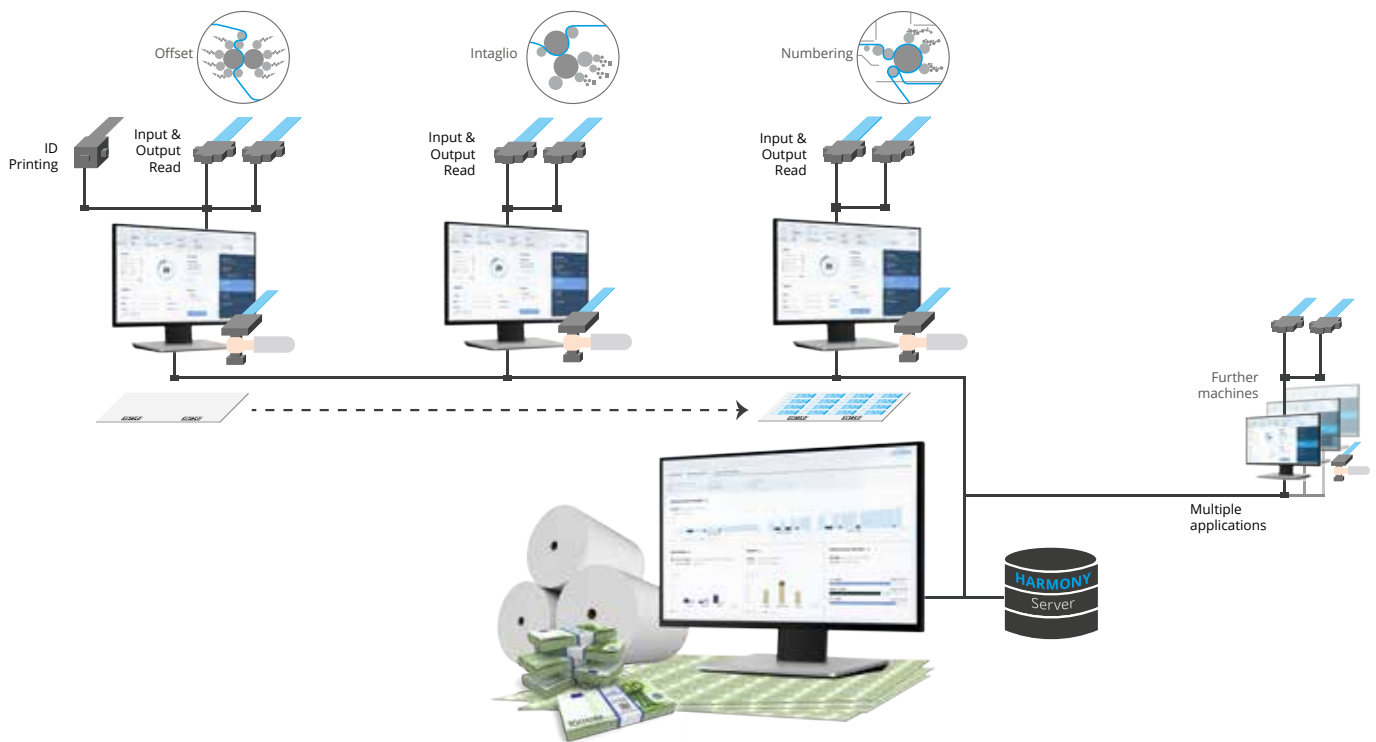
Real-time Balancing and Workflow Management

· Central production workflow management and process control
· High availability database with 100% real-time job and order status reporting
· Manage multiple applications and products in one system
· Individual product tracking and duplicate number prevention
· High reliable ID printing and read-back solution

Central Dashboard

· Cockpit function for all connected machines and workstations
· Live view for machine performance, job status and reporting on overall equipment effectiveness (OEE)
· Predictive detection of potential malfunctions and errors
· Investigate order and job status, view statistics and create historical reports
· Production planning capabilities

HARMONY provides 100% real-time traceability for production and finishing based on a fully modular solution design. The system uses a revolutionary plugin concept that provides flexibility to configure the custom specific workflows for various products and machines and graphical user interfaces to match the specific requirements.

HARMONY is tailored to include the required functionality and additional functions can be added later. This offers you full investment protection for future changes and extensions.

Analysis, Reporting and Waste Control
· Productivity analysis and reporting
· Automated counting of waste and rejects
· Detailed production data records for process optimization, reduction of rejects and increase of productivity
· Build-in assessment of waste, rejects, quality
· Generate reports on exceptions, production devices, operators and shifts
· Data exchange with ERP systems

Auditing and Security
· Compliant to international industrial security standards like ECB
· Each activity is tracked and stored in the audit database
· Extensive and configurable audit trails including images for quality assurance
· Role based access control concept
· Extended access control and four/six eyes principle configurable for sensitive tasks
· Automatic setup of quality checks and audit trails with no operator influence

Aggregation and Packaging
· 100% packaging hierarchy traceability
· Aggregation of single products into bags, small/ large boxes, pallets up to shipment
· Application dependent packaging workflows
· Supports label with barcodes and RFID tags
· Unique ID generator for packing labels/tags
· Manifest creation and reporting

Material and Vault Management
· Traceability and usage of all materials and consumables used in the production process
· 100% tracking and control of movements in the production area and vaults
· Inventory of vaults and storage locations
· Location based balancing of quantities

Our HARMONY Solutions

HARMONY Sentinel – factory level Track & Trace solution for secure paper/substrate and document production
The full flexible solution for complex environments with different applications at various machines and work places.

HARMONY Tenuto – entry level Track & Trace solution for a single machine
A cost effective package for one production machine and attached packaging; easily upgradable to Sentinel.

HARMONY Finale – Track & Trace solution for the packaging process
The specialized solution for manual and automated packaging and aggregation in the production and logistics area.

Technical Specifications

Database	MS SQL, ORACLE
Operation System	Windows Server 2022, Windows 10 Enterprise
Data Interfaces	CSV, XML, Web (JSON)
Machine Interfaces	I/O and TCP/IP interface for signal exchange and PLC conenection
Optional	• Dual Server with high availability • RFID Reader Server for processing of ID documents • Key Management for data encryption and processing of ID documents • HARMONY Image Server for big data storage of images

ZEISER Solution competence at a glance:

Expertise – we stand for security printing and identification since decades:
From 1990 we have implemented modular network based solutions, which are highly flexible, scalable and expandable. This modular software approach offers to combine different devices into a local network and easily adapt changes and extensions based on customer requirements. The customer solution will be implemented tailor-made to the specific requirements based on our software core framework.

Customized service and support:
We offer different levels of service packages for our HARMONY solutions. Our specialists are available around the clock, via hotline and face-to-face. ZEISER Application engineers can easily define new workflows and adopt changes by configuration, also via remote. Beyond technical support, we offer on-site training adapted to the specific needs of the different user levels in your operation.

ZEISER offers customized system configurations to meet your application requirements

- Production software (i.e. T&T): **HARMONY**
- Inkjet printers: **FLUENTE**
- Curing devices: **SERENO**
- Transport systems: **VIVO**
- Verification systems: **VERO**

ZEISER
CREATING IDENTITY

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