

Right data. Right print. Every time.



## Did you know?

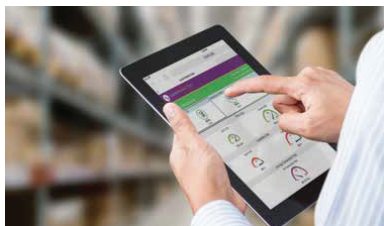
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You can reduce costs of manual data entry and message data maintenance by **90%**



You can cut your changeover duration by **50%** and save hundreds of hours per year



You can ensure that your finished products are correctly marked and **100%** compliant with regulations



You can reduce your coding errors and cut up to **15%** off your total running costs

# CoLOS - Software Solutions



## Helping you to integrate for the future

Between manufacturing and selling your products, you have more important things to worry about than ensuring the right information is printed every time.

You need accuracy and efficiency in your printing and coding so you can focus on producing high quality products which delight your customers. Markem-Imaje's CoLOS information management system can deliver this for you. Today and tomorrow.

CoLOS is scalable modular solution that reduces waste from coding and marking errors, increases line efficiency and protects brand value by ensuring printing compliance.

It does this by facilitating structured message design and data management while streamlining printer setup during production and providing security and traceability of printed information.

In addition to providing printer performance reports, CoLOS seamlessly liaises with your production and information system infrastructure to further maximize efficiency and support your Industry 4.0 strategy.

And, unlike other suppliers, Markem-Imaje is not reliant on third-party vendors. We make the software and the printers so you will have fewer integration and operational issues than when using a patchwork of products and systems.

This single-source accountability, bolstered by an in-house service team with the market's most extensive global coverage, means if something goes wrong resolving it involves minimal hassle for you.

You can also rest assured that your investment will be protected long-term as CoLOS has been proven across 17,000 installs and fine-tuned throughout 25 years of internal development.



### One-stop shop

Single-source supply of software and printers to minimize setup and operational issues



### Proven solutions

Standard core software, used in over 17,000 installations worldwide



### Scalable flexibility

From a single line to a large factory, configured or customised to your exact needs



### Interoperability

Easy integration with third-party production equipment and back-office systems



### Decision management functionality

Real-time and historical reports to optimize printer performance



### Unparalleled global support

Quick, consistent service wherever you need it

# CoLOS - Software Solutions

We understand the product identification and traceability challenges you face throughout the lifecycle of your products

1

## Production preparation and data management

Your challenges

- Complex message label design with interlinked text and barcodes
- High costs and numerous errors when managing many message layouts for diverse printer types across multiple production lines
- Time wasted manually copying data to be printed from system to system

2

## Production start-ups and performance

Your challenges

- Inefficient production start-ups with operators setting up each printer manually
- Lost time and increased costs from errors introduced by operators selecting wrong messages and entering incorrect data
- Production downtime from unexpected printer stoppages and failures

3

## Product output: quality and coding

Your challenges

- Rework due to missing or unreadable text and barcodes because of poor printer setup and maintenance
- Waste from using incorrect data in printed messages
- Scrapped product due to incorrect packaging materials being used on the line

4

## Product distribution and compliance

Your challenges

- Difficulty in implementing coding solutions for 'on-demand' unique code marketing promotions
- High costs associated with identifying products in the supply chain leading to increased stock levels and hard-to-execute recalls
- Fines and returned product when codes are not compliant with regulatory requirements or retailer supply-chain demands such as GS1-128



# CoLOS - Software Solutions

A proven information management system which ensures accuracy and efficiency, however, small or large, your manufacturing operation

1

## Production preparation and data management

CoLOS helps you

- Design messages for all printer technologies in one WYSIWYG interface using all data field types, text, barcode, logo and lines
- Link fields on message designs to those in ERP master product tables and individual designs to many stock keeping units (SKUs). Automatically populate messages with SKU data

**CoLOS®**   
Message Design

**CoLOS®**   
Data Management

### Key benefits

- Hassle-free complex message design
- Reduced costs, errors and time with streamlined message and data management

2

## Production start-ups and performance

CoLOS helps you

- Download complete production line jobs in one step from an easy-to-use operator interface or automatically from line control automation equipment
- Get immediate alerts for printer problems to your mobile devices and instantaneous access to printer performance indicators and dashboards

**CoLOS®**   
Production Control

**CoLOS®**   
Printer Performance

### Key benefits

- Increased efficiency through automation for faster production change-overs and fewer operator errors
- Greater uptime by having the latest printer performance information at your fingertips

3

## Product output: quality and coding

CoLOS helps you

- Confirm that every print is present, readable and contains the right data, using a fully integrated Cognex camera
- Check that pre-printed packaging materials are correct for every individual product being manufactured

**CoLOS®**   
Mark & Read

**CoLOS®**   
Packaging Integrity

### Key benefits

- Reduced product rework and scrap
- Coding and packaging material errors detected and corrected in real time instead of at the end of the production run

4

## Product distribution and compliance

CoLOS helps you

- Apply unique marketing codes to each and every product at full line speeds and with flexibility of both always-on and "on demand" promotions
- Automatically apply compliant tracking labels (LPN or GS1 SSCC) to pallets and report data in real-time to supply chain information systems

**CoLOS®**   
Promotional Coding

**CoLOS®**   
Pallet Track

### Key benefits

- Easier to meet marketing promotion needs
- More accurate inventory control to streamline stock levels and execute better targeted recalls
- Reduced compliance risk and fines

# CoLOS - Software Solutions

## Scalable solution addressing your challenges today and tomorrow

CoLOS increases production efficiency while reducing coding- and printing-related waste. It also protects your brand by ensuring coding integrity and making recalls easier to execute.

Live and historical production reports are available to give enhanced visibility and insights into your coding and printing performance, quality and compliance.

You can run CoLOS from your office, shop floor or server room. Connectivity to printers, production devices and company data sources is established over Ethernet. And, a user management system ensures employees access the CoLOS interfaces most appropriate to their role and location, from desktop, tablet and mobile devices. CoLOS works within your cybersecurity environment and has various backup options.

CoLOS is modular and scalable so you can adapt it to fit your exact needs by considering three factors.

### **What challenges are you trying to solve?**

We recognize that customers have different needs so we have created applications which address the concerns of various teams within your company. Our application modules exist to minimize the challenges you face, not only when your products are being manufactured, but also when they are out in the marketplace.

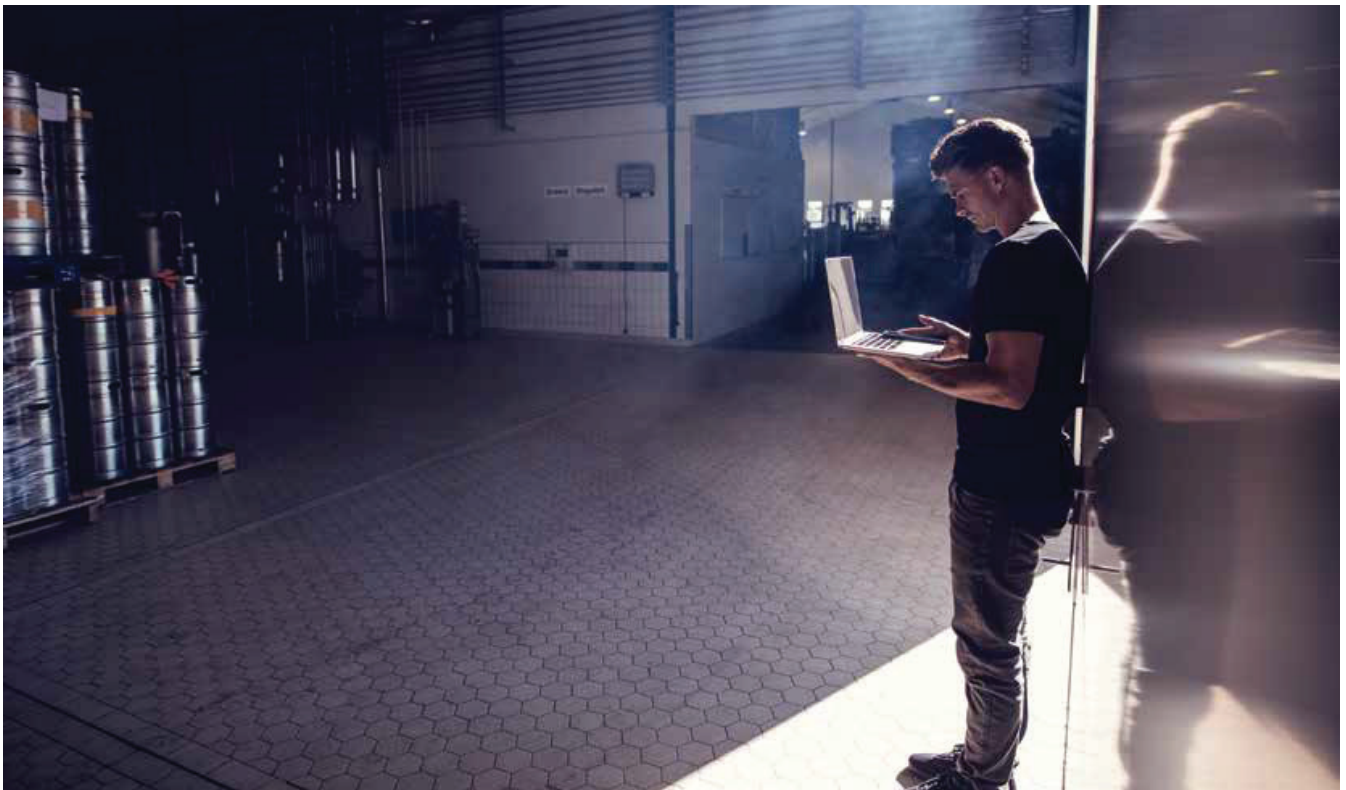
The solution can be off-the-shelf with standard configuration or with advanced customization provided by Markem-Imaje to address highly specific needs you might have. However, custom coding is never required.

### **How large is your production operation?**

The CoLOS offering is bundled to address different sizes of facilities. You can run single printers, individual lines or entire factories from a single product.












### **What extra functionality do you need?**

Our application modules come with information and automation interface add-ons to ensure seamless integration with your existing infrastructure. Examples include ERP integration interfaces and open platform communication (OPC) interfaces.



# CoLOS - Software Solutions

A solution which combines your production line needs and your factory size...

	Fully-featured image design and data management	Line-level printing control and monitoring	Factory-level printing control and monitoring
	1 printer at a time	Up to 4 networked printers	Up to 99+ networked printers
	CoLOS <sup>®</sup> Base 	CoLOS <sup>®</sup> Line 	CoLOS <sup>®</sup> Factory 
CoLOS <sup>®</sup>  Message Design	•	•	•
CoLOS <sup>®</sup>  Data Management	•	•	•
CoLOS <sup>®</sup>  Production Control		•	•
CoLOS <sup>®</sup>  Printer Performance		o	o
CoLOS <sup>®</sup>  Mark & Read		o	o
CoLOS <sup>®</sup>  Packaging Integrity		o	o
CoLOS <sup>®</sup>  Promotional Coding		o	o
CoLOS <sup>®</sup>  Pallet Track		o	o

O = Optional

If you need to implement control processes, interfaces or business logic beyond the standard elements provided by the application modules above, Markem-Imaje can provide consultancy and project resources to configure CoLOS using its Applications Toolkit to customize solutions to your exact requirements. That said, Pallet Track and Packaging Integrity always require configuration through the Application toolkit.

...along with extra functionality, as required

CoLOS add-on options	
System functionality	You can increase the number of simultaneous user connections and have extra backup licenses for spare PCs to be quickly swapped in emergencies. And, for those requiring a secure audit trail via electronic signatures and records, functionality exists to implement CoLOS as part of fully validated 21 CFR Part 11 system (e.g., in pharmaceuticals)
Information interface	Our advanced production interface provides a simple management tool so you do not need to be a database expert, while our event-driven automation data interface can pass coding and production data easily between CoLOS and SAP systems.
Automation interface	You can opt for remote job selection options as well as interfaces to allow external industrial control or data systems to exchange information with CoLOS and control CoLOS, if desired. You can also use open platform communication (OPC) to connect CoLOS with production equipment to share coding and production data so that they can control production sequences together.

# CoLOS - Software Solutions

## The CoLOS landscape

