

Concept OF
COST SAVING , TRACEABILITY &
Authentication IN SUPPLY CHAIN
MANAGEMENT

Designed for Packaging Industries

Presented by M & M Technologies Pvt. Ltd.

Aim: Replacing the legacy system of applying printed labels/stamping on corrugated box(packing cartons) with ----

NON CONTACT ONLINE DIRECT DIGITAL PRINTING SOLUTION.

Objectives:

- 1)Cost Benefit in Production
- 2)Traceability in Supply Chain System

Application In:

- A) Production Process
- B)Supply Chain Management

A) Production Process

❖ Multifold Benefit in Production Process:-

- A) Operational Benefits
- B) Printing Benefits
- C) Maintenance Benefits
- D) Benefit for the Company

A)Operational Benefits

I.Easy operability.

II.Reduction of manpower.

III.Cost effective thereby cost reduction.

IV.Impact on balance sheet in terms of saving in operating cost.

V.Stand alone/connected to network.

B) Printing benefits

- ❖ Online High Speed Printing
- ❖ High resolution 300 dpi printing
- ❖ Various time zone printing can be possible from one Controller
- ❖ Can print both on porous as well as non porous surface
- ❖ Real time bar coding of 1D & 2D Barcodes
- ❖ Dynamic variable data input during printing.
- ❖ Both external & internal data linking
- ❖ Can print any image/logo/file/symbols
- ❖ Multi-Language function
- ❖ Digital full color printing system (Model Based)

C) Maintenance Benefits:-

- ❖ Low Maintenance (No Moving Parts)
- ❖ Easy Flushing & Cleaning (During Maintenance)
- ❖ Less Production Downtime
- ❖ Unaffected in case of Electrical Disturbance
- ❖ No special Safety Precautions requirement
- ❖ Optimization of the Operating Facilities

D) Benefit for the Company

- ❖ Efficient Production Control, Stock Management, Distribution Control and Inventory Management.
- ❖ Cost Saving
- ❖ One step and Hassel Free Operation
- ❖ Reduce multi-tasking co-ordination
- ❖ Reduce waste of unused packing material
- ❖ Avoid keeping stock of pre printed cartons
- ❖ Decrease production downtime, Increase production output.

Technology Of On-Line Non Contact Direct Digital Printing

Widely divided into three components

- ❖ Hardware
 - ❖ Software
 - ❖ Consumables
-
- ❖ **Hardware** consist of printer, shaft encoder & controller.

PRINTER:

- ❖ High Resolution Online Industrial pizeo electric Inkjet Printer with easy operability.
- ❖ Print head is one of the essential component.
- ❖ As per the requirement various options of Print Head can be Selected, as follows :

Print heads available in size of 18mm, 34mm, 54mm & 72mm. (All SS construction)

Key Features

- ❖ Efficient Data Capture
- ❖ Multilanguage Printing
(Selecting your own language having Unicode)
(Model Based)
- ❖ Windows PC Compatible
- ❖ Real Time 1D & 2D Bar-coding (GS 1 Compliance)
- ❖ Dynamic variable data input in Real Time from any source (external & internal)
- ❖ Import of Image / Logo / Pictures / Symbols
- ❖ Robust & Reliable Print Engine
- ❖ Digital full Color Printing System (Model Based)

Printing Surface

Can print complex and high resolution image on both porous & non – porous surface such as:

- ❖ Corrugated Box (Laminated/Non-laminated)
- ❖ Paper Board
- ❖ Polystyrene Box
- ❖ Wood Planks
- ❖ Plaster Boards
Card Boards
- ❖ PVC

Software

Most comprehensive, user friendly self explanatory software package supporting the online printing system.

Special Features:

- ❖ Efficient Data Capture
- ❖ Preset controller accordingly to the site environment.
- ❖ Calculate INK cost.
- ❖ *Multilanguage Printing (Selecting your own language having Unicode)

Consumables

The only consumable is **INK**.


KEY Features:

- ❖ Can print both on Porous & Non-Porous surface
- ❖ Oil & solvent based
- ❖ Easy drying time (12 sec)
- ❖ No foul Smell
- ❖ Non toxic environment.
- ❖ No spreading on surface

INK COLOURS: Yellow, Magenta ,Black and Cyan

Ink cost calculation

Costing of ink can be Calculated as example shown below :

	Marks & Nos.
	University Press PLC
	Title:- Stan Basic Science and Technology For Primary Schools Book 5
	No. Of Books Per Carton: 00000 Nos
	Carton No.: 2245

Calculate cost of ink to print this image [X]

Number of dots in this image:	200895
Cost of a bottle of ink:	100
Capacity of ink bottle (mL):	250
Volume of a single dot (pL)	40
Cost per 1000 prints	3.21432
Number of prints per bottle	31111

Done Help

B) Supply chain management

Aim:

Use Of Traceability In Efficient Supply Chain Management

The QR code printed in the production process is the essential ingredient for the traceability and hence facilitate efficient Supply Chain Management.

The Key Features of the QR Code:

The Concept of Encrypting the Product Data information within the QR Code is as shown below:

- ❖ Unique Serial No.
- ❖ Batch Code
- ❖ Date & Time of Manufacturing
- ❖ MRP
- ❖ Expiry Date
- ❖ Weight (Optional)



The above details of a Product can also be encrypted in the code, which can be read by designated scanner.

Prime Objective of Effective
Supply Chain Management is
to meet the Demands of
Customer with optimum use
of Resources and Distribution
Supply Chain.

Objective:

- ❖ Reduced Cost
- ❖ Enhanced Profit
- ❖ Flawless Execution of Supply Chain Activities Internally and along with partners.
- ❖ Efficient Supply Chain with Application of Emerging Technologies is a challenge for the Organization.
- ❖ The QR Code printed on each package provide an Efficient head way for the Supply Chain and Distribution Management.

The Technology:

The Application of QR Code
is Supply Chain Management
has vast Potential in Improving
the Efficiency and
Effectiveness of the System.

Product
Authentication

Efficient Database
Management

Efficient
Production
Logistic

Efficient
Distribution



Creating
Profit
Centre

Effective
Warehouse
Management
System

Result:

- ❖ Effectiveness & Efficiency of Supply Chain Management (SCM)
- ❖ Focusing on challenging opportunities
- ❖ Maintaining an Error Free Database
- ❖ Optimizing the Efficiency of existing SCM Framework.
- ❖ Improving Mission Performance.
- ❖ Assigning better Accountability and more resilient.
- ❖ Higher Response to Carton Requirement.
- ❖ Up-gradation in the Process layout of Suppliers, Business Partners so as to build a close knit SCM Network.
- ❖ Efficient Warehouse Management System.

For more information,
Here we are:



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