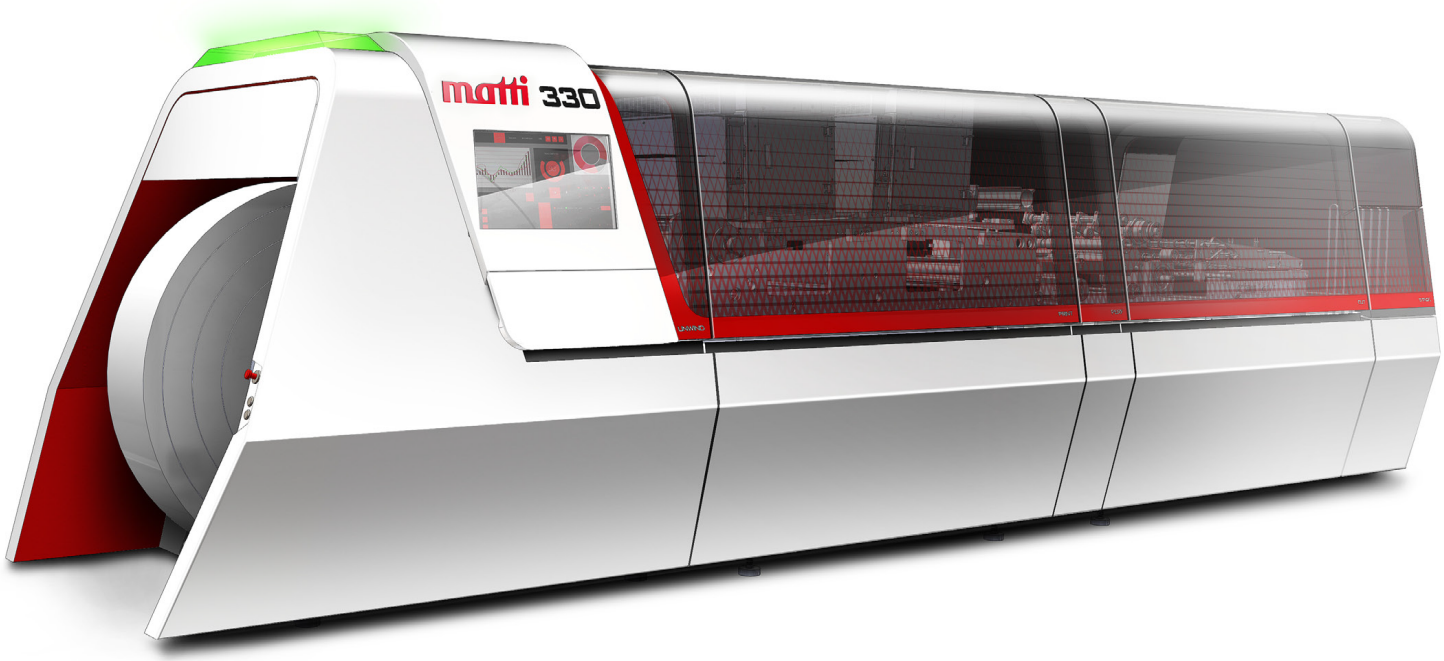
OpenPress® Digital Print Foundation



The MonoJet: Roll-to-Cutsheet Digital Press based on the OpenPress Foundation

matti Group

Introduction

The OpenPress Digital Print Foundation is a collection of industry proven building blocks that the Matti Group provides to its OEM customers enabling them to rapidly design and bring to market their next generation digital press or paper processing product.

Utilising the "***OpenPress Digital Print Foundation***" provides the following benefits:

- Access to our comprehensive **foundation library**
- Cost **competitive development**, all modules are readily available and provided by Matti Technology AG
- **Incremental** developments required to implement desired customer functionality
- **Quick time-to-market:** normally within 6 months the first custom prototype is available
- **Low risk** due to the use of industry proven modules
- **Flexible** platform targeted at different markets such as Graphic arts, Transactional, Label, etc.

Pedigree

Matti has an installed base of more than 500 presses worldwide supplied by well-known vendors, all based on modules from the OpenPress Digital Print Foundation.

The Xerox iPrint line: Roll-to-Roll Digital Press incorporationg an OpenPress transport and modular dryer

Components of the OpenPress Digital Print Foundation

The OpenPress Digital Print Foundation is comprised of many modules that cover pre processing of paper, the print process and post processing.

Pre Processing

Unwinder Modules

The highly dynamic unwinder modules are capable of handling web widths of up to 660mm (26”) with reel diameters up to 1372mm (54”) at speeds of 250 mtrs/min (820 ft/min), both in tensionless and tensioned output formats.
Modules can be configured with De-Curl units, Web Guides, Web Cleaners, Splicing Tables and Buffers. Reels can be loaded and locked into position using air shafts or chucks.

Primer Modules

The Matti Primer Module can be used to treat non inkjet treated paper with a primer for optimised inkjet printing. The Primer module can use Slot Dies, Flexo Heads or Letterpress systems for precise and even application of a wide variety of primer fluids. Drying of the coatings can be either by IR or UV.

Paper Converting Modules

The converting modules can process plain paper by adding horizontal, vertical and pattern perforations, sprocket and file hole punching as well as die cutting.

Printing Modules

Mono / CMYK / CMYKK Print Tower Modules

Matti Mono / CMYK / CMYKK Print Towers can be built for simplex and duplex applications for web widths from 330mm (13”) up to 660mm (26”) and can operate at speeds of up to 250 mtrs/min (820 ft/min).
All modules have a precise web tension control and are built into heavy duty robust frames. A cassette system is used to accept any writing system, the modular design can incorporate dryer, turnbar, chiller/heating rollers and web inspection systems.

Dryer Modules

The Matti Group IR Dryer Module is used with all water based presses. It takes advantage of the proprietary TuneIR® technology, where the emitting wavelength of the dryer is adapted to the absorption spectrum of the inks used. The Matti Dryer Module uses an energy efficient design that achieves the best drying results.

Post Processing

Dynamic Punch and Perforator Modules

The dynamic punch perforators are used to add horizontal, vertical and pattern perforations and hole punching dynamically or selectively controlled by reading an optical mark or barcode.

Rewinder Modules

The rewinder modules are capable of handling web widths of up to 660mm (26”) with reel diameters up to 1372mm (54”) at speeds of 239 mtrs/min (750 ft/min) both in tensionless and tensioned input formats. The Rewind Units incorporate a soft start system and adjustable taper tension control, ensuring reels off the most difficult stocks are consistently rewound to highest standard. Modules can be configured with Slitting units, Web Guides, Splicing Tables and Buffers.

Cutter Module

The Matti cutter features a heavy-duty rotary shear-cut cutting module, the cutting head can be manufactured to handle web widths of up to 660mm (26”) at speeds of up to 185 mtrs/min (600 ft/min).
A variety of output modules are available including, vertical stacking modules with offsetting, high pile stacks, multi stream delivery, shingle delivery and single sheet to register table delivery.

Plow Folder Module

The Matti plow folder converts flat film or paper to a folded web using “A” frame (Kite Frame) technology. The folder can be configured for web widths up to 660mm and operate at speeds up to 250 mtrs/min (820 ft/min) handling the lightest weight stocks.

Spiral Folder Module

The spiral folding system provides a simple, proven method of generating continuous folded output of either pin feed or pinless stocks. Capable of handling web widths of up to 660mm (26”) at speeds of 239 mtrs/min (750 ft/min), the folder offers limit-less document depths from 6" to 17" and can be fully adjustable allowing the most difficult stock even lightweight stocks to be folded. Delivery options include Vertical Stackers, High Pile Stacker Turners, Document transporters and FIFO “First In First Out” units.

Collaboration Principle

The Matti Group welcomes interested OEM partners to collaborate in the development of new presses. Only modules where the Matti Group is the sole owner of the intellectual property rights are made available to the OEM.
As a co-engineering partner, Matti will adapt and extend the existing designs to meet the specifications of the individual project at hand. As a next stage, the first prototypes of the customer's specific design will be built and tested. After the design has been verified and signed off by the customer, Matti will, if requested or required, take the design through all necessary agency approvals (UL / TUV / EMC / Safety) before beginning series manufacturing.

Co-Engineering and Manufacturing

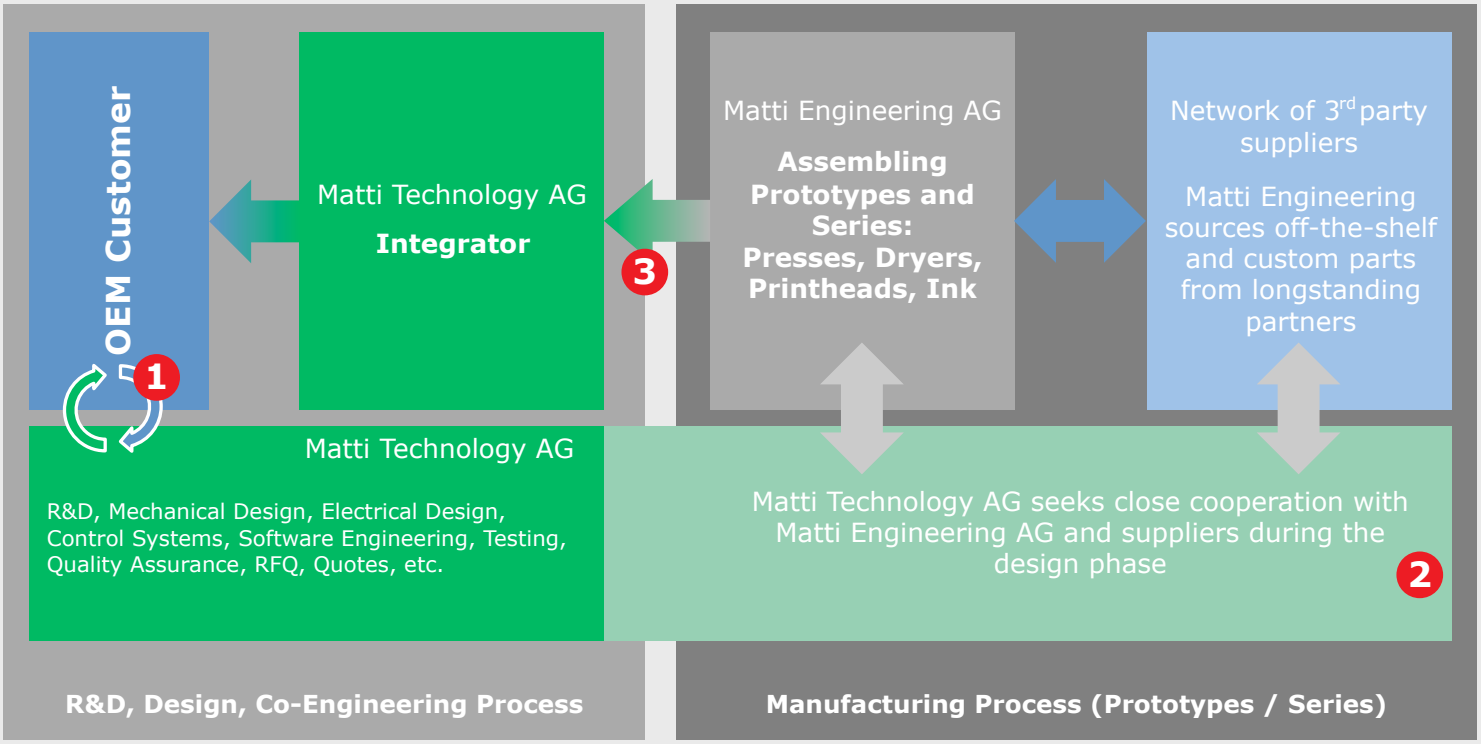


Figure 1: Co-Engineering and Mass Manufacturing Scenario

1. Close collaboration between the OEM customer and Matti during the entire design process
2. Collaboration with suppliers during the design cyle has positive impact on quality and cost
3. Every shipped unit runs through a full customer acceptance test before leaving Matti Technology AG

For competitive mass manufacturing the Matti Group maintains a well-organized and lean manufacturing facility. Parts are supplied through a healthy network of suppliers (Switzerland, Europe and other countries) where longstanding relationships exist. The yearly output capacity of the factory is in excess of 100 units.

About the Matti Group

The Matti Group researches, develops, produces and sells machines and turnkey solutions for the high speed digital printing market.
Thanks to the knowledge gathered through the integration of more than 1000 digital systems, we play a leading role in this business area. Our strength is the combined know-how and many years of experience in the fields of printing presses, finishing lines, drying techniques and most common digital printing technologies.

Our main office is located in Sulgen, Switzerland where we develop, manufacture, test and offer customer support. Our clients are mainly original equipment manufactureres (OEM's) supplying and servicing the demands of data centres, print and publishing, security printing, direct mail / letter-shops, government bureaus, banking / insurance institutions and innovative printing companies. Matti's expertise also reaches into the label industry, designing narrow web transports and UV writing systems.
We ensure quality through technical expertise and reliability and our communication approach is open, friendly and fair.

The Matti Groups is ISO 9001:2015 and TUV certified and manufactures according to the UL standard.

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