

Inkjet Textile Printing

History - Today - Tomorrow

Keys for Success to be real industry

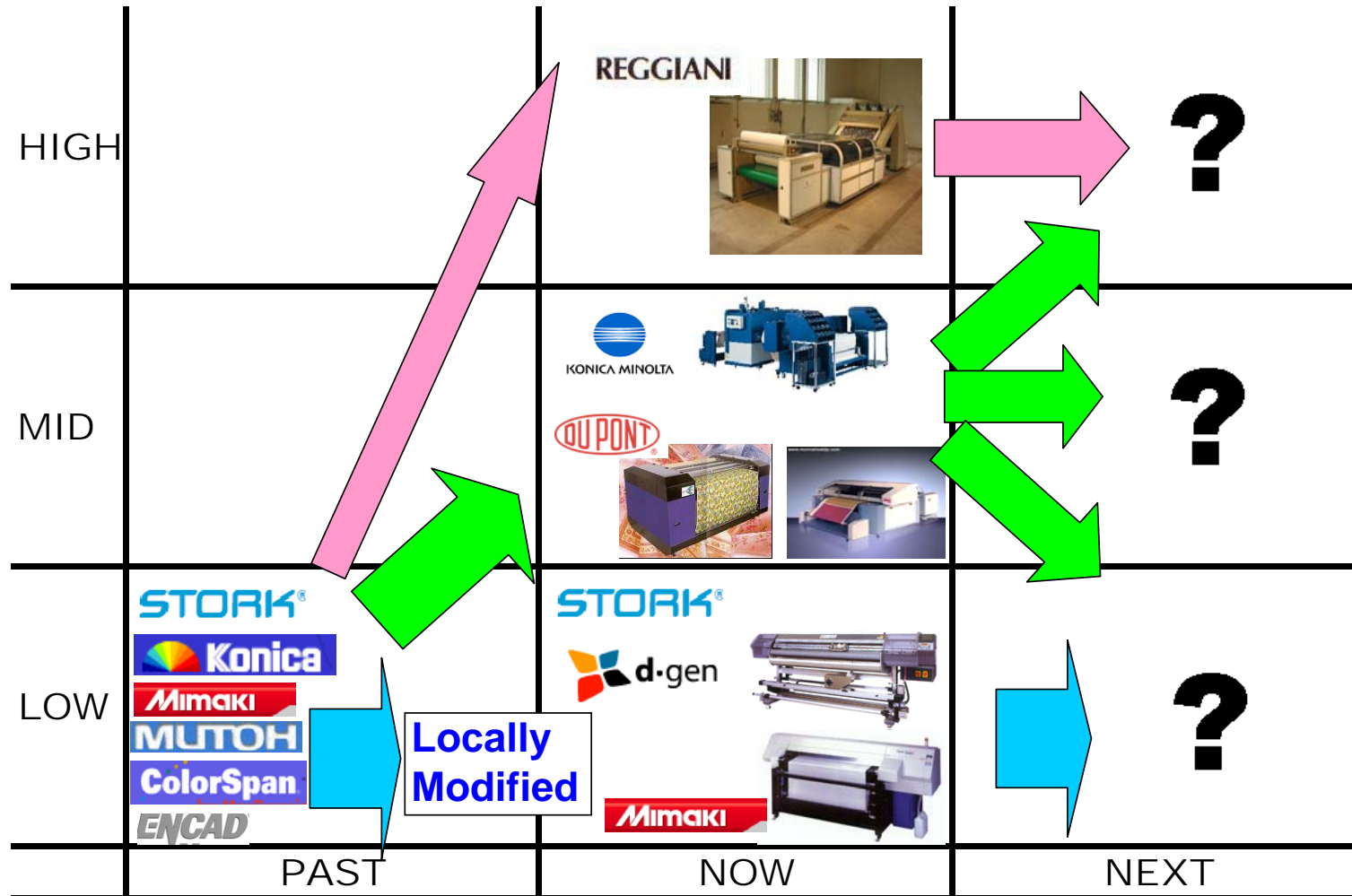


KonicaMinolta IJ Technologies
Managing Director : Akiyoshi Ohno
9.Nov.2005 Lisbon

Summary

- 1. IJ Textile Printer is finally taking off**
 1. Market is cultivated by Entry Models
 2. Players are increasing / Application is expanding
 3. ITMA Quick Review
- 2. Now, Higher Productivity / Reliability is required**
 1. Sophisticated Modification of Entry Models
 2. Realistic Mid-range Machines
 3. High-end Attempt
- 3. Challenges / Keys for Success**
 1. Consistency vs. Collaboration (Patch work ?)
 2. Confusion : Some hints to predict the next step
 3. Real Industrial Aqueous Head
- 4. KonicaMinolta's Position / Approach**
 1. Commitment / Consistency
 2. Reliability
 3. Safety Conscious
 4. Open Policy

History Overview



History Review : Past

1. Early Attempt : ENCAD / ColorSpan
 1. Limitation of Thermal Head (?)
 2. Too Early ?
 3. Too small return to cover the resource required ?

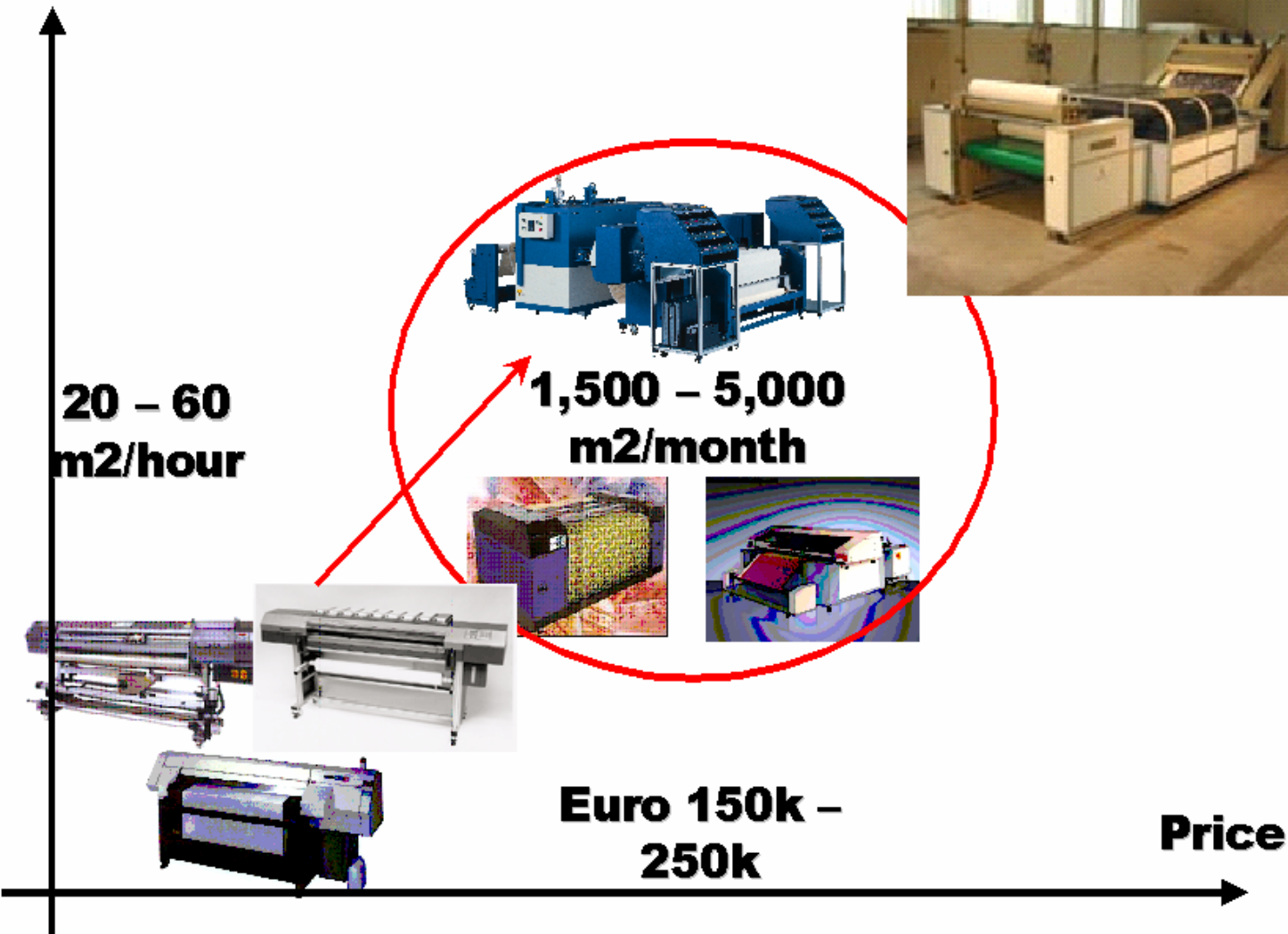
2. Past : MIMAKI as a “Market Cultivator”
 1. More than 1,500 units was shipped
 2. Most of them were modified by Partner / End User
 3. Opened Market for “Third Party Ink Suppliers”
 4. Opened Market for “Local Modification Provider”
 5. People learned “IJ Textile Printing Business”

3. Past (2) : MUTOH / Roland
 1. Similar Situation with MIMAKI

Positioning : Realistic Mid-range



Performance



History Review : Today



1. Low End (Entry Models)
 1. MIMAKI (Mutoh/Roland as well) try to recover position
 2. STORK / D-Gen : Sophisticated Modification Providers

2. Realistic Mid-range : Most Asked
 1. DuPont “Artistri” : Ink Vendor Driven
 2. Robustelli “MonnaLisa” : Joint Effort Driven (or EPSON)
 3. KonicaMinolta “TP-V” : IJ Technology Supplier Driven






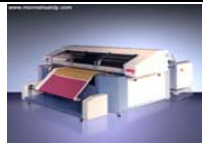





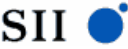


















3. High End
 1. REGGIANI “DReAM”

ITMA Asia : Quick Review



- Nothing Exciting
- Honghua (Hanzhou / China) VEGA
 - Ricoh Head (not confirmed)
 - DyStar Ink
- Mid / High range Machine Manufacturers : Quiet
 - REGGIANI : Video Exhibition
 - KonicaMinolta : Poster Exhibition
 - DuPont / Robustelli : Not Exist
- Still many MIMAKI / Roland / Mutoh modified Machines
 - D-Gen
 - STORK
 - Yuhan-Kimberly
 - A-TeX

Technology Consistency vs. Collaboration

VENDOR		PRINTER	HEAD	INK	
					OPEN POLICY - Softwares - Options
Robstelli		Robstelli			
					
REGGIANI		REGGIANI			
				(Original) (Local)	
				(Original) (Local)	
		 			

Confusion : Hints to the Next Step



- 1. Why Modified MIMAKI (Roland/Mutoh) so popular ?**
 1. Because ... They use Aqueous capable EPSON head
 2. Because ... They are (have been) generous for modification
 3. Third Party Ink Vendors are happy. Market is activated
 4. Is MIMAKI (who invested R&D for the machine) happy ?
 5. Is EPSON (who expects Ink Revenue) happy about it ?

- 2. Why EPSON Allied with Robustelli ?**
 1. Because ... EPSON wished to sell their ink more
 2. Isn't it a competitive activity against EPSON head users ?
 3. Is MIMAKI happy about it ?

- 3. How could M/R/M keep motivation to develop the next model,**
 1. if They could not get enough profit from their own ink ?
 2. if Modification Providers offered better machines than their Original ?

- 4. If M/R/M lose motivation, how can their Dependents survive ?**

Background : Open or Closed ?



		PRINTER	Intermediate media	CONSUMABLES
Open Many Players 100 + years	OFFSET	Independent Printing Machine Maker	Independent Printing Plate Maker	Independent Offset Ink Supplier
	SCREEN	Independent Printing Machine Maker	Independent Screen Maker	Independent Screen Ink Supplier
	SCREEN TEXTILE	Independent Printing Machine Maker	Independent Screen Maker	Independent Printers' Own Ink Kitchen
	TEXTILE INKJET			?
Closed Few Dominants 20 + years	HOME INKJET	CLOSED SYSTEM Printer Maker provide/protect its own Ink		
	OFFICE PRINTER(EP)	CLOSED SYSTEM Printer Maker provide/protect its own Toner		

Third Party Consumables

Tomorrow : Prediction or Suggestion



- **More WFP Printer Manufacturers will join the market , at first with Flag/Banner (Soft Signage) Application and then ...**
- **In order to make “IJ Textile Printing” real industry ...**
 1. Let Head Vendors to develop “a real aqueous capable industrial IJ Head” and return them a due share (Maybe “Ink Royalty”)
 2. Let Printer Manufacturer(s) survive ... otherwise, all Dependents have no chance to survive
 3. Let Printer Manufacturer take Leadership
 1. IJ Head, Ink, Software, Options are important, however they are not more than “building blocks”
 2. IJ Printer Manufacturer, as a General Constructor, should be responsible for the total performance and should receive a due (or biggest) share to re-invest it for the next machine
 4. Let Printer Manufacturer open its door for the technology partners

About KonicaMinolta's Printer



Nassenger **V**



Policy

1. **Commitment / Consistent & Independent / Real Industrial**

1. Commit ourselves to the market and industry
2. Own technology : Aqueous Capable Head / Ink / ...
3. Ink : Reactive / Disperse / Acid : YMCK + Spot Colors

2. **“Realistic” Mid-range = Reliability**

1. Ink Misfire detection
2. Belt Transport

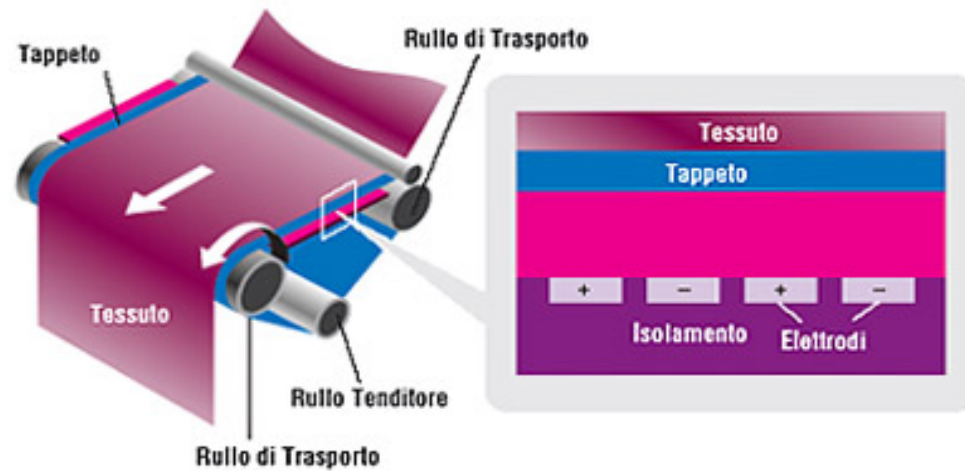
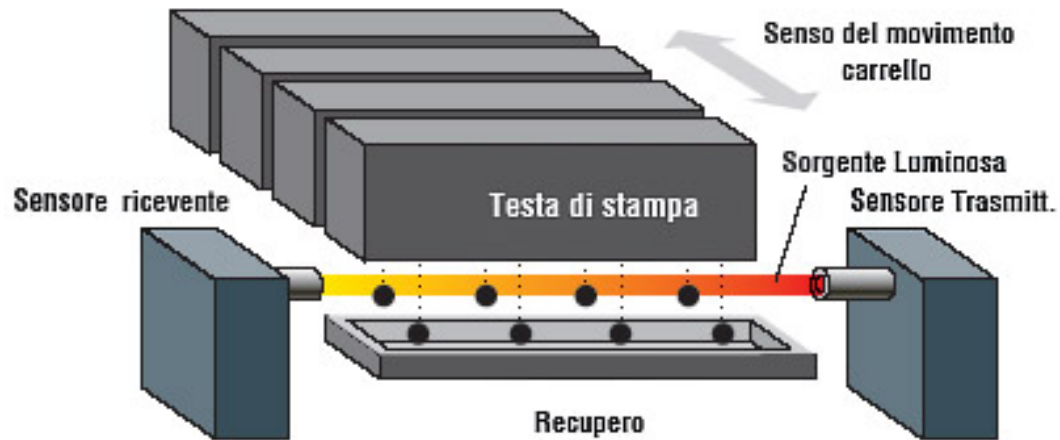
3. **Safety Conscious : Working Environment**

1. Ink Safety
2. No Solvent required to maintain Transport Belt sticky

4. **Open Policy**

1. Options
2. Software
3. Ink ..
4. Geographic Market

High Tech & Reliability



Ink : High Performance & Safety



▣ Solidità Inchiostri

Dispersi				
Colore Testato	Giallo	Magenta	Cyan	Nero
Luce	70+	70+	70+	70+
Lavaggio	4 - 5	3	4	4 - 5
Sudore	5	4 - 5	4 - 5	4 - 5
Sfregamento	5	4 - 5	4 - 5	4 - 5
Reattivi				
Colore Testato	Giallo	Magenta	Cyan	Nero
Luce	4	4	3	4
Lavaggio	4 - 5	4 - 5	4 - 5	4 - 5
Sudore	4 - 5	4 - 5	4 - 5	4 - 5
Sfregamento	4 - 5	4 - 5	4 - 5	4 - 5

	KONICA MINOLTA				Ink A (CIS)				Ink B (CIS)			
	Y	M	C	Bk	Y	M	C	Bk	Y	M	C	Bk
Ames test	N	N	N	N	P	P	P	P	P	N	P	P

N: Negative P: Positive

KonicaMinolta

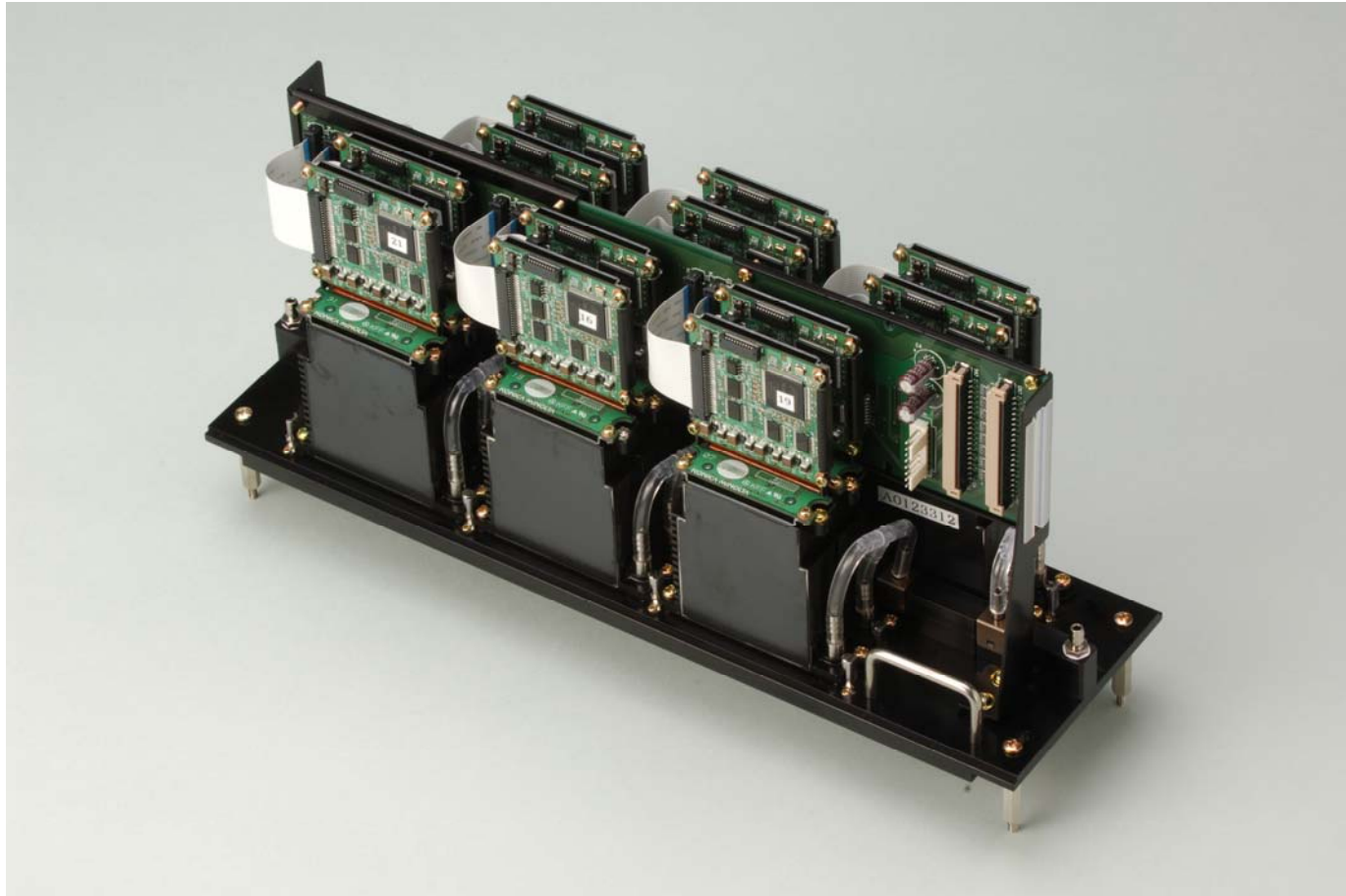


- First, Consistency
- Then, Open Policy
 - Options
 - Software
 - Ink ..
 - Geographical Market

IJ Head / Ink Update



720 dpi Single-pass unit (Prototype)



Unique Inks : Function & Safety Conscious



- Cationic UV ink
- Aqueous UV ink
- Aqueous based “Non-Curl/Non-Cockling” ink