

Media Qualification

– Basic Know How Digital Printing –

Version 1.2 EN



Objectives

Models / Specification

Printing Principle

Paper Path

Finishing

Digital Print Manager

- After completing this training you should be able to:
 - Understand the basic specifications
 - Understand basic digital printing process
 - Understand paper path and finishing principles



Overview

Models / Specification

Printing Principle

Paper Path

Finishing

Digital Print Manager

1. Models / Specification
2. Printing Principle
3. Paper Path
4. Finishing
5. Digital Print Manager

1. Models / Specification



Models

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Models / Specification

Printing Principle

Paper Path

Finishing

Digital Print Manager

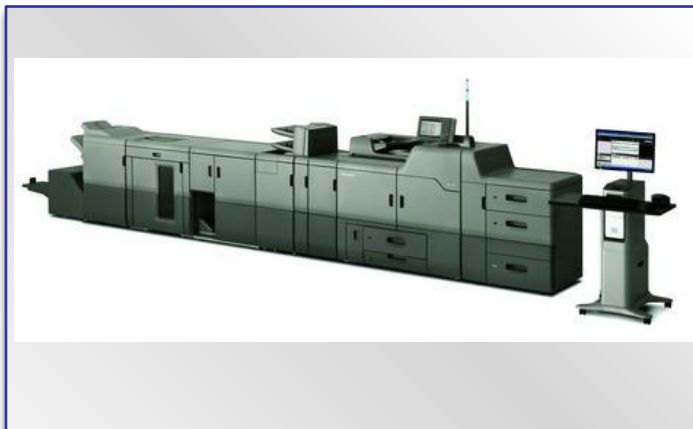


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Pro C901



HEIDELBERG *Linoprint C 901*



RICOH
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Pro C751



HEIDELBERG *Linoprint C 751*





Comparison of the performance of digital printing systems

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Models / Specification

Printing Principle

Paper Path

Finishing

Digital Print Manager

C901

C751

Function/basic details

Controller

Prinect Digital Print Manager & EFI™ Fiery® RIP

Prinect Digital Print Manager & EFI™ Fiery® RIP

Copying function

Electrostatic transfer system with four drums and integrated transfer belt

Electrostatic transfer system with four drums and integrated transfer belt

Fusing

Oilless belt-fusing method

Oilless belt-fusing method

Toner

Wax-based PxP™ toner

Wax-based PxP™ toner

Resolution

1200 x 1200 dpi

1200 x 4800 dpi

Power supply

220/234/240 V, 25 A, 50/60 Hz

220/234/240 V, 16 A, 50/60 Hz

Max. Input capacity

11,000 sheets
(2,000 DIN A4/500 DIN A3/8,500 SRA3)

7,000 sheets
(2,000 DIN A4/5,000 SRA3)

Speed

Printer speed

90 pages/minute (A4)
45 SRA3 pages/minute
18 SRA3 pages/minute at > 300 gsm

75 pages/minute (A4)
40 SRA3 pages/minute
24 SRA3 pages/minute at > 220 gsm

Productivity

350.000 Average
700.000 Max.

180.000 Average
350.000 Max.

Media

Media weight (min./max.)

60–350 gsm

52.3–300 gsm

Min. paper size

140 mm × 182 mm (5.51 in × 7.17 in)

100 mm × 140 mm (3.94 in × 5.51 in)

Max. paper size

330 mm × 487,7 mm (12.99 in × 19.20 in)

330,2 mm × 630 mm (13.00 in × 24.80 in)

Max. printable area

320 mm × 480 mm (12.60 in × 18.90 in)

323 mm × 622 mm (12.72 in × 24.49 in)

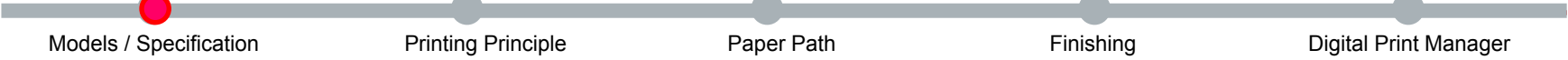
Duplex (standard)

60–350 gsm, DIN A5–SRA3

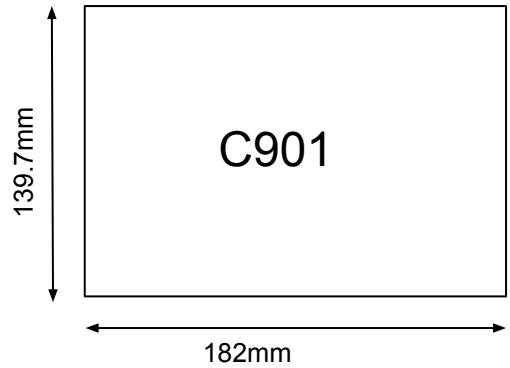
60–256 gsm, DIN A5–SRA3



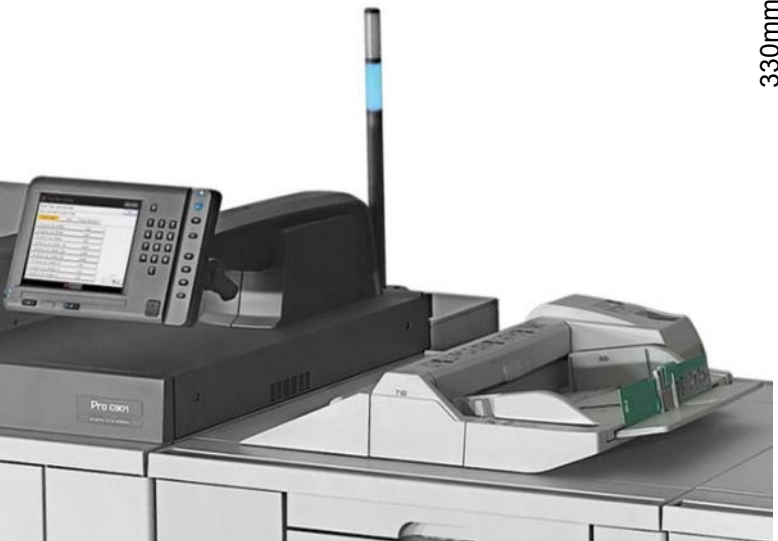
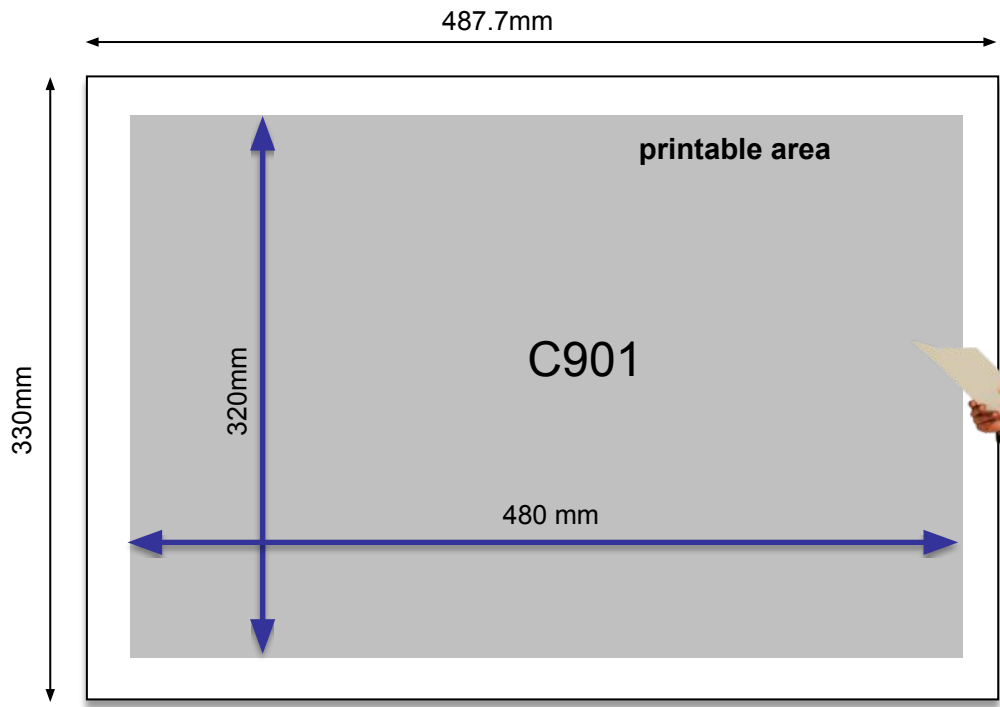
C901 – min. & max. paper sizes and print formats



min. paper size

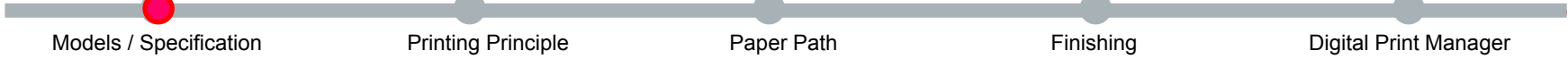


max. paper size

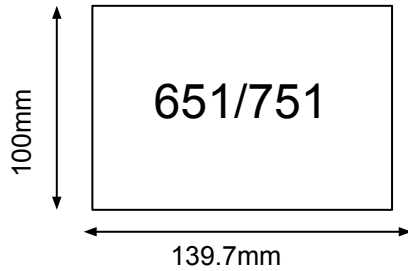




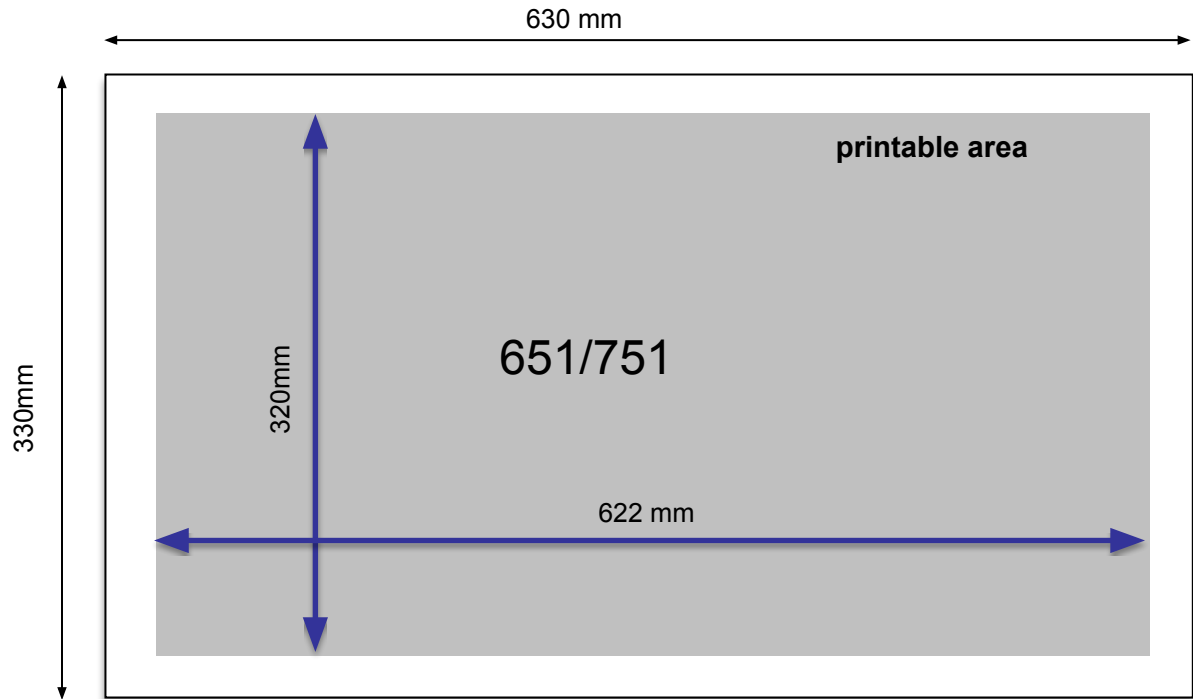
C751 – min. & max. paper sizes and print formats



min. papers size



max. paper size





C901 – Media capacity and weight

Models / Specification

Printing Principle

Paper Path

Finishing

Digital Print Manager

C901+

Paper Supply		Paper Capacity 80gsm	Paper Size	Grammage	Media Type
Mainframe (Standard)	1st tray	1,000+ 1,000 (Tandem)	A4 only	60 – 220 gsm	only uncoated
	2nd tray	500	140x182*) – 330x450	60 – 220 gsm	
First A3 LCT (Option)	3rd tray	2000	140x182*) – 330x480	60 – 350*) gsm	All Media
	4th tray				
Second A3 LCT (Option)	5th tray	2000	140 x182*) – 330x480	60 – 350*) gsm	All Media
	6th tray				
Multi Bypass (Option)		500	140 x182*) – 330x480	52 – 216 gsm	only uncoated
Plockmatic BK5010e (Option)			206x275 – 320x457	64-300 gsm	All Media

Remarks:

- Duplex: all media types, Formats: A5 – SRA3. Grammatres: 60-350 gsm . Paper weight 1-7. Multi
- Paper weight 1 only uncoated.
- Envelopes C5/C4 format only, minimum paper weight 5

***) different to C751**

Total maximum		11,000 sheets			
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C751 – Media capacity and weight

Models / Specification

Printing Principle

Paper Path

Finishing

Digital Print Manager

C751

Paper Supply		Paper Capacity	Paper Size	Grammage	Media Typ
Mainframe (Standard)	1st tray	1,000+ 1,000 (Tandem)	A4 only	52.3 – 300 gsm	only uncoated
	2nd tray	500	100x140*) – 330x480	52.3 – 256 gsm	
A3 LCT (Option)	3rd tray	1000	100x140*) – 330x480	52.3 – 256 gsm	All Media
	4th tray	2000	100x140*) – 330x480	52.3 – 300 gsm	
	5th tray	1000	100x140*) – 330x480	52.3 – 256 gsm	
Multi Bypass (Option)	6th tray	500	100x140*) – Banner (330x630*)	52.3 – 220 gsm	only uncoated
Plockmatic BK5030 (Option)			206x275 – 320x457	64-300 gsm	All Media
Remarks: • Duplex: all media types. Formats: A5 – SRA3. Grammaturs: 60-256 gsm . Paper weight 1-6. Multi Bypass Banner simplex only • Paper weight 1 only uncoated. • Envelopes minimum paper weight 5 *) different to C901					
Total maximum		7,000 sheets			

2. Printing Principle



Xerografical Principial

Models / Specification

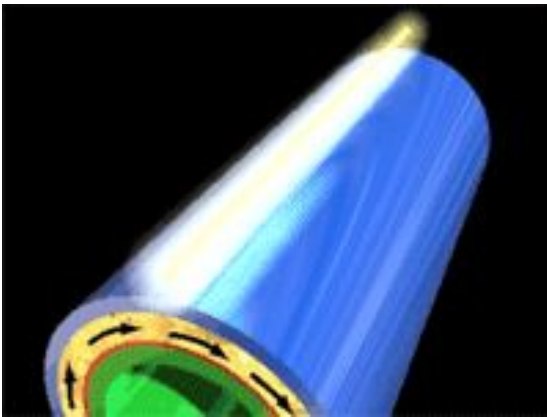
Printing Principle

Paper Path

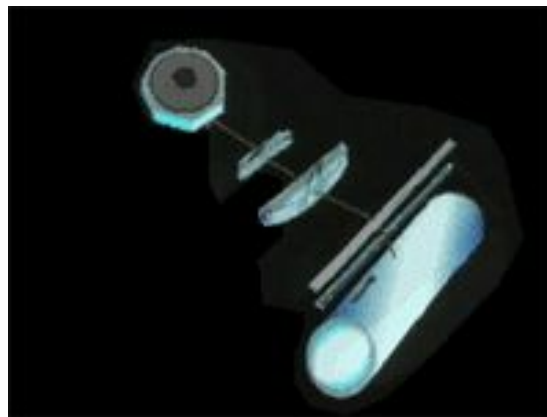
Finishing

Digital Print Manager

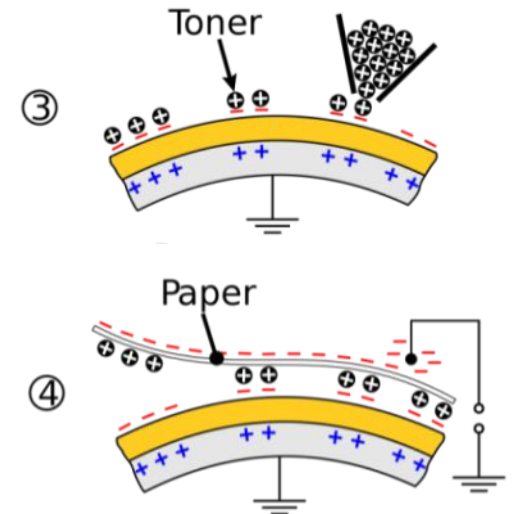
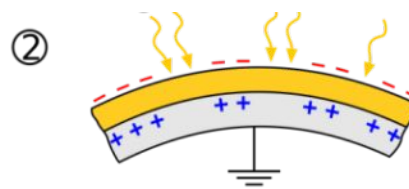
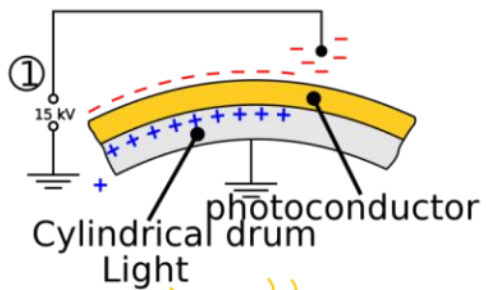
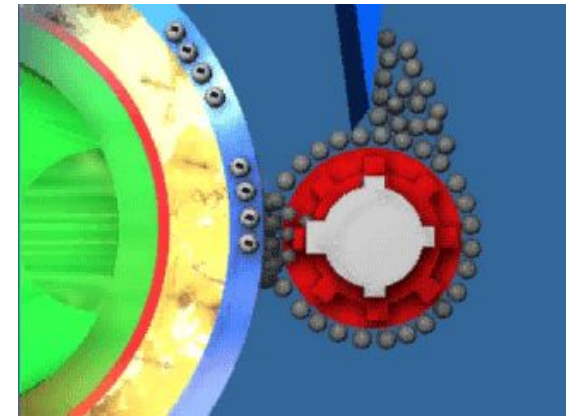
1. Charging of drum



2. Discharging with LASER

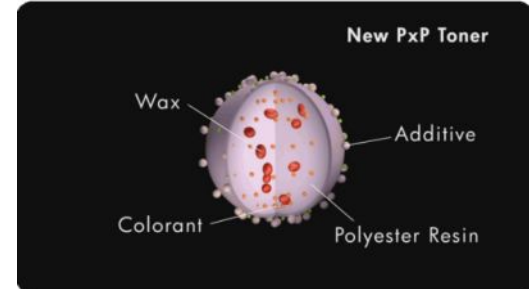
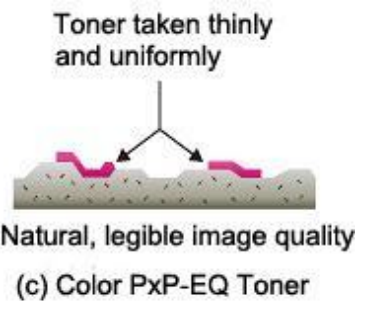
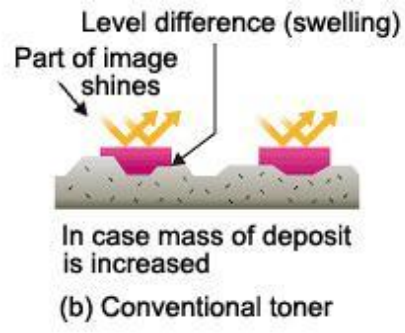
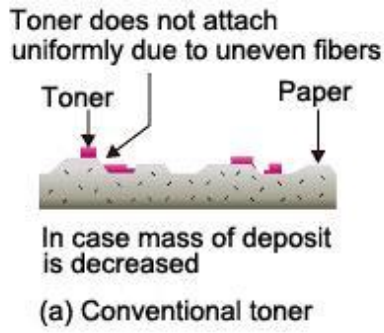


3. Toner transfer to drum





- Oil free dry-toner
- Particle size only 5 μm
- Active toner control for constant density



Item	Transport	Storage	durability
Toner	-30 to +45°C 15 to 95% RH	-30 to +45°C 15 to 85% RH	Less than 12 month from production
Developer	-30 to +45°C 15 to 95% RH	-30 to +45°C 15 to 85% RH	Less than 12 month from production
Do not exceed a month under the temperature between 35 and 40°C Do not exceed 12 hours under the temperature between 40 and 45°C Light resistance: BWS 6+ - very good service life (blue wool-scale)			

Different Printing Resolutions

Models / Specification

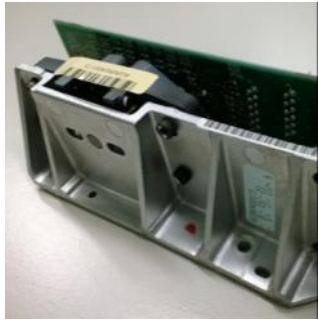
Printing Principle

Paper Path

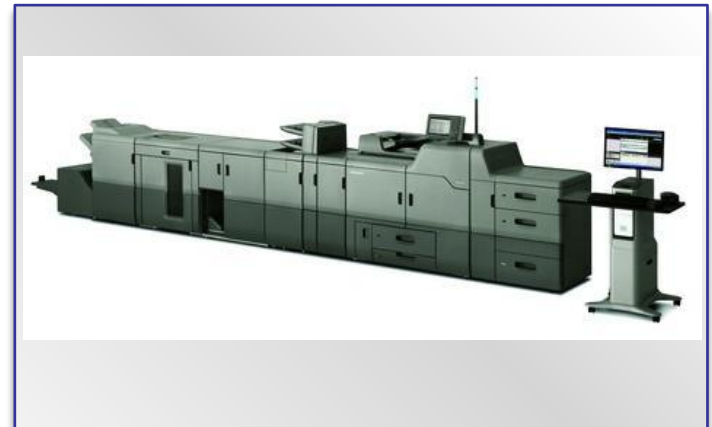
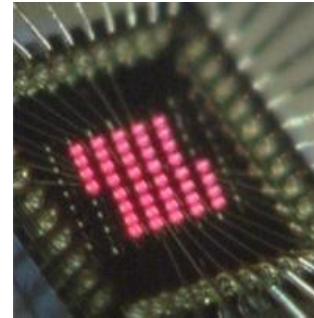
Finishing

Digital Print Manager

- Laser
- High resolution of 1200 x 1200 dpi



- Vertical Cavity Surface Emitting Laser
- High resolution of 1200 x 4800 dpi
- 40 laser beams on 1mm²



C751 – Technology

Models / Specification

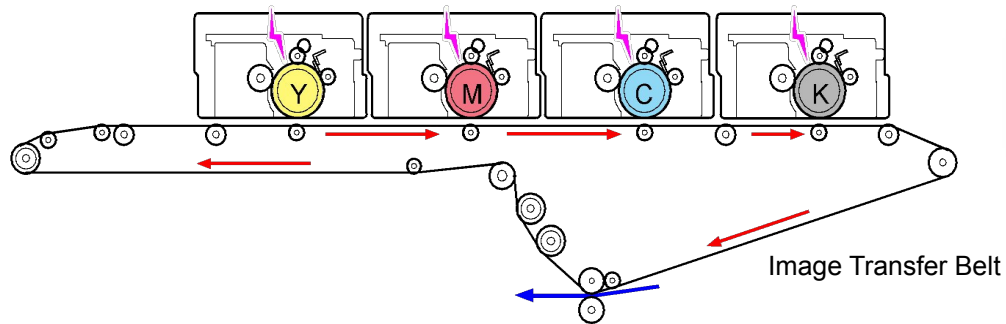
Printing Principle

Paper Path

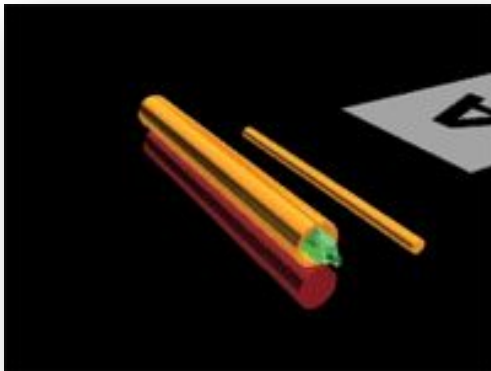
Finishing

Digital Print Manager

- Charging by rollers – no corona wires
- No ozon generation
- Low energy demand



Charging roller



Fusing unit





C751 – AC Technology

Models / Specification

Printing Principle

Paper Path

Finishing

Digital Print Manager

- AC Technology enables a better toner transfer onto structured paper for better toner adhesion
- (standard in factory shipped machines from Jan 2013 – retrofit available in march 2013)

accumulating currency over time

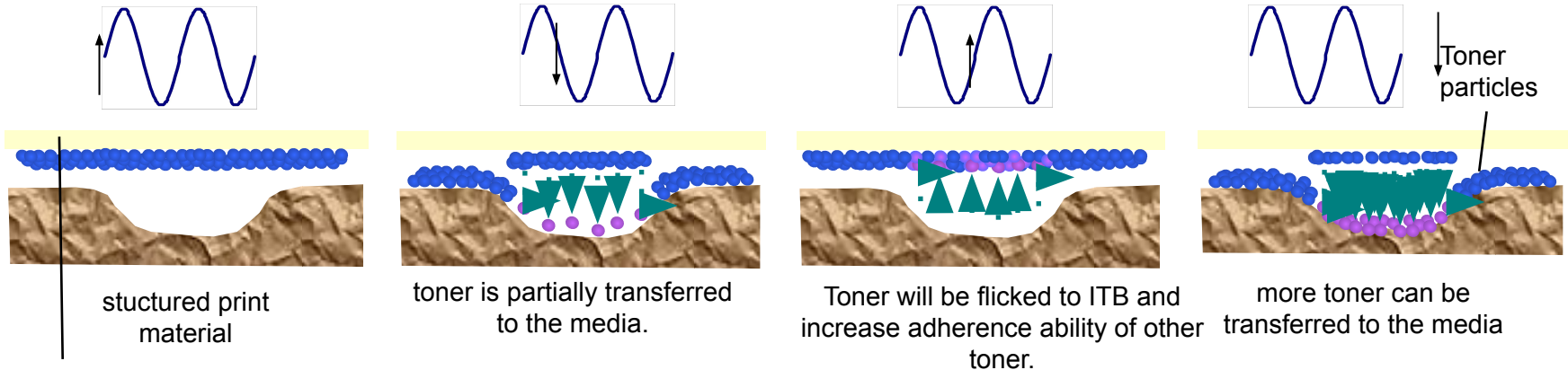


Image
Transfer Belt

DC Transfer



AC Transfer



better adhesion



3. Paper Path



Paper Path

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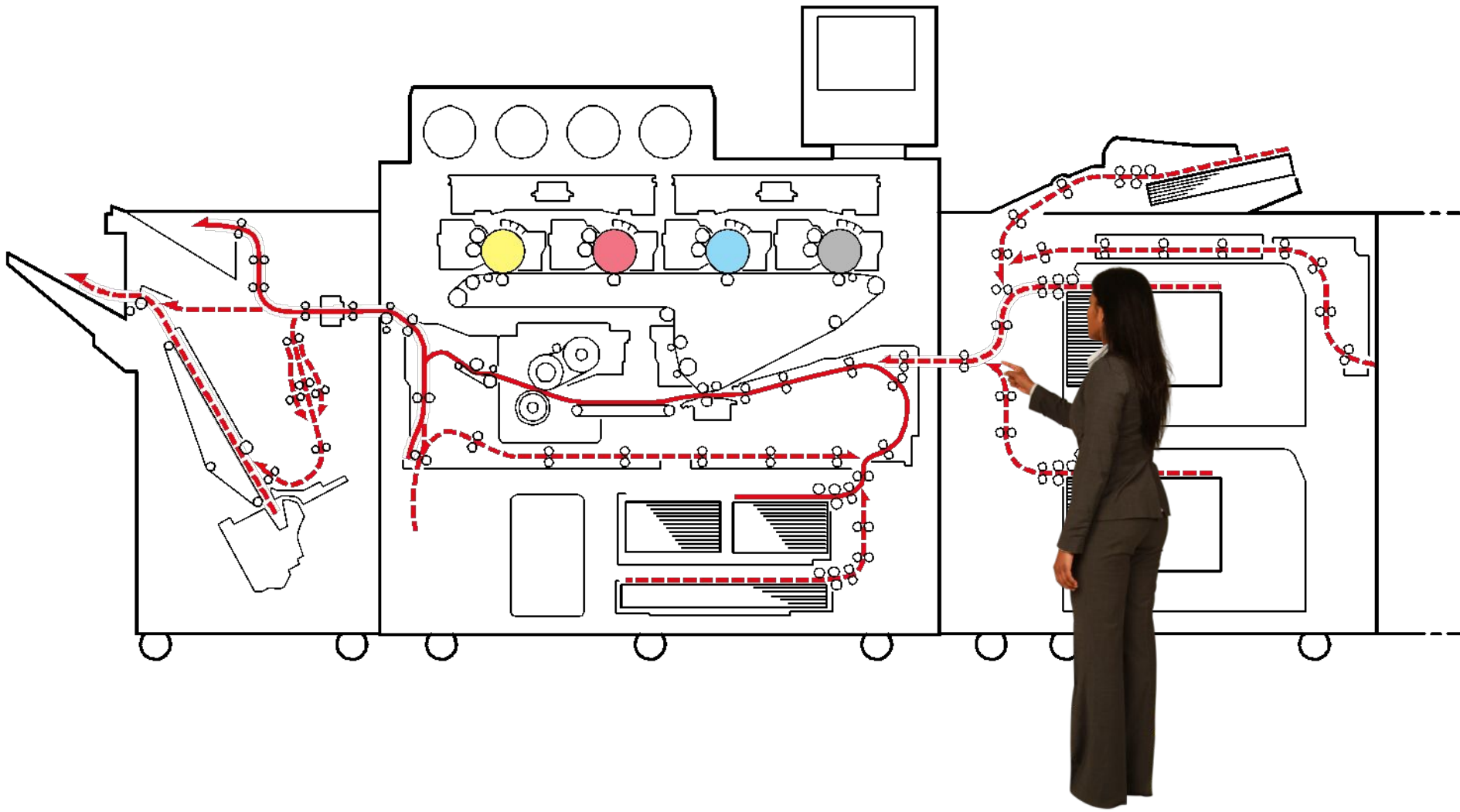
Models / Specification

Printing Principle

Paper Path

Finishing

Digital Print Manager



Paper Feed

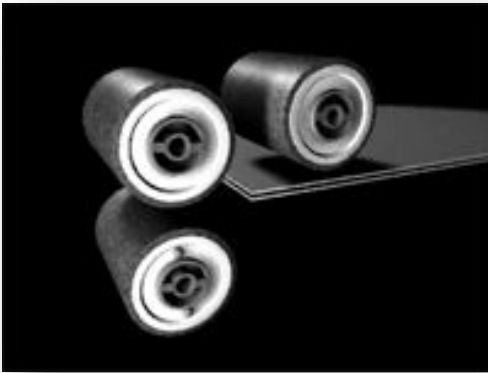
Models / Specification

Printing Principle

Paper Path

Finishing

Digital Print Manager



Friction rollers



Double sheet push back roller



Media Registration

Models / Specification

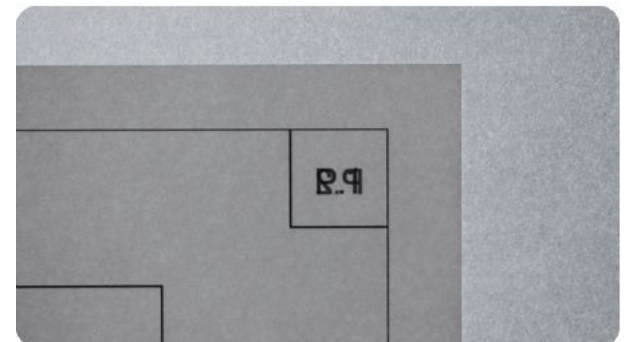
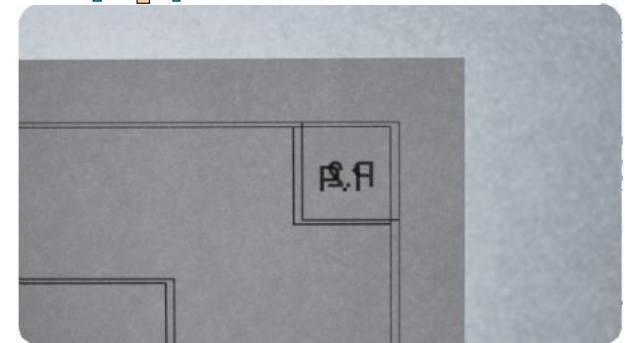
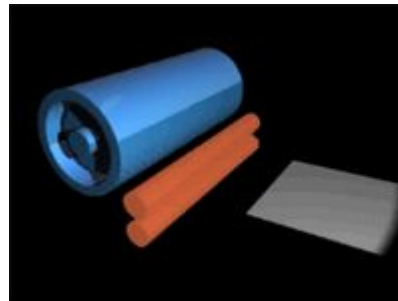
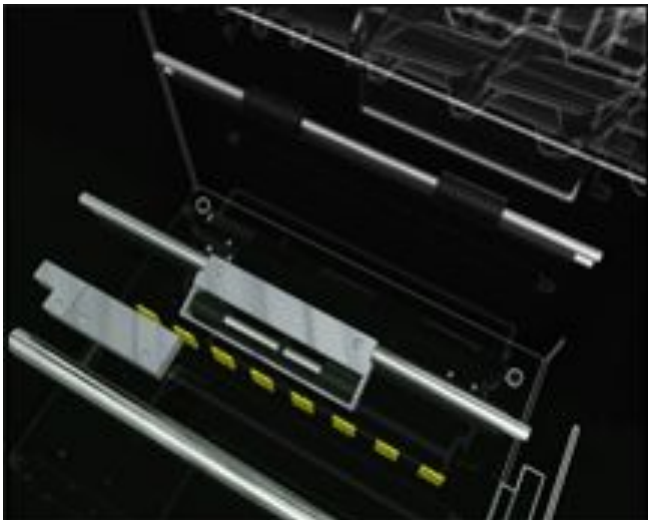
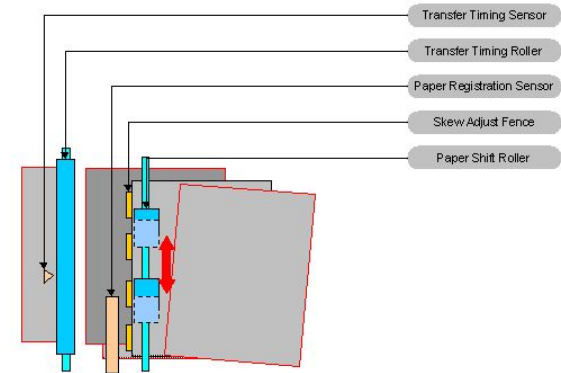
Printing Principle

Paper Path

Finishing

Digital Print Manager

- Active registration
- Mechanical accuracy (sheet to sheet $\pm 0,5\text{mm}$ (A4))
- Paper shrink compensation (C751)



Decurler

Models / Specification

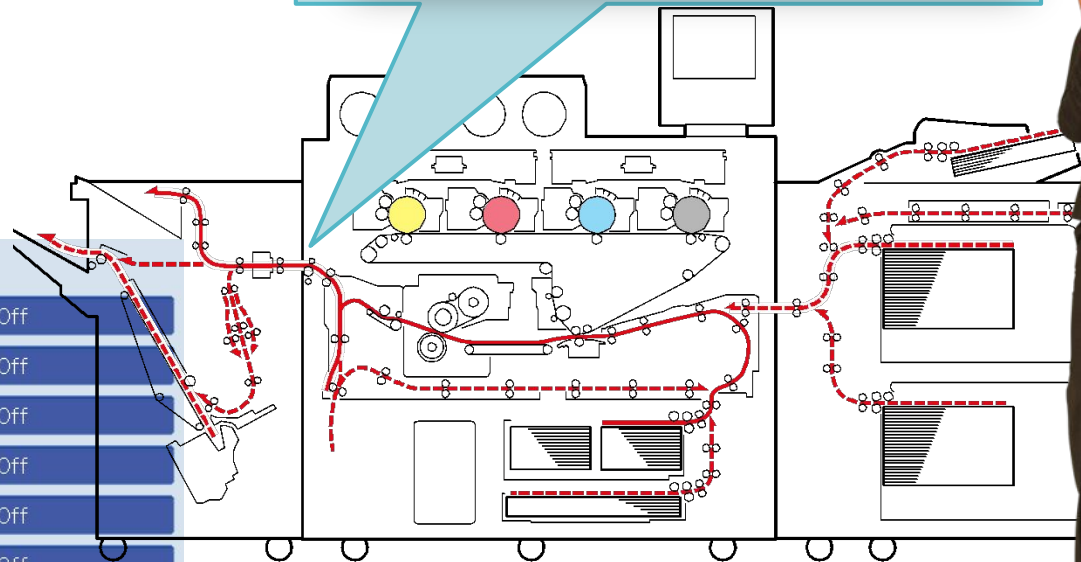
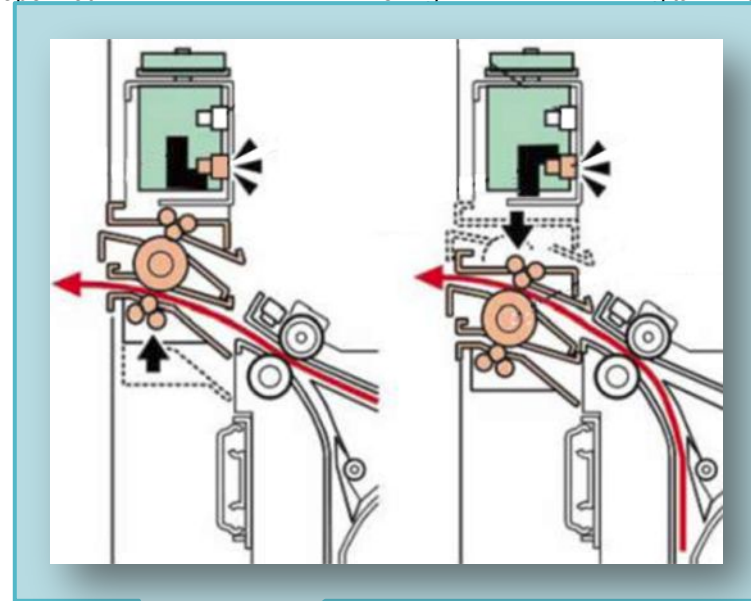
Printing Principle

Paper Path

Finishing

Digital Print Manager

- The operator is able to set decurling rate individual per tray.
- Improves stackability and further inline finishing



0116 : Adjust Paper Curl

01	Tray 1	Adjust <input type="checkbox"/> Curl: Off
02	Tray 2	Adjust <input type="checkbox"/> Curl: Off
03	Tray 3	Adjust <input type="checkbox"/> Curl: Off
04	Tray 4	Adjust <input type="checkbox"/> Curl: Off
05	Tray 5	Adjust <input type="checkbox"/> Curl: Off
06	Tray 6	Adjust <input type="checkbox"/> Curl: Off



Operator Replaceable Units (ORU)

Models / Specification

Printing Principle

Paper Path

Finishing

Digital Print Manager

Set A



Paper Feed Roller



Drum cleaning unit



Paper transfer roller unit



Developer C901 only



Dust Filter



Belt cleaning unit



Charge unit



OPC

Set B



Fusing Unit

4. Finishing



C751 Inline Multifold Unit

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Models / Specification

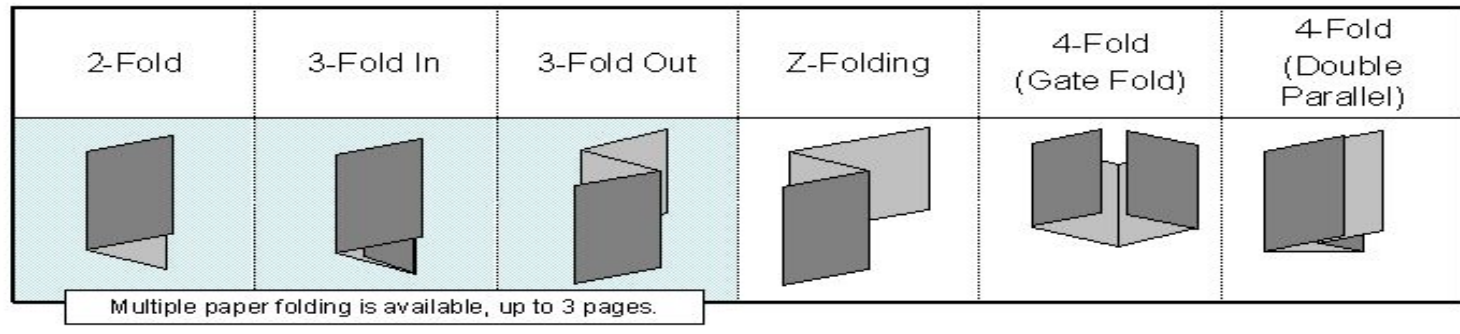
Printing Principle

Paper Path

Finishing

Digital Print Manager

- Six folding schemes
- Multi sheet folding
- Uncoated media up to 105 gsm



Inline Finishing

Models / Specification

Printing Principle

Paper Path

Finishing

Digital Print Manager

Ring-binder

- Up to 100 sheets per set



Booklet -Finisher

- Up to 20 sheets (80 pages)



Perfect- binder (glue-binder)

- Up to 200 sheets



Plockmatic

- 2 -30 sheets (up to 120 pages)



5. Digital Print Manager



Command Workstation

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Models / Specification

Printing Principle

Paper Path

Finishing

Digital Print Manager

Productivity



Color & Quality



Flexibility



Adding
Value
To The
Workflow



Prinect Digital Print Manager

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Models / Specification

Printing Principle

Paper Path

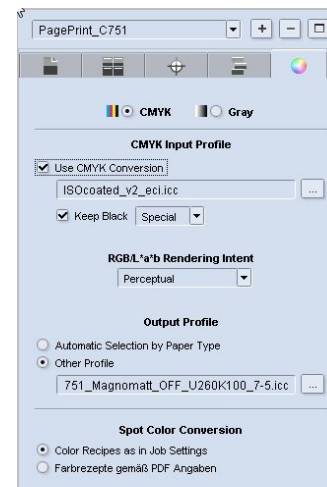
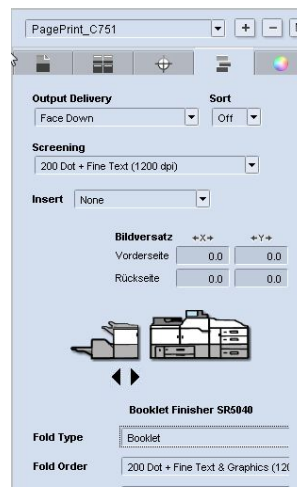
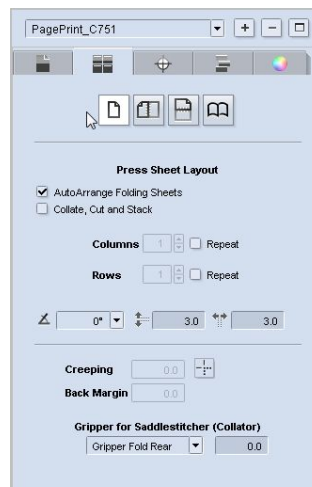
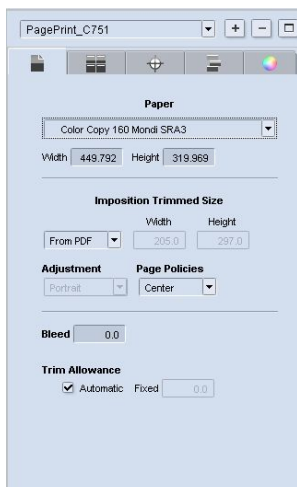
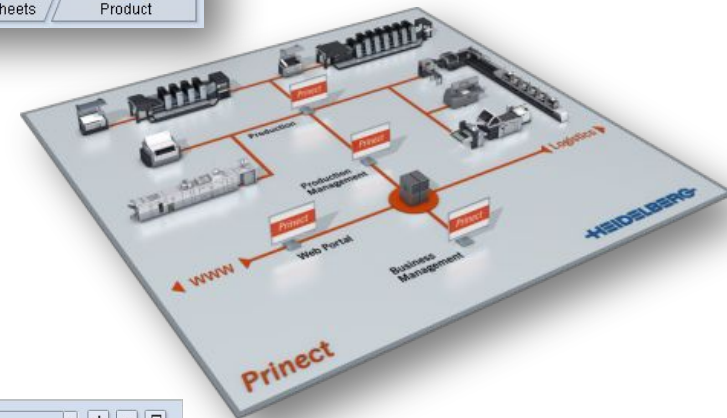
Finishing

Digital Print Manager

- Job based production
- Integrated page positioning tool



- Integrated Color Management
- Support for hybrid production
- Scheduling and cost planning



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