



BOBST oneECG Gravure

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_oneECG Gravure

CONFIDENTIAL

 **BOBST**

BOBST at a Glance

- Leading innovation



BOBST is one of the **world's leading suppliers** of equipment and services to packaging and label manufacturers

- Creating value

930
million CHF
market
capitalization

1 400
machines sold in 2019

1.63
Billion CHF
turnover

81
million CHF
operating result (EBIT)

5 500
employees

As percentage
of sales
5.0%

Investment
Expansion
Market penetration
in 2019

A Global Leader

>50
countries

14
production sites

5 500
employees



Four cornerstones of our vision

Connectivity



The entire packaging production
will be connected

Automation



Greater quality – less errors

Digitalization



More efficiency and agility

Sustainability



Answering brand and consumers
demands, taking responsibilities

Brand Challenges

Industry needs evolutions

So do we

Brand owner needs



**Shorter
lead time**



**Reduce steps
between creation
and job printing**



**Mass customization,
variability, short runs**



**Extended
packaging**

BOBST evolution

BOBST Digital Transformation

- **Customer** focused solutions
- **Versatile** products and technologies
- Global **workflow** solutions
- Cost **competitive** solutions

Responding to Brand Owners and Converters

MORE FLEXIBILITY ON
SHORTER JOB RUNS

**HIGH QUALITY
PRINTING**

CONSISTENCY

**OFF-LINE
PREPARATION**

**JOB CHANGEOVER
TIME & SET-UP TIME**

**FASTER TIME
TO MARKET**

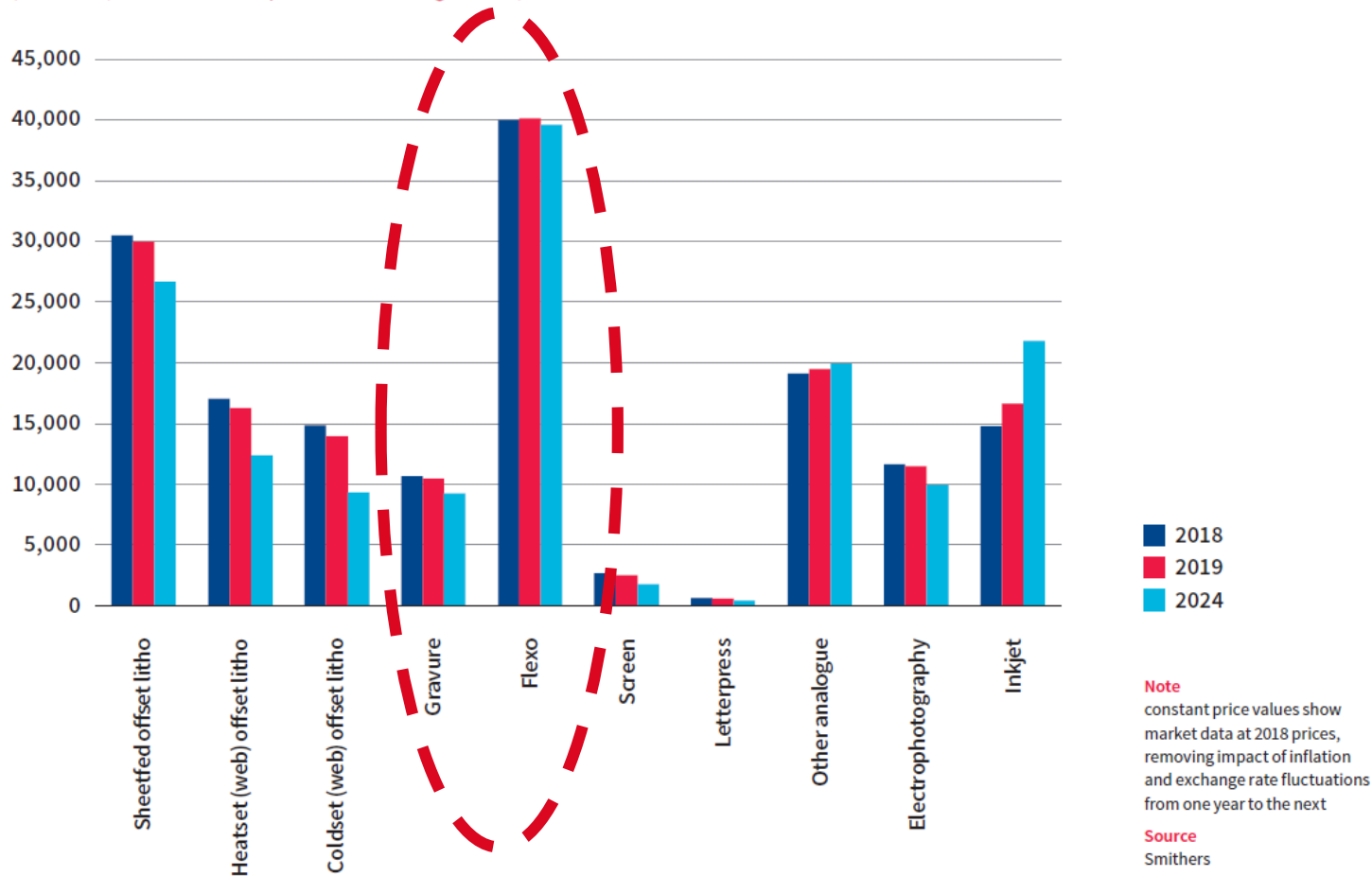
RELIABILITY

**TIME, COST, WASTE
SAVING**

**NO SACRIFICE OF
BRAND IDENTITY**

Gravure vs Flexo printing output

FIGURE 5 European Printing & Printed Packaging Output by Process, 2018-2024f
(€ million, constant 2018 prices & exchange rates)



Flexo printing process was the one to overcome first the challenges of Brand owners:

- in mature markets like Europe, **Flexo printing** accounts for a value more than **3 times higher than Gravure printing**, leading gravure presses manufacturers to face new challenges.

oneECG Rotogravure

BOBST Extended Color Gamut

Winning the challenge of color consistency

oneECG



Exceptional **color quality**



Minimum waste of substrates and consumables



High profitability producing very short and very long runs



Immediate **color matching**

Preferred partner for oneECG Experience



- 1 **Digital**
- 2 **Narrow Web Flexo**
- 3 **CI Flexo**
- 4 **Rotogravure**

OneECG Rotogravure was the last block to complete BOBST offering in ECG: the experience gained with other printing technologies makes BOBST a **solution provider** and **preferred partner** in ECG.

The clear advantages of ECG in Gravure

Making rotogravure the **more efficient** choice even for **shorter job runs**

Drastic **reduction** of machine **downtime** with **reduction** in JCO time of around 50% and Color matching time **reduced to a minimum**

Important reduction of parts to be cleaned **saving time and materials**

100% repeatability of job quality & color **consistency** with 90% of job preparation **off-line**

Print **multiple jobs** on the same run: inks are always the same

- All colors **always** on the machine
- Reducing left-over inks and **waste decreased** by **50%**

Sustainable energy and cost **saving**

- **Less drying** capacity needed for the full color mid machine

Uptime comparison of CMYK vs. ECG in Gravure

TIME COMPARISON FOR ONE PRODUCTION CYCLE		
	6003 QC	6003 ECG
Description	Minutes	Minutes
Job change over time and machine inregister for new job	39,5	23
Colour Matching	44,1	14,5
Production time	56	56
TOTAL	139	93
Job Change over / WYear	2383	3565
Job Change over / Wday	10	15

FILM WASTE COMPARISON FOR ONE PRODUCTION CYCLE				
	6003 QC		6003 ECG	
Description	Linear meters	Square meter	Linear meters	Square meter
Production length	16.666,7	20.000,0	16.666,7	20.000,0
Trims waste		333,3		333,3
Machine in Register	170,8	204,9	170,8	204,9
Color Matching	1.020,3	1.224,4	304,1	364,9
Waste + Production	17.857,8	21.762,7	17.141,5	20.903,2
Total Waste	1.191,1	1.762,7	474,9	903,2
FILM WASTE %	8,1%		4,3%	

Increasing annual machine **productivity** by **+ 40%**

Decreasing **waste** by **- 50%**

Innovation lies in the Process

The fundamentals of ECG in Gravure

Configuration

Having the right machine set-up is fundamental

It must be consistent therefore repeatable and reliable



Control

Have control of remaining machine “variables”

Register, viscosity and temperature



Reporting

Analyze each printed roll, providing a report of all parameters, including register performance results on the total job width and length



Register Optimization

1

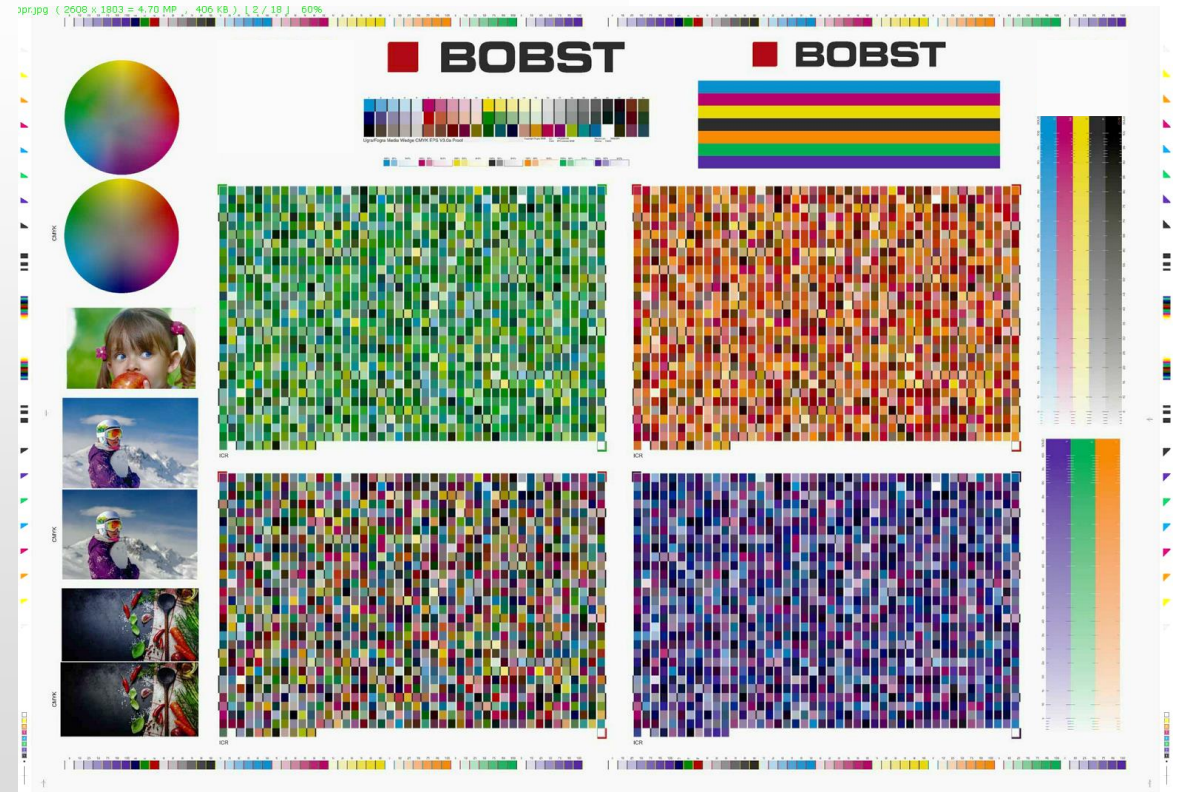
- **Unbeatable BOBST system**, restoring the register **in just seconds** at job changeovers.
- Optimized to **obtain and guarantee a performance within 50micron** on the total job width and length
- BOBST Registron® is a technological guarantee, with **minimum waste and best in class automation**.



Fingerprint creation

2

- Define L.A.B. C and H color target
- Create a **7 color finger print**
- Create the **printing profile**



Create your GAMUT

3

$\Delta E_{00} < 2.0$ ● $\Delta E_{00} < 3.0$ ● $\Delta E_{00} \geq 3.0$ ●

PANTONE 693 C	PANTONE 694 C	PANTONE 695 C	PANTONE 696 C	PANTONE 697 C	PANTONE 698 C	PANTONE 699 C
PANTONE 700 C	PANTONE 701 C	PANTONE 702 C	PANTONE 703 C	PANTONE 704 C	PANTONE 705 C	PANTONE 706 C
PANTONE 707 C	PANTONE 708 C	PANTONE 709 C	PANTONE 710 C	PANTONE 711 C	PANTONE 712 C	PANTONE 713 C
PANTONE 714 C	PANTONE 715 C	PANTONE 716 C	PANTONE 717 C	PANTONE 718 C	PANTONE 719 C	PANTONE 720 C
PANTONE 721 C	PANTONE 722 C	PANTONE 723 C	PANTONE 724 C	PANTONE 725 C	PANTONE 726 C	PANTONE 727 C
PANTONE 728 C	PANTONE 729 C	PANTONE 730 C	PANTONE 731 C	PANTONE 732 C	PANTONE 801 C	PANTONE 802 C
PANTONE 803 C	PANTONE 804 C	PANTONE 805 C	PANTONE 806 C	PANTONE 807 C	PANTONE 871 C	PANTONE 872 C
PANTONE 873 C	PANTONE 874 C	PANTONE 875 C	PANTONE 876 C	PANTONE 877 C	PANTONE 1205 C	PANTONE 1215 C
PANTONE 1225 C	PANTONE 1235 C	PANTONE 1245 C	PANTONE 1255 C	PANTONE 1265 C	PANTONE 1345 C	PANTONE 1355 C

Analyze fingerprint and read color chart to generate your own **color gamut**

- 7 color ECG printing
- dE Max. (**95%**) = <2
- Ref. digital Pantone library
- Nr. of spots within tolerance 1 = 1626
- dE Average = **0,6**

BOBST Results:

95%

PANTONE color library

Match your COLOR LIBRARY

4

After the creation of your color Gamut:

- Compare it to **your color library** to try to Match 100% it
- **Work on the 3 additional colors** to match the request
- **Define your job parameters**



PANTONE®
2292 C



PANTONE®
1375 C



PANTONE®
2348 C



PANTONE®
2388 C

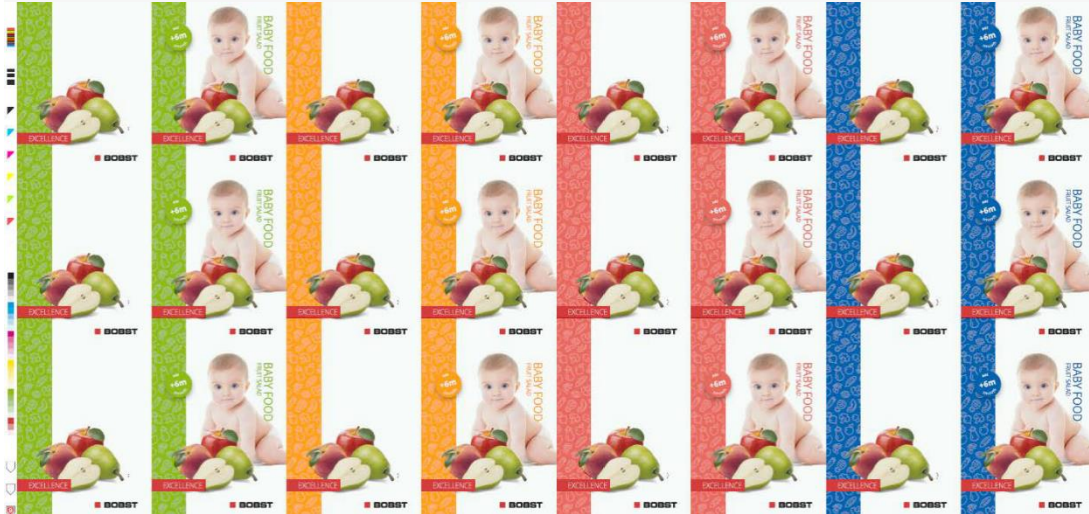


PANTONE®
1795 C



Print your JOB

5

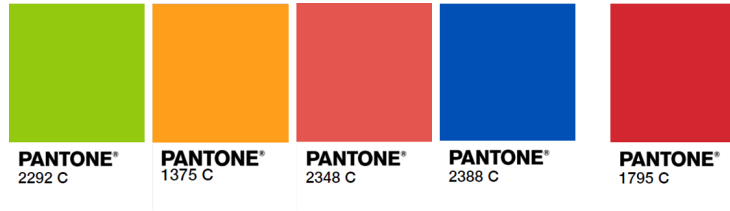
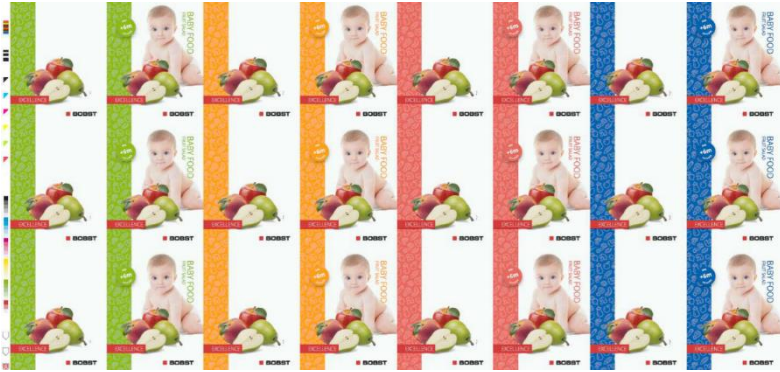


- 20um BOPP
- 300 m/min
- 4 jobs in one

- CMYK + **orange + violet**
6 colours + white

PANTONE	CYAN	MAGENTA	YELLOW	BLACK	ORANGE	VIOLET	ΔE 2000
1375	0	14,6	73,6	0	63,7	0	0,96
1795	0	73,3	0	10,5	91,4	0	0,86
2292	48,2	0	97,8	0	0	0	1,47
2348	0	74,1	66,8	0	0	0	1,1
2388	100	26,4	0	0	0	53,1	1,67

Comparison with TRADITIONAL JOB



- 20um BOPP
- 300 m/min
- 4 jobs in one
- 5 PANTONE COLORS

TRADITIONAL JOB:

- CMYK + **5 spot colors**
- 9 colors + white**

- Machine with **10PU**
- Longer color matching
- Bigger dryers for full colours

ECG ROTOGRAVURE:

- CMYK + **orange + violet**
- 6 colors + white**

- Machine with **7PU**
- Shorter color matching
- Dryers run on ECO mode except for white

Laboratory equipment

In-house expertise



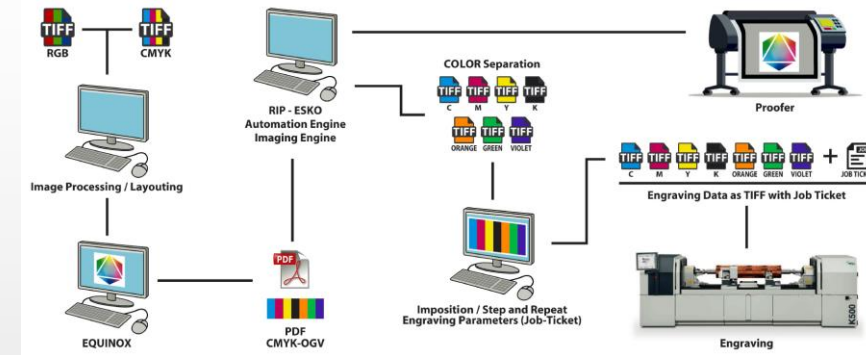
Real time analysis

- **Solvent retention** (N.I.R.A. Automatic residual analyser & Perkin Elmer HS-GC-FID)
- **Coating weight** (Sartorius Analytical weighting device)
- **Chemical composition** of materials (Perkin Elmer Spectrophotometer UATR-FT-IR)
- **Colorimetric parameters** - ΔE , $L^*a^*b^*$ coordinates & optical density - (X-Rite Spectrophotometer)
- **Bond & Heat Sealing** Strength (Zwick Roell Dynamometer)
- **Moisture %** in the paper (Sartorius Moisture weighting device)

oneECG in gravure driven by BOBST

Supported by partners

- **Full solution provider:** oneECG process together with our high-level certified partners
- **Integrated Workflow** from file to print
- **Open partnership approach**



Workflow

Cylinder Engraving

Color measurement

Inks Manufacturer

In-line Spectro

ESKO 

ICR
INCISIONI CILINDRI
ROTOCALCO


PANTONE®

SunChemical®
a member of the DIC group 
Color & Comfort

Different partners
available

How to deploy oneECG in your facility

Right machine set –up in order to manage the variables



Have the right machine whether it be the **ECG ready BOBST RS 6003 platform** or the **ECG retrofit kit** for your existing gravure press

Measurement, data analysis and reporting equipment and know-how

one**ECG** process supported by BOBST to Certify your job with your materials

Questions....?



Be ready to move

THANK YOU !