

FOR WHOM

The ESMA Academy is targeted towards European companies who:

- want to obtain a well-founded overview of digital printing technologies, especially piezo inkjet, in order to make educated decisions to what extent inkjet technologies could be integrated into their production process,
- want to obtain basic inkjet know-how in order to plan a possible introduction of inkjet technologies into their organisation and facilitate their investment decisions,
- are planning to start with inkjet or have already installed inkjet equipment in their organisation but are still at the very beginning of the learning process.

DATE

5 - 8 November 2018

LOCATION

Laboratories and conference rooms of Fraunhofer Institute for Production engineering and Automation (IPA), Stuttgart

NUMBER OF PARTICIPANTS

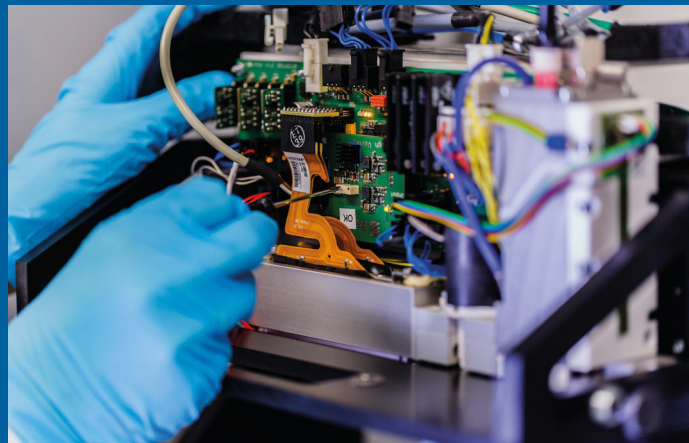
17-21. The maximum number of participants is limited due to the number of laboratory stations and rooms

FEE

2,150 EUR



**INDUSTRIAL DIGITAL PRINTING
HANDS-ON TRAINING
AND BASIC KNOW-HOW
WITH CERTIFICATE**



SPEAKERS

- Jochen Christiaens, Inkjet Consulting Christiaens
- Jessica Günthel, Fraunhofer IPA
- Prof. Dr. Stefan Güttler, Hochschule der Medien
- Oliver Kammann, K-Flow Consulting
- Oliver Refle, Fraunhofer IPA

ESMA CERTIFICATE

Participants will receive a certificate after attending all theoretical and practical sessions.

FURTHER INFORMATION

Location

Fraunhofer IPA
Nobelstraße 12
70569 Stuttgart

Accommodation

Campus.Guest
Universitätsstraße 34
70569 Stuttgart

Register now:

www.esma.com/academy



5 - 8 NOVEMBER 2018, STUTTGART



CONTACT: INFO@ESMA.COM

CONTENT OF PRACTICAL BLOCKS

INK CHARACTERISATION

Examine viscosity curves in relation to temperature, surface tension, material compatibility, cleaning agents.

DETERMINATION OF PRINT PARAMETERS

Parameters such as meniscus vacuum, waveform, drop spacing, tool life and resolution.

DRYING MECHANISMS AND CLEANING OF PRINTING UNITS

Drying with UV LED, UV HG and heating table; cleaning process when changing the liquid.

PRINT UNIT ENGINEERING AND PROCESS PERIPHERALS

Mechanics, fluidics and electronics.

KEY FACTORS OF INFLUENCE ON PRINT QUALITY

Quality changes implied by the substrate, pretreatment and printing speed.

EVALUATION OF PRINT QUALITY

Print quality analysis depending on e.g. wetting, edge sharpness, curing, homogeneity and many more.

COLOUR MANAGEMENT

Ink deposition management, colour management in image rasterisation, RIPs and colour spaces, use of suitable measurement technology.

PROGRAMME

MONDAY, 5. NOVEMBER 2018

Afternoon

| | |
|------------------------------|------|
| Theory Block 1: Piezo inkjet | 1,5h |
| Theory Block 2: Piezo inkjet | 1,5h |

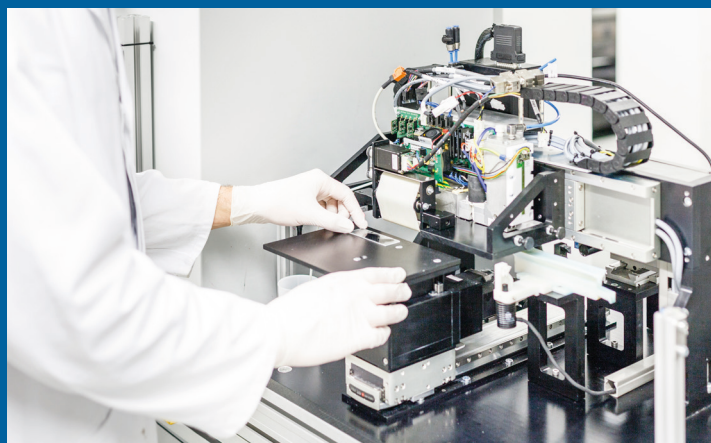
TUESDAY, 6. NOVEMBER 2018

Morning

| | |
|-------------------------------------|------|
| Theory Block 3: Inks and substrates | 2h |
| Practical Block 1 | 1,5h |

Afternoon

| | |
|------------------------------------|------|
| Theory Block 4: Printing equipment | 1,5h |
| Practical Block 2 | 1,5h |



CONTENT OF THEORY BLOCKS

INKS AND SUBSTRATES

Ink types such as UV, solvent, eco solvent and aqueous, raw materials, rheology, drying, wetting, dot gain, adhesion, pretreatment and colour management.

INKJET – TECHNOLOGY AND ITS LIMITS

Piezo inkjet and other industrial inkjet printing technologies of different manufacturers, their design, advantages and disadvantages, physical limitations.

PIEZO INKJET

Looks at the fundamentals of inkjet printhead technology, their geometry, functionality and the variety of physical structures, as much as their drive parameters and key influencing factors for the inkjet printing processes and strategies for quality control in production environments.

PRINTING EQUIPMENT AND MACHINES

Mechanics, fluidics, electronics, datapath, RIPs, single colour print bars (extended gamut printing).

WEDNESDAY, 7. NOVEMBER 2018

Morning

| | |
|-------------------------------------------------|------|
| Theory Block 5: Piezo technology and its limits | 1h |
| Theory Block 6: Colour management | 1h |
| Practical Block 3 | 1,5h |

Afternoon

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|-------------------|------|
| Practical Block 4 | 1,5h |
| Practical Block 5 | 1,5h |

THURSDAY, 8. NOVEMBER 2018

Morning

| | |
|-------------------|------|
| Practical Block 6 | 1,5h |
| Practical Block 7 | 1,5h |

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