

MEYER BURGER

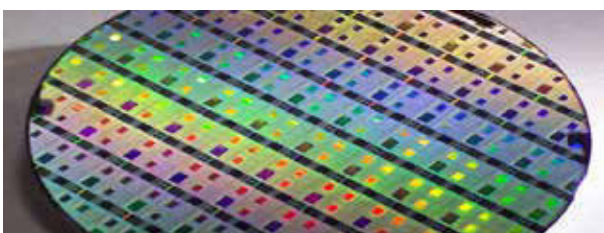
PiXDRO Inkjet Technology

Inkjet Printing Equipment and Application Knowledge

Meyer Burger offers the PiXDRO **industrial inkjet printing equipment** to apply functional materials for a variety of applications. These functional materials can have **dielectric, conductive, adhesive, mechanical, optical or chemical properties**, and are printed with pico-liter sized droplets from a digital file. Inkjet printing is an **additive manufacturing** technology, hence has great advantages in relation to **material usage, productivity, environmental impact and costs**.

Because of its precise drop placement and volumes, functional inkjet printing has numerous applications in **printed and flexible electronics, displays, OLED, sensors, PCB, semiconductor assembly, chemical machining, photo voltaic, life science, and optics**. Inkjet printing can create very fine features, down to 20 micron, and can replace conventional techniques such as lithography, screen printing, spray coating and dispensing. Because it is fully digital, there is no need for masks and screens, significantly saving material usage, and enabling fast product change-over times.

Application examples



Semiconductor & Printed Electronics
Accurate deposition of conductors, dielectrics and adhesives



OLED & Display
Homogeneous thin layers, high quality barriers

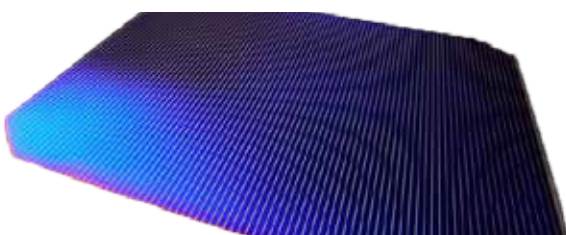


Photo Voltaic
Inkjet printed HJT solar cell



PCB & Chemical machining
Maskless digital fabrication

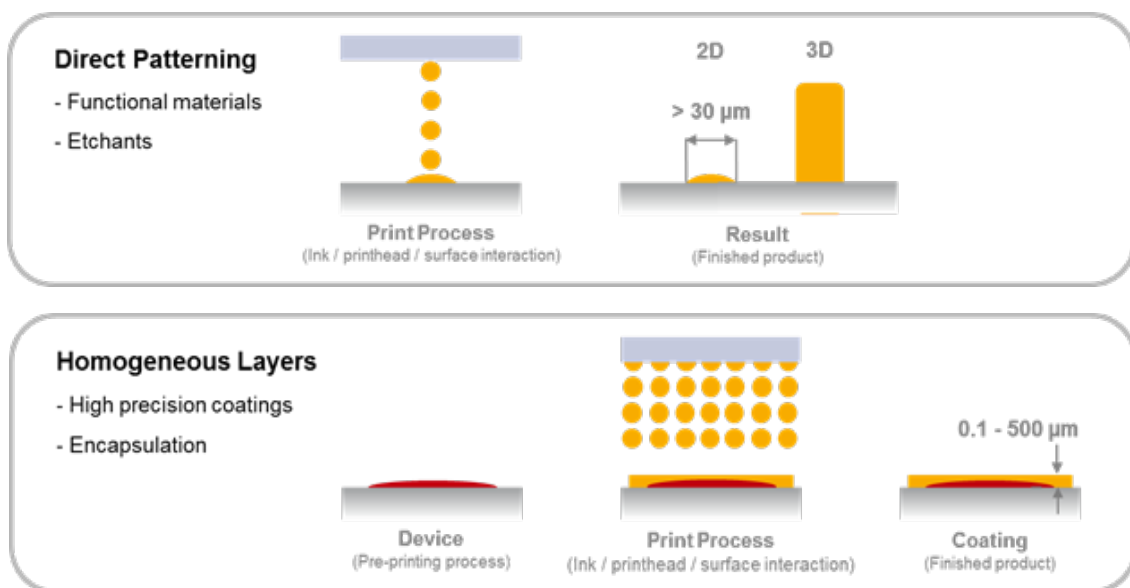
Accurate, Versatile and Fast

As inkjet printing is compatible with a wealth of functional materials, it is a very versatile technology. It can be used for direct material deposition for **patterned** or **homogeneous** coatings, from tens of nanometers up to tens of micrometers (depending on ink materials). By printing multiple layers of material on top of each other, it can also be used as a **3D printing** method.

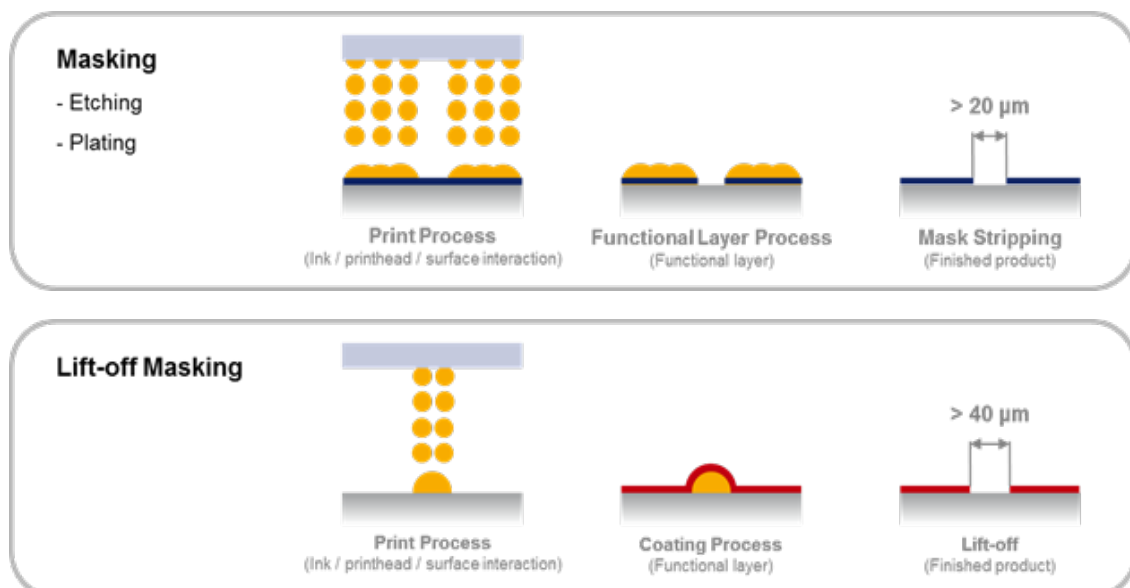
Inkjet is a non-contact deposition technology, so suitable for **fragile and 3D substrates**. And can **fill trenches and cavities**. Furthermore, it is excellent for direct printing of **etching and plating masks**.

Because industrial printheads have hundreds or thousands of parallel nozzles, and operate at very high frequencies, inkjet achieves very high throughput. The PIXDRO mass production inkjet printers can hold arrays of multiple printheads, enabling **high productivity and flexibility**.

Direct Functional Printing



Indirect Functional Processing

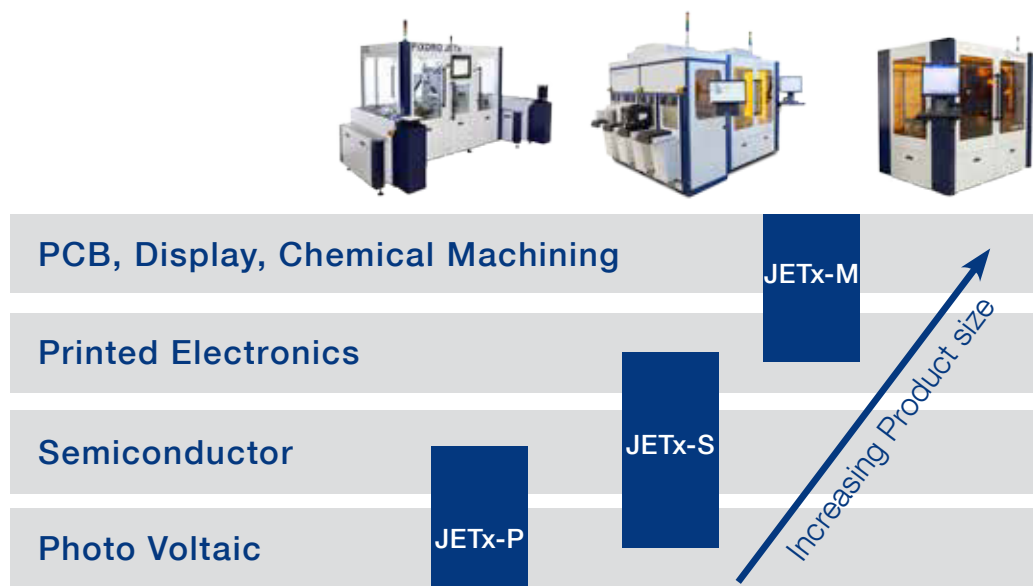
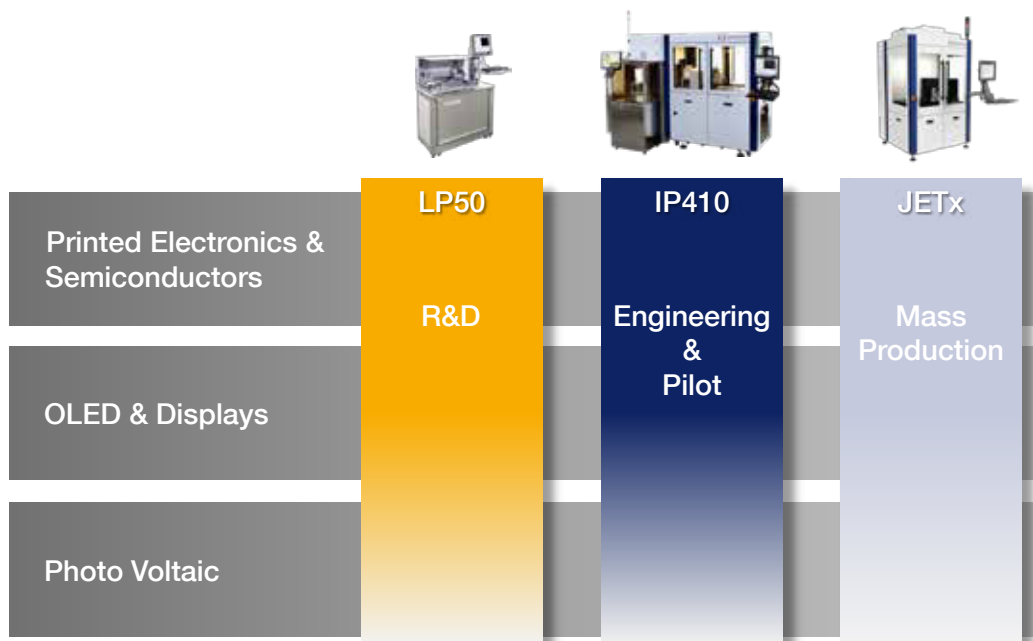


PIXDRO Inkjet Printers for R&D and Production

The PIXDRO systems have a **modular design**, which enables a large degree of customization without compromising reliability and lead times.

The **LP50** and **IP410** research and engineering printers excel in flexibility and process control, offering fast product development and time-to-market.

The **JETx** production systems are designed for high productivity and reliability, **low cost of ownership** and integration in highly automated **mass production** environments.



PiXDRO Main Advantages

- **Offering innovative functional inkjet technology for a wide variety of applications**

Leading in functional inkjet printing since 2004

- **Equipment portfolio from R&D to mass production**

Research (LP50), Pilot production (IP410), Mass production (JETx)

- **Application experience**

Process development support
Best in class print strategies
Equipment customization

- **Extensive knowledge network**

Working with leading customers and institutes



PiXDRO Main Features

Modular Robust Design	Optimal Process Control	Ease of Use
Configurable hardware and software	Nozzle and print image inspection	Automated product handling
Integration of pre- and post processing modules	Automated printhead maintenance	Multi-language support
Choice of base platforms for many applications and substrates	Flexible process control with flow editor	SEMI E10 compatible GUI
High accuracy stages	MES connection	Flexible recipe editor
Choice of industrial printheads	User level controlled access	Low maintenance
Connectivity to other processing equipment	Integration in clean and inert enclosure	Easy printhead exchange and calibration

Industrial Printheads

PiXDRO inkjet equipment supports a wide choice of industrial printheads from various manufacturers. The overview below shows the most common heads for research and mass production applications.

Fujifilm Dimatix	Fujifilm Dimatix	Xaar	Konica Minolta	Fujifilm Dimatix
Samba G3L	S-class Q-class SE3 SX3	1003	512 1024i	Cartridges
2048 nozzles	128 256 nozzles	1000 nozzles	512 1024 nozzles	16 nozzles
Volume: 2.5 pL	Volume: 10 - 90 pL	Volume: 6 - 42 pL	Volume: 4 - 80 pL	Volume: 1 10 pL

