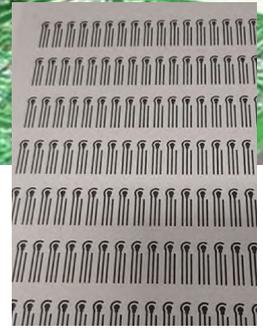




# Service offer:

## Screen Printing & UV Curing

Screen printing is the most popular and matured printing technology as it has been practiced in electronics industry for quite some time. It is faster and more versatile than other printing technologies. It is also more affordable, reproducible and it can print at high speed. Moreover, it is easily adaptable to the fabrication process.



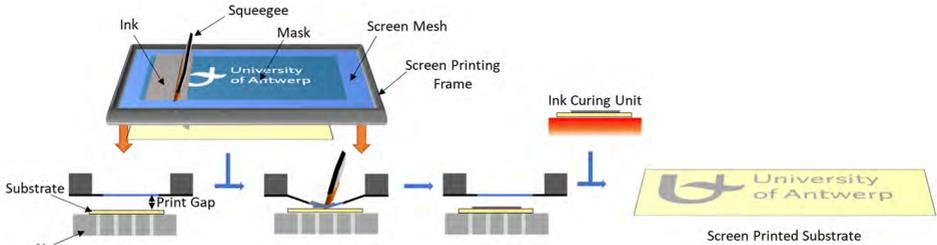
In recent years, the interest in printed sensors and electronics over substrates has significantly grown due to low-cost fabrication, easy processing steps and patterning techniques, enabling large area manufacturing. Even more, the establishment of the Internet of Things (IoT) will drive the implementation of sensors into industrial and our daily life objects. Clearly, there is a need for a new generation of smart sensing systems deployed in several fields such as biomedicine, energy, environmental analysis, logistics, personal health care, transport etc. Our screen printing facilities enable pioneering in the field of electronics, sensors and photocatalysis by printing (semi)conducting materials on substrates and by designing parts of IoT modules with more flexibility and more dynamically.



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## What is Screen Printing?

Screen printing consists of a printing technique that uses a screen to transfer ink to a substrate. The screen has a mesh where a pattern was drawn; in this mesh there are areas that allow the passage of ink (mesh image) and others that are impermeable (mesh emulsion). Moving a squeegee across the screen makes the ink to be transferred to the substrate with the pattern that was on the mesh. Multiple layers can be printed on the same substrate by using different screens.



The ink on one side of the screen mesh is spread over the screen mask with the help of a squeegee. When the squeegee moves over the screen mesh it applies pressure what makes the screen mesh come in contact with the substrate that is on the nest, and the ink is transferred to the substrate. After printing the ink has to be cured, either by temperature or by UV light. After that the print of the mask on the substrate is complete.

## Our Facilities

Our facilities are comprised of a DEK NeoHorizon 01iX screen printer and a DIMA Spectro UV-500 curing unit.

The DEK NeoHorizon 01iX has an alignment capability of  $\pm 12.5 \mu\text{m}$  @  $> 2 \text{ Cmk}$  ( $\pm 6 \text{ Sigma}$ ) and a print capability of  $\pm 20 \mu\text{m}$  @  $> 2.0 \text{ Cpk}$ , ( $\pm 6 \text{ Sigma}$ ), AVS-certified, with a maximum printing surface of 510 mm (X)  $\times$  508.5 mm (Y), which allow a very high throughput and high flexibility. The user interface is simplified by the use of a touchscreen.

The Spectro UV curing system is designed to cure UV curable materials by exposing them to UV light. It is a modular build compact oven that can handle products up to 495 x 500 mm. Ultraviolet lamps can be configured to meet specific application requirements. Several models with different cure lengths are available. The standard radiation width of the light bulbs is 150 mm (6"). In case a width of more than 150mm is required, additional light bulbs can be installed. For both top and bottom curing, a maximum of 3 light bulbs can be installed (3x top & 3x bottom).

## What, and on what, can be printed?

Sensors and electronic circuits are among the many possibilities that screen printing offers. These can be printed on flexible substrates such as polystyrene sheets or on more rigid structures such as PCBs.



### More information

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