

IMPETUS

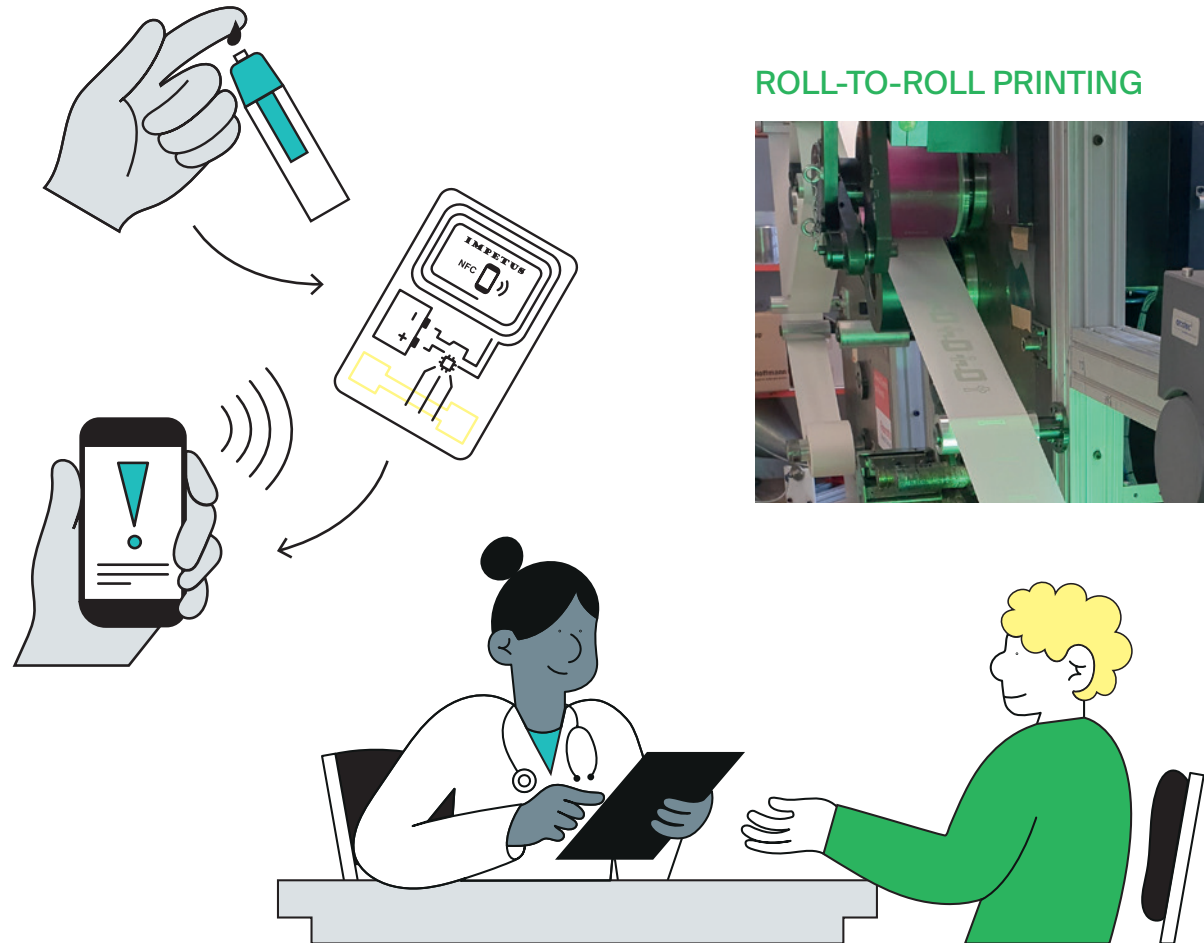
Pilot Line for Paper-Based Quantitative Electrochemical Biosensing Test Cards



PROJECT GOAL

IMPETUS combines paper, printing, and microchip technologies to realise a pilot line in an industrial environment capable of manufacturing fully integrated paper based electrochemical biosensors that directly transfer the measured data to the user's smartphone.

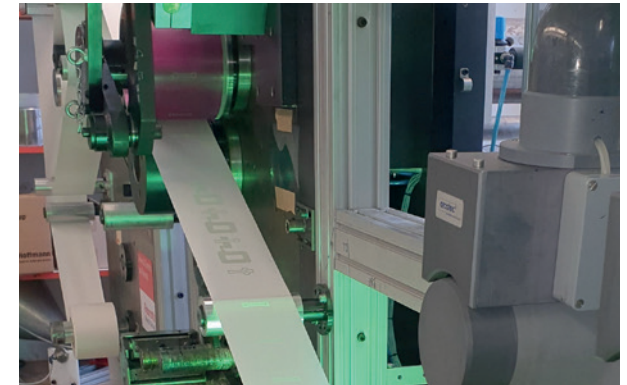
These biosensors will be designed as self powered disposable test cards (credit card size) that combine the simplicity of lateral flow tests with quantitative readout, which is enabled by the implemented electrochemical detection method. As an application example, IMPETUS will fulfil the consumer need for fast and inexpensive point of care discrimination between bacterial and viral infections.



PAPER PRODUCTION

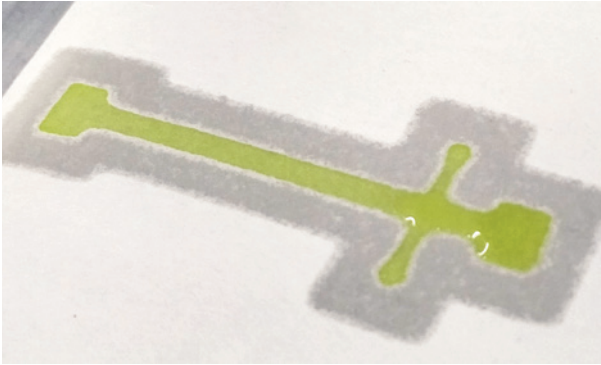


ROLL-TO-ROLL PRINTING



This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 761167.

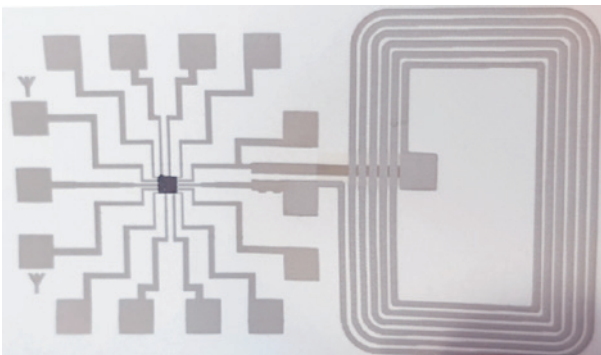
ROLL-TO-ROLL FABRICATION OF MICROFLUIDICS IN PAPER



PRINTED BATTERIES



MICROCHIP INTEGRATION



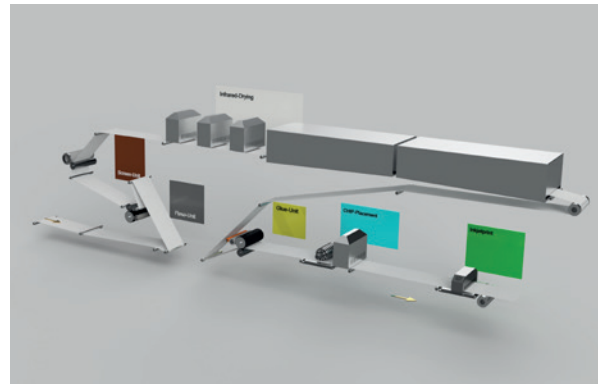
Test layout for RFID chip integration

PILOT LINE

The IMPETUS pilot line will integrate:

- Screen printing
- Flexo printing
- Bio-inkjet printing
- Unhoused microchip mounting

in a seamless Roll-to-Roll process compatible with high throughput fabrication.



As a result, the pilot line will offer the possibility to be easily adapted for various sensing applications (e.g. medical diagnostics, food safety) accessible to interested third parties after the project end.



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PARTNERS

IMPETUS is a collaborative project, which has received funding from the European Union's Horizon 2020 research and innovation program (topic H2020 PILOTS 05 2017 Paper based electronics) under grant agreement No 761167. The project has been launched in January 2018 and brings together fourteen leading partners with a strong focus on industrialization.

Research Institutes

Coordinator



SMEs



Large Enterprises

