MICRO PRINCE

Newsletter - November 2018, Issue 3

MICROPRINCE
Micro-Transfer-Printing of Functional Components on Wafer Level
Pilot Line for Mass Production

Message from the Coordinator

Since the previous edition of the newsletter, quite a lot has happened in the **MICROPRINCE** project. The Printing tool is available at XMF, target wafers containing redesigned ICS are manufactured, source wafers are available, specifications for postprocessing have been set and **devices are ready for release and fabrication**. The project has also successfully reached its **half-time milestone** in September 2018. To define the next steps, a technical meeting was held at MLX DE in Erfurt, in October.

Thanks to good cooperation of the project partners, the project is well on track to reach its next milestone: Installed equipment in pilot line.

In this Issue

Technical Meeting In Erfurt

3rd Technical Meeting, Erfurt (Germany)

From 18th to 19th of October, the MICROPRINCE consortium had the opportunity to come together again, by attending a technical meeting in Erfurt, Germany, at Melexis premises.

Technical progress and difficulties were discussed and mitigation measures were equally further defined and implemented, in order to allow the project to continue smoothly. Project partners were allowed to visit the Melexis FAB room, where Peter Bergmann explained the different tools and equipment used. In the evening of the first day, the consortium enjoyed a common dinner in the Erfurt city centre, thus also allowing to strengthen collaboration in a more relaxed environment.

The meeting was concluded by a shared lunch at Melexis. Partners left the meeting with clear to-do's and guidelines for the upcoming period.

For more detailed information about and around the project we warmly invite you to have a look at our **project website**, which is constantly kept up-to-date with the latest project related news: www.microprince.eu. Furthermore, please feel free to follow the project on Twitter: https://twitter.com/MicroprinceEU

Key Data:

Project number:	**737465**
Project website:	www.microprince.eu
Project start:	1st April, 2017
Project duration:	3 years
Total costs:	EUR 14.017.817,61
EC funding:	EUR 3.340.035,74

Consortium: 13 partners (4 countries)
Project Coordinator: **Dr. Sebastian Wicht**
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ECSEL Joint Undertaking

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Pilot Line for Micro-Transfer-Printing of Functional Components on Wafer Level

Technical progress since the last newsletter

- Within the **µ-Transfer Printing Pilot line**, the qualification of a µTP-tool is ongoing. Regarding the development of the tether layer, a DoE on possible stress compensation within the chiplet is currently performed. University of Dresden is currently in the progress of **introducing a design tool.**

- As far as **Transfer printing for high sensitivity magnetic sensors** is concerned, there are already functioning prototypes with source and target wafers available. Process development has been done at XFAB in Erfurt and first printing results have been achieved.

- **Package development for Micro-transfer printing of LED devices** is in progress. The aim is to provide a small package, with a capability to place an optical window as well as for automotive qualification, all at a low price. In order to achieve such packaging, customer requirements and cost items were taken into account and assumptions were made to set up a test bench for simulation. Furthermore, case studies were performed.

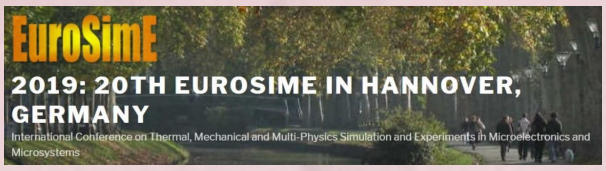
- Concerning the printing of active optical devices on silicon photonics circuits for biometrical spectrometers, new devices are ready for release and target Si/SiN waveguide circuits are fabricated. Fabrication steps of the GaAs-based and InP-based opto-electronic components to be integrated on a SiN and Si waveguide target substrate respectively are described and successful device fabrication and target waveguide circuit fabrication is demonstrated. After this step the devices are ready to be released & transfer printed.

Past Dissemination events

- XMF also attended “ECSEL in Germany” from the 6th to the 9th of June, in Dresden, Germany.
- IMEC attended the International Semiconductor laser conference, on the 15th of September 2018, in Santa Fe, USA, where they gave a presentation on Frontiers in III-V laser integration on silicon photonic integrated circuits.
- Tyndall has given a Lecture on transfer printing at the University of Cork, on the 15th of October 2018.
- XMF has participated in the EFECS symposium, from the 20th to the 22nd of November, In Lisbon, Portugal

Upcoming Dissemination events

- Partner FhG plans to attend the EuroSimE 2019 on the 17th of March 2019, in Hannover, Germany .
- The consortium partners IMEC, Tyndall, Xceleprint and XFAB are going to participate in the upcoming Smart systems integration conference (10th to 11th of April in Barcelona, Spain) via oral and poster presentations.



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