Newsletter - April 2019 , Issue 4

MICROPRINCE

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

Message from the coordinator:

Since the previous edition of the newsletter**,** the MICROPRINCE project has reached a new milestone: **installing the pilot line equipment has been completed!** There were also changes in the MICROPRINCE project. Due to Huawei stepping out, the consortium had to redefine a new project plan for the upcoming work. Thanks to excellent collaboration in the consortium, a revised plan was set up and has already been approved by the European commission. Based on this new guideline, **the consortium is looking forward to the last project year**!

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Technical Meeting

From the 19th to 20th of March, the MICROPRINCE consortium met for a technical meeting in Dresden, Germany hosted by The Technical University of Dresden.

The meeting started with a short overview of ongoing activities of the university. In the two meeting days, the final project amendment was approved by the consortium and technical objectives for the upcoming project year were clearly established The general feeling at the end of the meeting was that objectives for the next year are clear and all partners know what is expected by the end of the project.

Upcoming Events

ADTC & edaWorkshop 19

XMF will participate in a workshop at ADTC-European Nanoelectonics Applications, Design & Technology Conference, from **14-16th of May in Dresden, Germany**. XMF will give a presentation about the MICROPRINCE project.

The Japan Society of Applied Physics IEEE

TYN will give a presentation at the LTB-3D conference in Kanazawa, Japan, on the **24th of May 2019**.

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.-Ing. Sebastian Wicht** X-FAB MEMS Foundry GmbH Haarbergstrasse 67 99097 Erfurt GERMANY Email: sebastian.wicht@xfab.com
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ECSEL Joint Undertaking

This project has received funding from the ECSEL Joint Undertaking under grant agreement No 737465. This Joint Undertaking receives support from the European Union's Horizon 2020 research and innovation programme and Germany, Belgium, Ireland.

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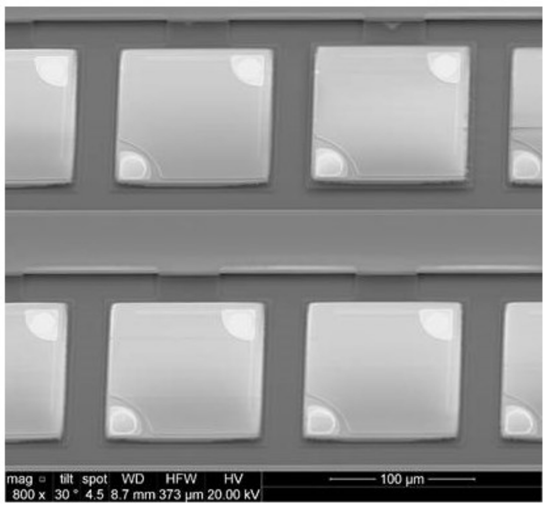
Main technical progress since the last newsletter

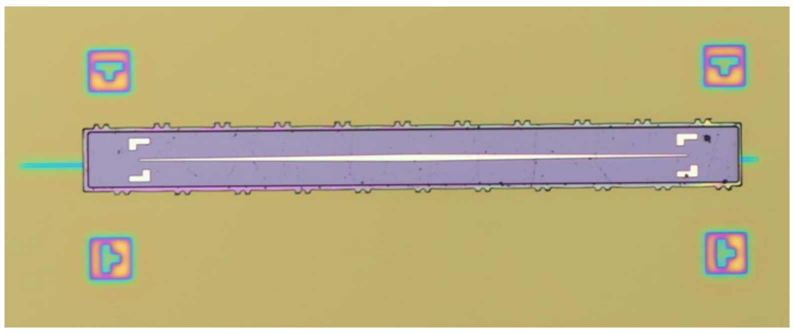
Within the µTP Pilot line, the equipment has been installed, hooked-up and the qualification process has commenced. **Thus, the milestone of installing the pilot line equipment has been completed. Furthermore, this achievement has been described in a deliverable that was already submitted to the European commission.**

In **Transfer printing for high sensitivity magnetic sensors**, Tape-out of source wafer has been done and the partners have agreed on the strategy for transfer printing of dummy chiplets on target wafers. Furthermore, the design of source material is done and the manufacturing has started. Design freeze of optical filter processing has been achieved.

Micro-transfer printing of LED devices faced a real challenge in the last few months – it was not possible to find a supplier who could provide the necessary LEDs on wafer on time. As a solution, partner **Tyndall are providing GAN LEDs on sample pieces for transfer-printing**, which will be usable for transfer-printing. In the last months, an assessment of the suitability of the micro-transfer-printing of LEDs on driver IC was made and an initial cost assessment was set up. Furthermore, partners have agreed on technical details, to prepare the micro-transfer-printing of the LEDs provided by Tyndall. As a consequence of the exit of Huawei, Fraunhofer committed itself to do the postprocessing of III/V photodiodes and LEDs already printed on target photonic wafers, within the work package on **micro-transfer-printing for biomedical applications.**



Released SEM blue LEDs process by TYN, for µTP



Printed InP chiplet on a dummy target wafer with 4 alignment marks.

Past Events

OFC
The Optical Networking and Communication Conference & Exhibition

TYN has attended the Optical Fiber Communications Conference and Exhibition in **San Diego, USA**, which took place from the **3rd to the 7th of March 2019**.

DATE 19
MARCH 25—29, 2019
FLORENCE, ITALY
FIRENZE FIERA
DESIGN, AUTOMATION AND TEST IN EUROPE THE EUROPEAN EVENT FOR ELECTRONIC SYSTEM DESIGN & TEST

TUD attended the DATE conference in **Florence, Italy, from the 25th to the 29th of March 2019.**

XFAB and FhG participated to a workshop on the 10th of April: 8th-**CAM Workshop - Innovation in Failure Analysis and Material Diagnostics of Electronics Components** at Fhg IMWS in Halle, Germany.

EuroSimE

Partner **FhG** attended **EuroSimE 2019**, on the **17th of March**, where they presented simulation approaches at this International Conference on Thermal, Mechanical and Multi-Physics Simulation and Experiments in Microelectronics and Microsystems. The conference took place in Hannover, Germany.

smartsystems integration

Smart Systems Integration is an international conference and exhibition on the theme of intelligent systems. The congress provides a comprehensive and practical overview of current applications, trends and future visions. On the whole, the fair is a communication and information sharing platform for the industry. Partners **IMEC, TYN and XMF** attended from the **10th to the 11th of April, in Barcelona**, Spain and presented MICROPRINCE results.

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