

## **ePIXfab: the European Silicon Photonics Alliance**

(<http://epixfab.eu>)

### **Memorandum of Understanding**

**(update of 22 May 2020 to be approved by the Steering Board)**

#### ***Preamble: history of ePIXfab***

ePIXfab was founded in 2006 as a framework of collaboration between imec and CEA-LETI to organize Multi-Project-Wafer (MPW) runs for silicon photonics. The activities of ePIXfab were supported by a series of EU-funded projects and Support Actions: the Network of Excellence ePIXnet (till 2008), the Support Action Photonfab (2008-2011) and the Support Action ESSentTIAL (2012-2015). During the latter project the activities were broadened to a wider series of services that support the supply chain for silicon photonics, including variants of the silicon photonics technology and packaging services for silicon photonics. To this end the ePIXfab partnership was extended with IHP, VTT, TNO and Tyndall Institute. Throughout the period 2006-2015 ePIXfab has been coordinated by the team of prof. Roel Baets at Ghent University (acting as an associated lab of imec).

Apart from the actual technological services (MPW and packaging) ePIXfab has devoted substantial efforts over the years to advocate the potential of silicon photonics technology towards the global scientific and industrial community. To this end ePIXfab had a presence in international conferences and exhibits and acted - de facto - as the primary alliance representing Europe's key institutes in the field of silicon photonics technology. Furthermore ePIXfab has been very active to organize several courses every year to educate users of the MPW-services in the design workflow for silicon PICs.

In 2011 it was decided to start collaboration with EUROPRACTICE IC Service – the European organization with a long track record in offering low-cost ASIC prototyping and ASIC small volume production - with a view to gradually transfer the MPW-operation for silicon photonics from ePIXfab to EUROPRACTICE. Gradually EUROPRACTICE has taken over the whole MPW-operation of ePIXfab for IMEC, CEA-LETI and IHP runs. This transfer has been completed by the end of the ESSentTIAL project. A press release about the achievements of the ESSentTIAL project and the transfer of MPW-services to EUROPRACTICE IC Service was made in July 2015 ([http://www2.imec.be/be\\_en/press/imec-news/epixfab-essential-fp7.html](http://www2.imec.be/be_en/press/imec-news/epixfab-essential-fp7.html)).

Overall ePIXfab has been very successful, with over 50 MPW runs and many hundreds of people attending training events and public workshops. ePIXfab has managed to attract a number of industry customers, some of which have engaged in larger contracts with one of the partners. ePIXfab was instrumental for acquiring funding for further activities such as ACTPHAST, the packaging technology services at Tyndall Institute (which would lead to the photonic packaging pilot line PIXAPP) and so forth.

#### ***Rationale and mission of ePIXfab***

With the transfer of the MPW services to EUROPRACTICE in 2015, the original mission of ePIXfab has been completed. However EUROPRACTICE will not take over ePIXfab's role of being an alliance of institutes working in the field of silicon photonics, which is still essential because of the following reasons:

- The rapid growth and evolution of silicon photonics needs continuous advocacy, education etc.
- Silicon photonics is a key enabling technology for innovation in diverse markets, hence driver for economic activity and employment, not only in large companies but also in SMEs
- In spite of competitive interest between members, there are also strategic common interests. Hence the need for a forum or platform for the members to discuss and take action with respect to these common interests

Therefore ePIXfab continues its activities with the following **mission**:

***ePIXfab is a not-for-profit open alliance of academic and industrial organizations with a mission to promote silicon photonics science, technology and applications.***

***ePIXfab promotes silicon photonics through advocacy of the latest developments in this field, by representing the silicon photonics community as a whole, through workforce development for industry and academia, by providing non-commercial consultancy, and by roadmapping the silicon photonics technological trends and evolutions.***

***ePIXfab originated in Europe in 2006 and is committed to support European organizations in their ambition to strengthen the global silicon photonics supply chain and to liaise to overseas organizations.***

The activities of ePIXfab include (non-exhaustive list):

- Promote and disseminate the advancement of the field of silicon photonics at large and promote the activities of the European and overseas organizations, on the basis of publicly available information (or information approved for public release). This will be achieved by implementing and maintaining digital content on the ePIXfab website.
- Represent the European and overseas members as a whole (without representing individual organizations).
- Organize training activities with respect to silicon photonics design, technology and applications. These activities include summer schools, hands-on design courses, short courses, webinars, symposiums, student internships and industrial residence program.
- Prospect opportunities for funding for activities that support the mission of ePIXfab.
- Make roadmaps for silicon photonics and its future evolution.
- Advisory activities towards end-users, in so far that they do not compete with the commercial services of the members. Typically this will imply that the activities are limited to explaining public expert knowledge in the field of silicon photonics and connecting the end-user to ePIXfab members in a neutral way.

### ***ePIXfab members***

Any organization (institutions, public bodies, universities, companies...) that contributes to the mission of ePIXfab is welcome to apply for membership.

This includes:

- organizations providing or utilizing manufacturing services (or associated services such as design, test, packaging),
- organizations involved in R&D in silicon photonics,
- organizations providing or utilizing education and training services in silicon photonics,

in connection to the European silicon photonics ecosystem.

ePIXfab is an open alliance in which any organization with a commitment to the mission of ePIXfab is welcome. ePIXfab respects neutrality with respect to the ambitions of the member organizations and never expresses a judgement about the capabilities of its members. ePIXfab will collaborate closely with other alliances or consortia such as EPIC (European Photonics Industry Consortium) and JePPIX etc.

### ***Organization model of ePIXfab – basic principles***

ePIXfab is an alliance of organizations (institutions, public bodies, universities, companies...). These organizations form the membership of ePIXfab.

ePIXfab is a lean organization. It is not a legal entity. It does not engage in research activities nor in commercial activities. It can engage in funded projects through its member organizations.

ePIXfab is governed by a Steering Board, comprising persons belonging to European member organizations. The Steering Board can be extended with persons belonging to overseas members organizations with an advisory role.

The Steering Board is the main decision-making body of ePIXfab. Decisions are preferably taken by unanimous voice or at least by 2/3 majority.

ePIXfab is coordinated by one of the member organizations. The tasks of the coordinator include amongst others:

- Act as internal and external communication channel.
- Coordinate specific ePIXfab-activities: training events, promotion/representation at the international level and roadmapping activities.
- Prospect funding opportunities and take a leading role in preparing proposals with focus on activities in line with the mission of ePIXfab.
- Maintain the ePIXfab website.
- Organize at least four Steering Board meetings per year (physical meeting or conference call).

The coordinator needs to be prepared to make a substantially larger in-kind contribution to the mission of ePIXfab. Any European member organization can volunteer to be coordinator. The selection is made by the Steering Board and can be revisited or confirmed on an annual basis.

During the Steering Board meeting of 22<sup>nd</sup> of January 2016 Ghent University was selected as the coordinating organization of ePIXfab with Prof. Roel Baets and Dr. Abdul Rahim as the contact persons.

### ***Membership fee***

During the Steering Board meeting of 03.10.2019, it was decided to move from free-of-charge membership to paying membership so as to ensure the sustainability of the ePIXfab organization, in the absence of public funding.

The fee for ePIXfab membership depends on the size and type of your organization.

- University = 500 Euro/year
- Not-for-profit institute: 1000 Euro/year

- Micro-sized company: 1000 Euro/year
- Small-sized company: 1500 Euro/year
- Medium-sized company: 2000 Euro/year
- Any other: 3000 Euro/year

The size of a company is defined as follows:

- micro: with less than 10 persons employed;
- small: with 10-49 persons employed;
- medium-sized: with 50-249 persons employed

The membership fees are effective as of 2020, but existing members are exempted from paying the membership fee for the year 2020.

### ***Membership benefits***

The benefits for the member organizations include:

- First-time member: free participation voucher for one person for one ePIXfab-organized event
- Reduced participation fee for all employees in all ePIXfab-organized events
- Online access at reduced member rate to streamed content of ePIXfab-organized events
- Free access (password-protected) to resources on the ePIXfab website (training material, services, ...)
- Visibility of members on ePIXfab website, promotional material, presentations
- Be part of ePIXfab services such as industrial residence program, student internship program and off-the-shelf chip program
- Possibility to sponsor events, and in this case, be allowed to present at the event, have roll-up, etc.