

October 2015

Annual Report of the Swiss Photonics National Lab SPPL

Mission

The SPPL (Swiss Photonic Packaging Laboratory) aims to be a one-stop shop contact to serve and support the Swiss industry, especially SMEs, in the field of photonics packaging and related joining technologies.

Team

- CSEM Alpnach ([CSEM](#)), [Packaging & Optics](#),
Dr. Stefan Mohrdiek
- EMPA Dübendorf ([EMPA](#)), [Laboratory for Joining Technologies and Corrosion](#),
Dr. Lars Jeurgens
- FHO-NTB, Institute for Micro- and Nanotechnology ([MNT](#)), [Packaging group](#),
Dipl.Ing.HTL Dietmar Bertsch

Main achievements

End of 2014 EMPA in Dübendorf joined the SPPL under the lead of Dr. Lars Jeurgens. As another new member to SPPL since early 2015 is the FHO-NTB, Institute for Micro- and Nanotechnology (MNT), Packaging group, lead by Dipl.Ing.HTL Dietmar Bertsch.

Due to this expansion SPPL has gained a lot in the main services it can offer now, comprising:

- Design services and consulting for miniaturizing of devices
- Development and integration of micro-optical, micro-mechanical and electronic systems into self-contained packages
- Interfacing with external electronics, optical fibers and waveguides
- Custom-designed solutions in the field of joining (e.g. brazing, soldering, diffusion bonding, transient liquid phase bonding, alloy design, development of nanostructured filler alloys, coatings and foils).

A major achievement was the workshop held at CSEM in Alpnach involving the new members of SPPL, sponsored by Swissphotonics, on the topic of “photonics packaging for harsh environments” in June 2015: [SPPL Workshop 2015](#)

As a result of the workshop companies became interested in cooperation with SPPL, which has led to the submission of three CTI projects, where one is granted and two are pending.

Currently, SPPL is involved in more than 10 photonic related research and development projects with a total volume of more than 6 MCHF. Among these are CTI projects with a total volume of 2 MCHF. In addition to these projects the SPPL facilities were used by a number of Swiss companies for a variety of service tasks.

Next steps

As a result of the strong franc initiative of the CTI, a number of projects are in the pipeline to become submitted. The planning for the next workshop in 2016 is in progress. The SPPL members will start having regular meetings to better coordinate activities.