

AMC and LioniX International strengthen their collaboration on the development of Optical Coherence Tomography modules

LioniX International (LXI) and Academic Medical Center (AMC) of the University of Amsterdam strengthen the collaboration of their activities in the field of Photonic Integrated Circuit (PIC) based Optical Coherence Tomography (OCT) modules. The implementation of PIC based technologies in OCT modules will enable miniaturized handheld OCT modules broadening the scope and application field of OCT based systems.

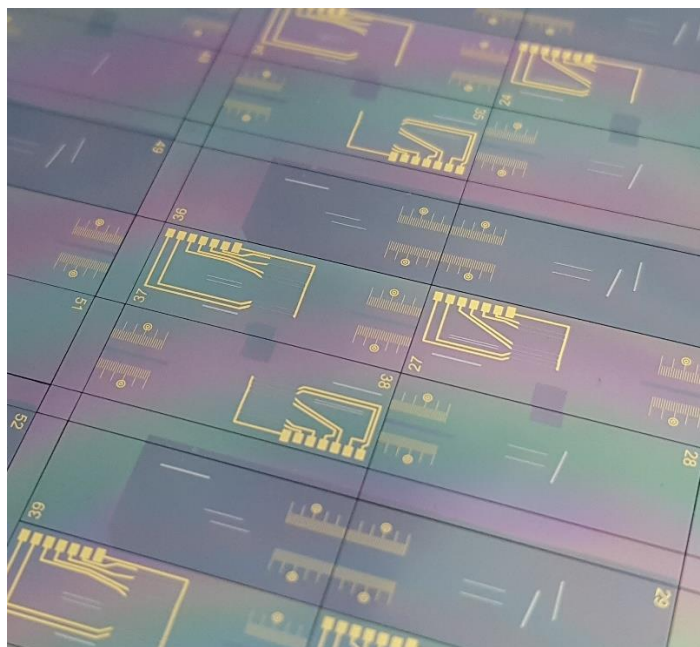
AMC and LXI signed a collaboration agreement that accelerates the development of PIC based OCT modules with a clear link to the clinical testing, which is essential for successful market introduction for these kind of modules. Furthermore, both parties participate in an EU funded Eurostars proposal (OCTIC), that will further integrate the OCT system by hybridly integrating the laser source into the OCT module.

The PIC platform of LXI is based on silicon nitride realized by Low Pressure Chemical vapor deposition and is branded under the name TriPleX™. This platform is, with its low loss properties over a broad wavelength range, extremely suitable for OCT modules in a variety of wavelength ranges. Various publications were published already by AMC and LXI on PIC based OCT and the latest status of the development at LXI will be presented during Photonics West, [*"Spectral domain, common path OCT in a handheld PIC based system"*](#), Paper 10483-55.

"Our PIC based technology enables handheld OCT modules for a broad range of applications", says Hans van den Vlekkert, CEO of LXI. "With AMC we have found a partner that supports our OCT module development with their state of the art expertise and a clear link to the clinic."

Within the Biomedical Engineering & physics department of the AMC, the application of light in medicine is a major research topic. Optical Coherence Tomography (OCT) is one of the main imaging modalities that is being used both for basic and clinical research.

"OCT is the 'work horse' of the biomedical photonics research field", says Ton van Leeuwen, head of the department. "Integrating the components in photonics chips will further increase both the technical and the clinical capabilities of OCT. Furthermore, PICS based OCT will not only make the current applications cheaper but also broaden the application scope."



LioniX International is a leading global provider of customized microsystem solutions, in particular integrated photonics-based, in scalable production volumes. LioniX International provides customized solutions for OEM's and System Integrators, from design to fully assembled modules, by vertical integration in scalable production volumes. LioniX International maintains its technology leadership secured by a strong IP position. LioniX International focuses on Photonic Integrated Circuits (PIC) enabled modules based on its proprietary waveguide technology (TriPleX™), in addition to its other core competences micro-fluidics, opto-fluidics and MEMS. As a vertical integrated company LioniX International delivers a complete solution to its OEM customers: from initial design through volume manufacturing of products.

The Academic Medical Center of the University of Amsterdam is one of the foremost research institutions in the Netherlands, as well as one of its largest hospitals. In the AMC, over 7000 people work to provide integrated patient care, fundamental and clinical scientific research, and teaching. The department of Biomedical Engineering & Physics bridges the gap between engineering and physics at one side and life sciences and clinical medicine at the other. Their research provides further understanding of pathological processes and develop and improve quantitative methods for prevention, diagnosis, and treatment of diseases: Science for LIFE. The research of the Biomedical Photonics group focuses on the physics of the interaction of light with tissue to gather quantitative, functional and molecular information. The generated knowledge on biomedical optics is used for the development, introduction and clinical evaluation of (newly developed) optical imaging and analysis techniques.