

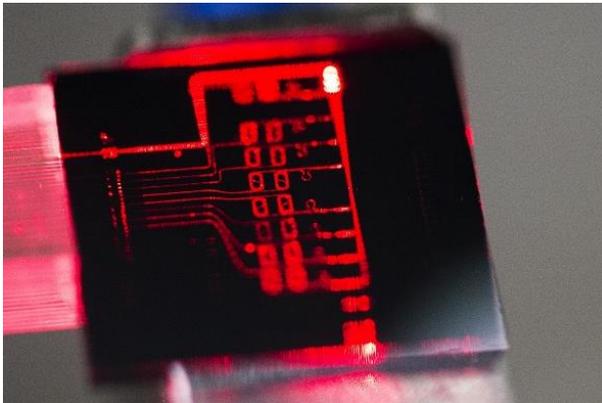
## Multi-Project Wafer run 850nm for Bio-sensing

### Introduction

Our bio-photonic sensor platform has unparalleled sensitivity and reproducibility and finds application in bio sensing applications like: drug discovery and development, companion diagnostics, therapeutic drug response monitoring and early diagnostics. The photonic sensor building blocks are now also offered via our multi-project wafer offering.

### MPW for bio-sensing

To enable you low cost and easy access to our photonic integrated circuit technology, we offer regular scheduled Multi Project Wafer (MPW) runs in the TriPleX™ technology. Our well-known offer for components for the telecom/datacom in the infrared (1550nm) region, as well as in life science applications in the visible range (400-700nm), is now extended with our offer in the 850nm range.

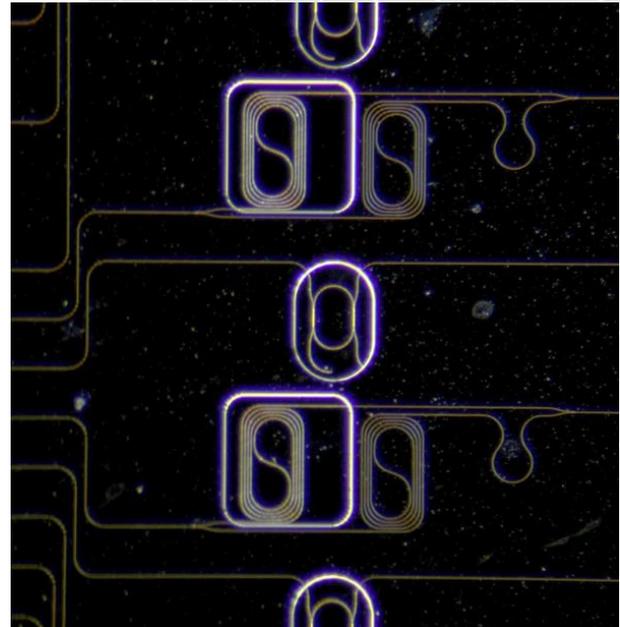


### Why 850nm?

The availability of low cost light sources like the VCSEL as well as standard photo-detector at this wavelength, makes it a very interesting range to integrate bio-sensors.

### Building blocks

Within the bio-sensing MPW we offer several standard components like micro-ring resonator (MRR) and asymmetric Mach Zehnder (aMZI) structures that



are used as refractive index or absorption sensors. Other waveguide building blocks like bends, couplers and splitters are available to connect the sensor (arrays) in any way you like. Waveguide tapers and grating couplers are available to connect fiber (arrays) to the device or to prepare the device for flip-chip of VCSELs and detectors.

### Other applications

The 850nm MPW is optimized for bio-sensing applications. Also other applications are addressed in this wavelength range like for example:

- **Optical Coherence Tomography**
- **Spectrometry**
- **Metrology**
- **And many others**

Want to be on the next MPW 850nm run?

Leave you details here:

[www.lionix-international.com/bio-sensing-MPW](http://www.lionix-international.com/bio-sensing-MPW)

## Complete start-kit System

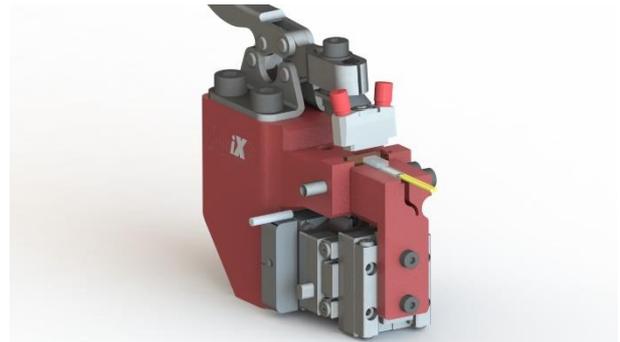
In the new 850nm MPW offering the photonic bio-sensor building blocks are optimized to use in our high-end fully integrated benchtop system. This system includes automatic fiber array alignment, the controlled laser sources as well as the fluidic connection and handling. Dedicated software assists aligning the PIC to the input and measurement fibers and perform the requested measurements. Our benchtop system is both available for purchase as well as lease. This way the PIC sensors can be used without any barrier and you can focus on the important part: getting results from the measurements!



## Application specific functionalization

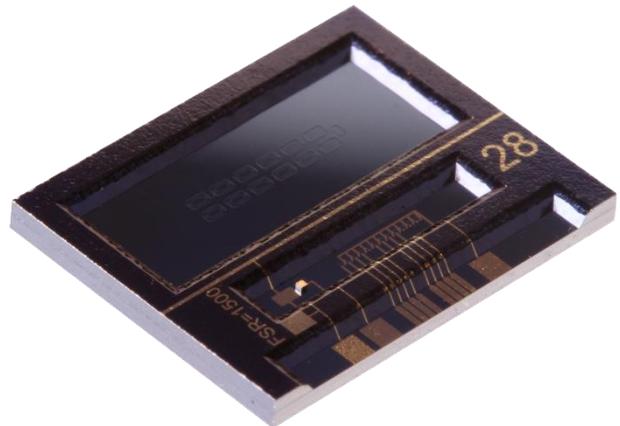
The bio-photonic sensing platform is created as a general means to perform different types of measurements. Depending on the application the platform is adjustable, by choosing the proper MRR or aMZI building blocks and by adding for example surface modifications to make the sensor unique to a certain molecule.

The sensor platform has been used in several application, measuring refractive index changes in fluids, interactions with aptamers and antibodies for use in food safety (milk, olives, nuts), marine safety (measuring pollutants in ocean water) and small molecules for personalized medicine as well as early diagnosis, monitoring and personalized treatment of cancer using urine as a liquid biopsy.



## Scaling to volume

The photonic bio-sensing platform is already designed for use as stand-alone disposable fashion using flip-chipped source and detectors. So when you are happy with the results of the benchtop test, the route to scaling to volumes is already started.



**Want to be on the next MPW 850nm run?**

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Our chips drive your business

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