



Spin-off from VUB B-Phot, imec & Photonics Research Group UGent

Established in 2014

Milestones

- **June 2014:** Luceda N.V. established
- **June 2014:** Luceda Photonics concretizes Strategic Partnership with Tanner EDA, now part of the Mentor Graphics group
- **July 2014:** Luceda N.V. raises capital from imec and SOFI/PMV
- **January 2015:** Luceda launches the first commercial version of IPKISS, the integrated photonics design software
- **April 2015:** Luceda marks the 10th customer including 2 leading Fortune 500 companies

Luceda Photonics

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Developed by Photonics Research Group, UGent/imec

Opto-electronic transceiver for "Fiber to the home" applications

Take control of your integrated photonics design flow

Luceda Photonics wants photonic IC engineers to enjoy the same **first-time-right design** experience as electronic IC designers. Luceda Photonics' tools and services are rooted in over 50 years of experience in photonic integrated circuit (PIC) design.

The team's expertise in the development of process design kits (PDK) and the design and validation of photonic integrated circuits is used by several research institutes and industrial R&D teams worldwide.

The company was founded by Wim Bogaerts, Erwin De Baetselier, Pieter Dumon, Martin Fiers, Joris Geessels and Pierre Wahl, valorizing key research at imec, the photonics group of the UGent and the B-Phot team at the VUB.

The IPKISS Design Framework

IPKISS is a scripting environment that covers the **complete photonic IC design flow** up to measurement feedback for true component validation. The components rely on a single, centrally defined model for a smooth transition between the different design stages such as layout and circuit simulation. This makes the design flow robust - what you layout is what you calculate -, will **reduce design errors** and will **save considerable design time**.

Raise the integrity of your design flow

- fully parametric powerful Python scripting
- from netlist to layout in the same component
- circuit simulation & validation by measurement
- customizable to internal design methodology
- Fully supports the imec & IHP PDK

You will leverage on years of design experience by using **the state of the art component library** adaptable to different FAB technologies with specialized validated components such as AWGs, Mach-Zehnders, photonic crystals and grating couplers. Using the versatile Python scripting you will be able to centralize your expertise within a custom design flow. This streamlining of the design flow allows for more efficient collaboration between designers, faster design iterations and a more robust knowledge management of previous designs.

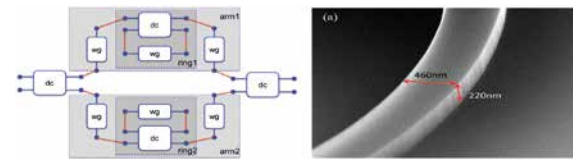
Save Time and Wafer Runs

Luceda Photonics supported the tape-out of **over 300 designs over the past 10 years**. Starting from its extensive validated component library that you can use right from the shelf, the company can assist you in the creation and validation of new model libraries, process design kits (PDK) and toolboxes and establish best practices to reduce your time-to-wafer.

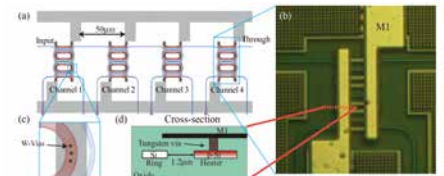
- **Front-end design:** design of (sub)circuits and development of device models
- **Layout:** supporting you on fab-specific layout implementation for faster turn-around-time.
- **Tape-out:** helping you understand and apply fab design rules and get your design as close as possible to tape-out, saving precious time and letting you focus on the design

Offer your technology to your customers or share your design knowledge within your team

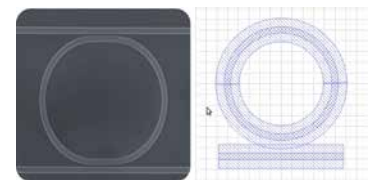
- **Design kit services:** Technology file setup, interfaces to electronic (EDA) and photonic (PDA) design automation tech files



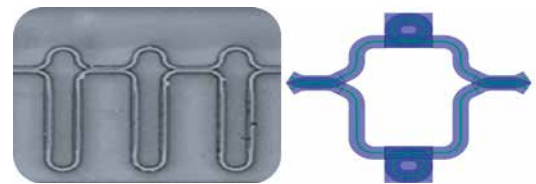
Fully coupled circuit & layout simulation (all devices designed with IPKISS)



5x20Gb/s WDM Ge Receiver, P. De Heyn, imec



Ring Resonator



Mach Zehnder interferometer



Steering of measurement devices for model validation

'We want photonic IC designers to enjoy the same first-time-right design experience as electronics IC designers. IPKISS is a state of the art environment that makes the design flow for photonic ICs robust and saves our customers design time.'

Erwin De Baetselier, CEO