

YOUR DESIGN
OUR SERVICE
YOUR FUTURE

SMART PHOTONICS

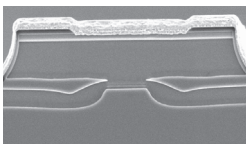
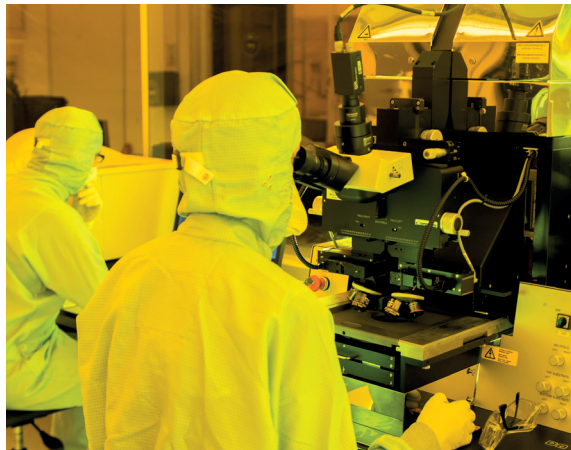
Independent InP Foundry

SERVICE AND COMPETENCES

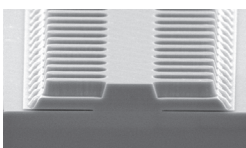
AN INDEPENDENT InP FOUNDRY

For Photonic Components

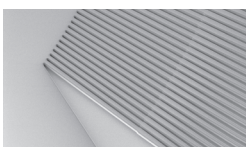
SMART Photonics is a Pure Play InP Foundry with production located in Eindhoven, The Netherlands. The company was founded in 2012 after a long history in Philips and JDSU, which is reflected in the III-V production expertise of its team. As an independent foundry, SMART Photonics offers a unique generic integration technology for production of InP based photonic integrated circuits (PICs), based either on a customer specific process, or on SMART Photonics own Process Design Kit (PDK).



BH DFB Laser



Sidewall gratings



AWG

Our Services

We offer our knowledge, expertise and capabilities only to support our customer.

As a Pure Play Foundry we offer our customers different services:

1. New Product support, both for discrete as well as integrated photonic circuits. From proof of concept phase to volume production phase.
2. Multi Project Wafer (MPW). Low threshold access to SMART Photonics integration technology and Process Design Kit (PDK). The MPW runs are scheduled on a quarterly basis to ensure fast and cost-effective proto-typing.
3. Specific processes, such as Epitaxial re-growth and high resolution lithography.

Capabilities

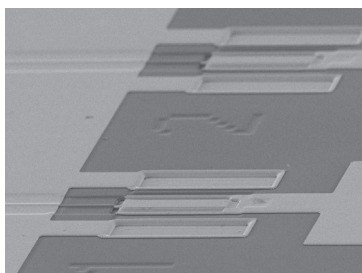
SMART Photonics has a dedicated III-V production location for processing both 2" and 3" wafers, which is set up for InP wafers. Processing of other III-V materials is possible on request (except for epitaxial growth).

Expertise

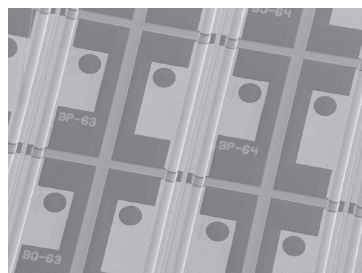
- Photonic components, ranging from photo-diodes, SOAs and SLEDs to DFB and EML lasers (both buried and ridge devices).
- Photonic Integrated Circuits, based either on a customer specific process, or on SMART Photonics own generic integration process.



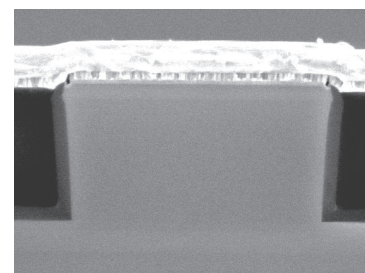
PROCESS STEP	TYPE	DESCRIPTION
EPITAXY	Multiwafer MOVPE	Multiple reactors for base wafer growth, regrowth and overgrowth
LITHOGRAPHY	ASML wafer scanner	High throughput, high resolution >100nm litho (e.g. DFB gratings)
	ASML wafer stepper	0.7 μm non-critical projection litho
	E-beam lithography	High resolution <100nm features (e.g. DFB gratings)
	Contact aligner	0.6 μm non-criticalcontact litho
ETCHING	Cassette-based wet etching	Controlled mesa etching, selective layer etching
	ICP	High quality deep ridge etching (single wafer or multiwafer tools)
	RIE	Dedicated machines for dielectric, polymer, photoresist etching
DIELECTRIC DEPOSITION	PECVD	Deposition of SiO _x , SiN _x
METALIZATION	E-beam evaporation	Dedicated tools for P- and N-contacts
	Sputtering	Contact metallization, interconnects, plating base
	Plating	Thick Au >1 μm for bonding or RF interconnects
BACK-END	Grinding and polishing	Thinning and preparation for backside metallization
	Scribe and break	Bar cleaving
	Optical coatings	AR and HR coatings



Photodiode array



DFB wafer



EML



Integrity is key in the services SMART Photonics offers. As an independent Pure Play InP Foundry, we work at the sole discretion of our customers and their businesses.

Teams of highly experienced experts support all of our clients' requests. Our production services range from epitaxial growth and regrowth to coating and testing of the individual chips. We accommodate both proof-of-concept and volume manufacturing.

We are a European based manufacturer with production and research facilities located in Eindhoven.

www.smartphotonics.nl