PhotonDelta Global InP Map

The Global InP value map presents the value chain for Indium Phosphide (InP) photonic integrated circuits and affiliated applications. InP is the base material that stands out for its ability to produce light, thus allowing for fabrication of active components like lasers. These components are very suitable for applications in data centers, fiber-to-the-X, 5G base stations connections, but also for lidar and sensing applications.

Corporate PIC Design & Test & PDK development

Design
BRIGHT Photonics (NL)
Synopsis (US, NL)
VLC photonics (ES)
VPI Photonics (DE)
ETSC Europe (BE)
EHVA Photonics (CA)
Luceda Photonics (BE)
Siemens EDA (prev. Mentor Graphics) (US)
Photon design (UK)

Test
VLC photonics (ES)
PhotonFirst (NL)

Design &Test Software
Synopsis (CA, NL)
Cadence (US)
Nazca design (Bright Photonics)(NL)
Ansys / Lumerical (US/CA)

For corporate verticals, see the module vendors.

PDK Building block development

TU Eindhoven (NL)
UCSB (US)
CREOL U.C. Florida (US)
CPS Cambridge (UK)
Ghent University (BE)
UGent (BE)
Oxford University (UK)
DTU (DK)
KTH (SW)
FBH (DE)
Fraunhofer HHI (DE)
Ghent University (BE)

McGill University (CA)
ORC Southampton (UK)
CAS Beijing (CN)
Georgia IT (US)
UTwente (NL)
UDelft (NL)
Hunan (CN)
KTH (SW)
Polimi (IT)
UCAM (UK)
WUT (PL)
UVigo (ES)

Foundries

Corporate
InPact (FR)
DenseLight (SG)
Global Communication Semiconductors (GCS) (US)
SMART Photonics (NL)
Almae Technologies (FR)
Sivers Photonics (prev. CST Global) (UK)
Infinera (US)
SRI International (US)
III-V labs (FR)

II-VI Epiworks (US) / IntelliEP (US)
3SP Technologies (FR)
WIN semi (TW)
IQE (GB, US, SN, TW)
VPEC (TW)
Landmark (TW)
VIGO (PL)

Research Institutes
Fraunhofer HHI (DE)

Packaging

Phix (NL)
Alter Technology (UK)
AMKOR technologies (US)
Physik Instrumente PI (US)
Ficontec (DE)
Etteplan (FI)
Argotech (CZ)
Microalign (NL)
Black semiconductor (DE)

Research Institutes
Tyndall NI (IE)
AIM Photonics TAP Facility (US)
CITC (NL)
TNO (NL)

Module vendors

Data & Telecom
EFFECT Photonics (NL)
Aircision (NL)
Freedom Photonics (US)
Mellanox (IL)(bought by Nvidia)
Accelink (CN)
II-VI Finisar (US)
NeoPhotonics (US)
Source Photonics (US)
Mitsubishi electronics (JP)
Acacia (US)
AOI (JP)
Global Communication Semiconductors (GCS) (US)
APAT (CN)
Lumentum (US)
MACOM (US)
Fujitsu (JP)
Hisense Broadband (CN)

Almae Technologies (FR)
AXT (AUS)
Duet Microelectronics (US)
3SP Technologies (FR)
EMCORE (US)
Juniper networks (US)
Chilas (NL)

Sensing / LIDAR
PhotonFirst (NL)
Ommatidia Lidar (ES)
Scantinel Photonics (DE)
SILC Technologies (US)
Lumiwave (CN)
Blackmore sensors (US)
Aeva (US)

Biosensing / Fibersensing
PhotonFirst (NL)
MicroAlign (NL)

Aggregators

Jeppix (NL)
EPIXFAB (BE)
CMP (FR)
Cornerstone (UK)
IMEC (BE NL)

Manufacturing technology

Corporate
AMKOR technologies (US)
Demcon (NL)
Etteplan (FI)
Jabil (US)
MicroAlign (NL)
Nexus Photonics (US)
PIC Advanced (PO)
Salland Engineering (NL)
ShinEtsu (US)
Riber (FR)

LAM (US, AU, KO, TW)
Hitachi (CN)
Applied Materials (US)
ASMI (NL)
ASML (NL)
AIXTRON (NL)
Solmates (NL)
ASM Amicra (DE)

Research Institutes
IMEC (BE, NL)
TNO (NL)

C2N (FR)
imb-cnm (ES)
AIM photonics (US)
Sandia National laboratories (US)
Fraunhofer (DE)
COMMSCOPE (BE, US)
Nanoscribe (DE)
ASM Amicra (DE)

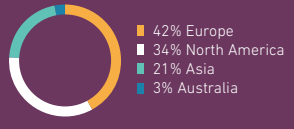
Auxiliary technology

IMS (NL)
Bruco IC (NL)

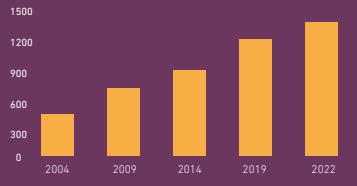
Metrology

Corporate
Exfo (US)
Luna Inc (US)
Etteplan (FI)

Research Institutes
VTT (FI)
Euramet (EU)
Fraunhofer CMI (US)
CSIC (ES)



Locations of InP value chain companies (% per continent)



Published InP photonics patents on average per year*
*Global analysis of Indium Phosphide photonics patents in the years 2000-2022 (source: Lens.org, no subselection of companies)