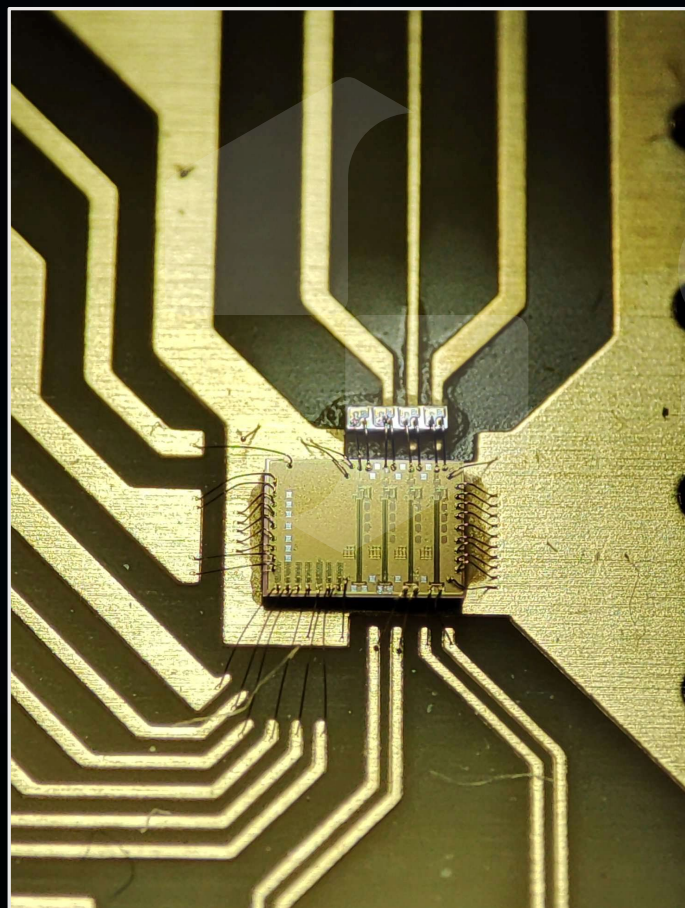




LEO SPACE PHOTONICS



ANSYS TECHNOLOGY DAY

Athens

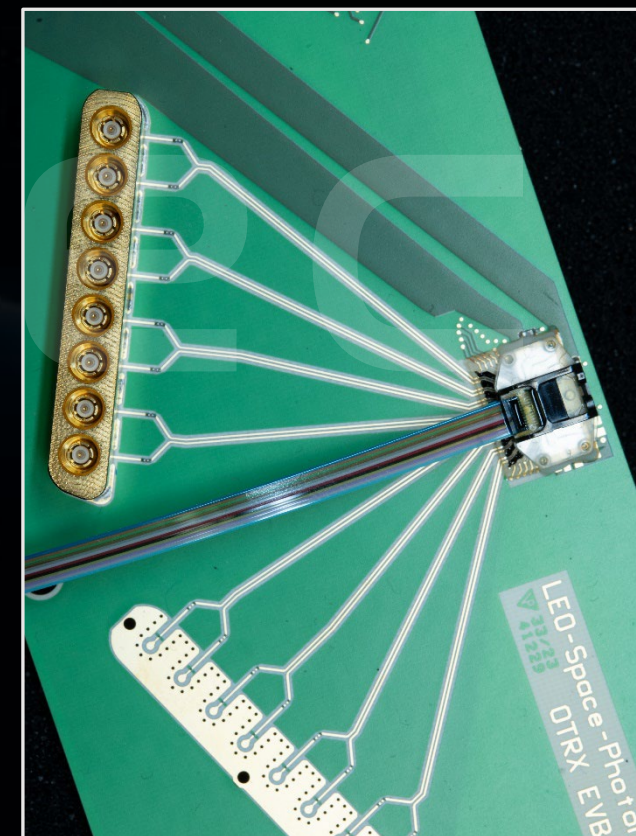
03/07/2025

CONFIDENTIAL

Dr. Leontios Stampoulidis

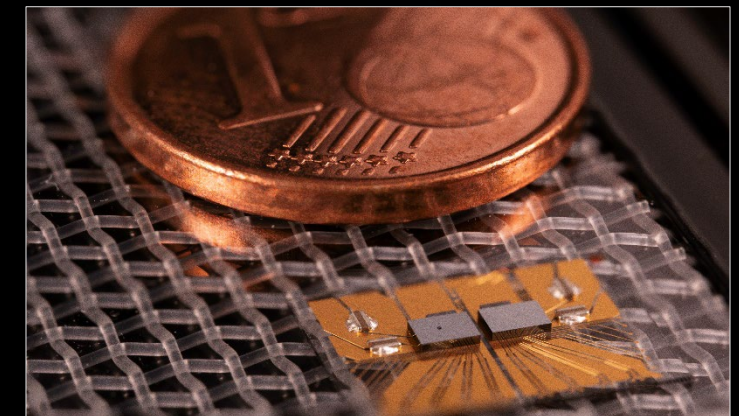
[LS@LEO-SPRD.EU](mailto:LS@LEO-SPRD.EU)

[WWW.LEO-SPRD.EU](http://WWW.LEO-SPRD.EU)



# About LEO Space Photonics

- Founded 2018, based in Attica Technology Park, Athens, Greece
- Space Photonics for high-speed satellite optical communications
- Product development
  - High data rate Optical Transceivers (OTRx)
- R&D - 6x EU funded projects (H2020, EDF, HorizonEU)
  - Satellite constellations, photonic VHTS & Optical Feeder Links

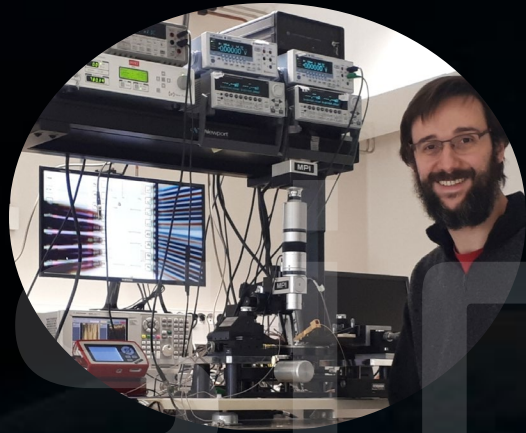


# People



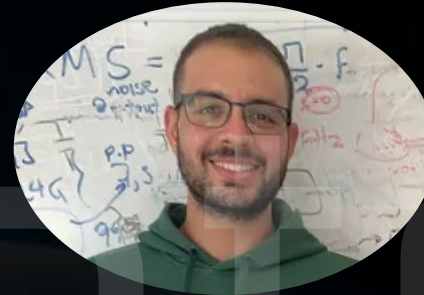
Leontios Stampoulidis, PhD

Device design



Ilias Sourikopoulos, PhD

Electronic IC Design



Ahmed Osman, PhD

Photonic IC Design



Giannis Psyllakis, MSc

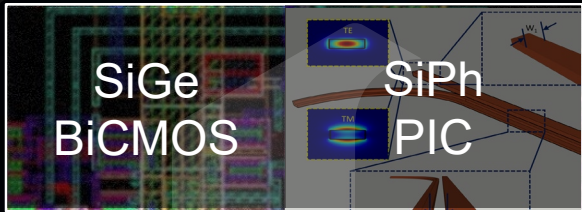
Opto-mechanical design

# Expertise

In house

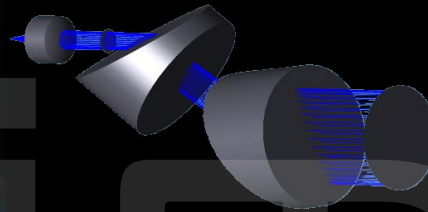
Ansys

Circuit Design



Ansys

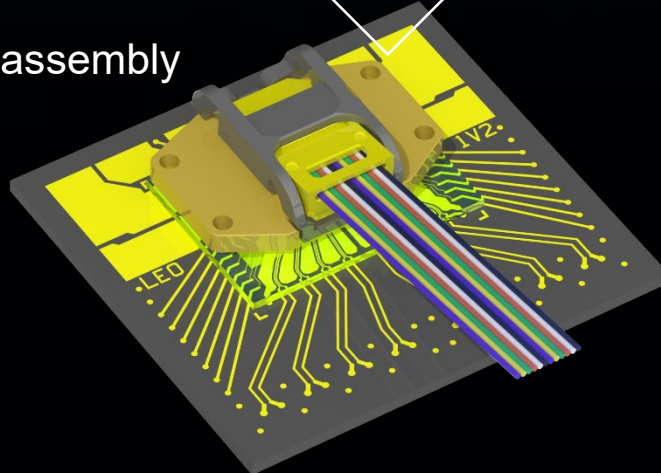
Optical Design



Mechanical Design

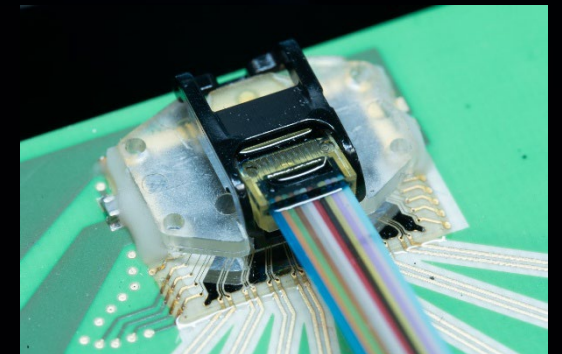


Fiber optic assembly



EU foundry service

EU packaging service



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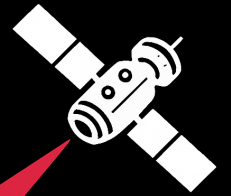
# R&D

- Space optical transceivers
- P.I. of 2x H2020-SPACE, 1x EDF & 1 HorizonEU

ANSYS products used to deliver R&D tasks of OTRX design

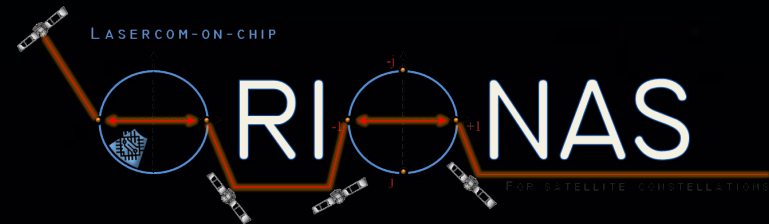
- Photonic Integrated Circuits
- Optical coupling / module packaging

**MINI-BOT**  
MILSATCOM OPTICAL TRANSCEIVERS



**SpaceLink**  
Space-grade Optical Transceivers

**SIPhoDiAS**  
Photonic-Enabled VHTS

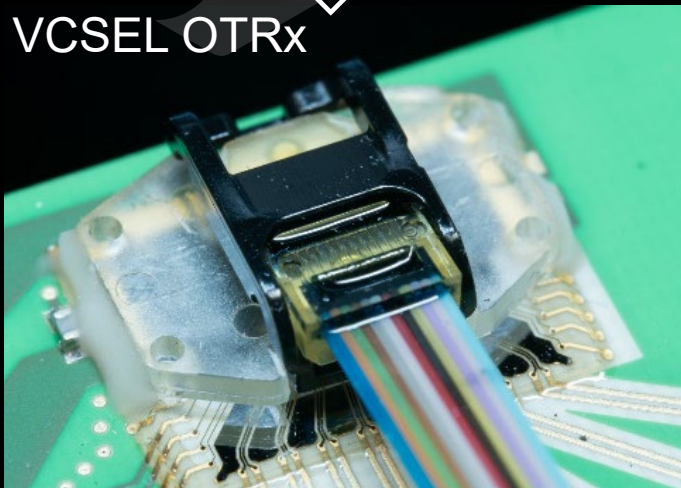


# Applications & Products

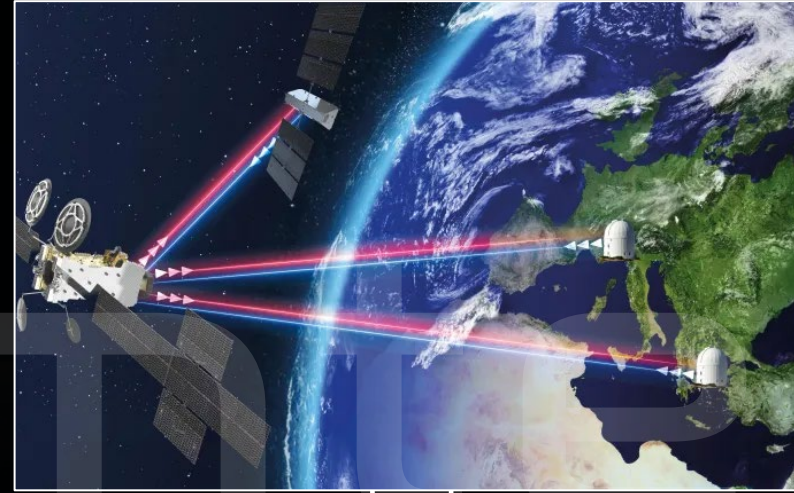
## Intra-satellite Optical Interconnects



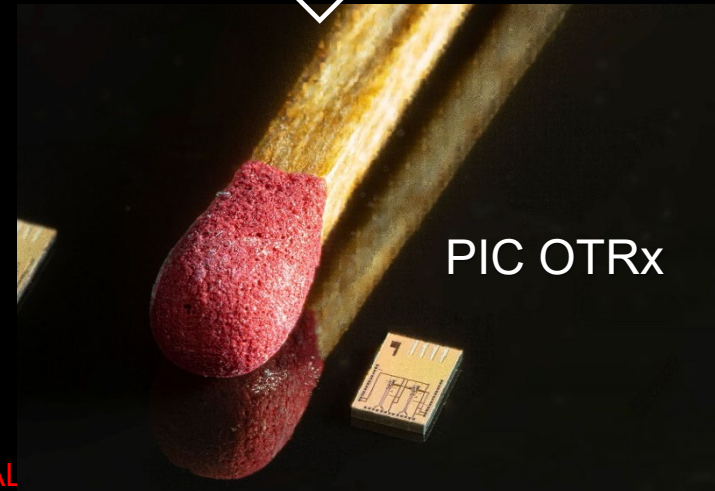
VCSEL OTRx



## Free-space optical links

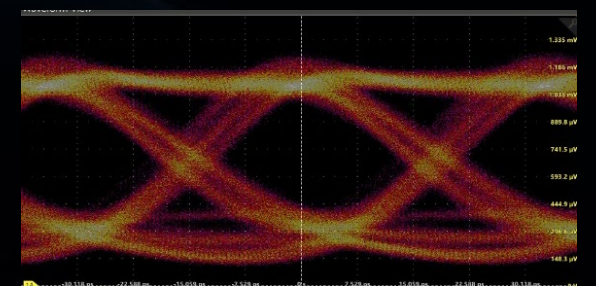
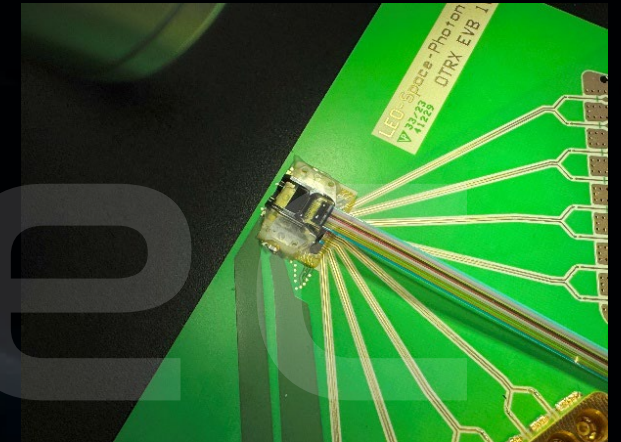
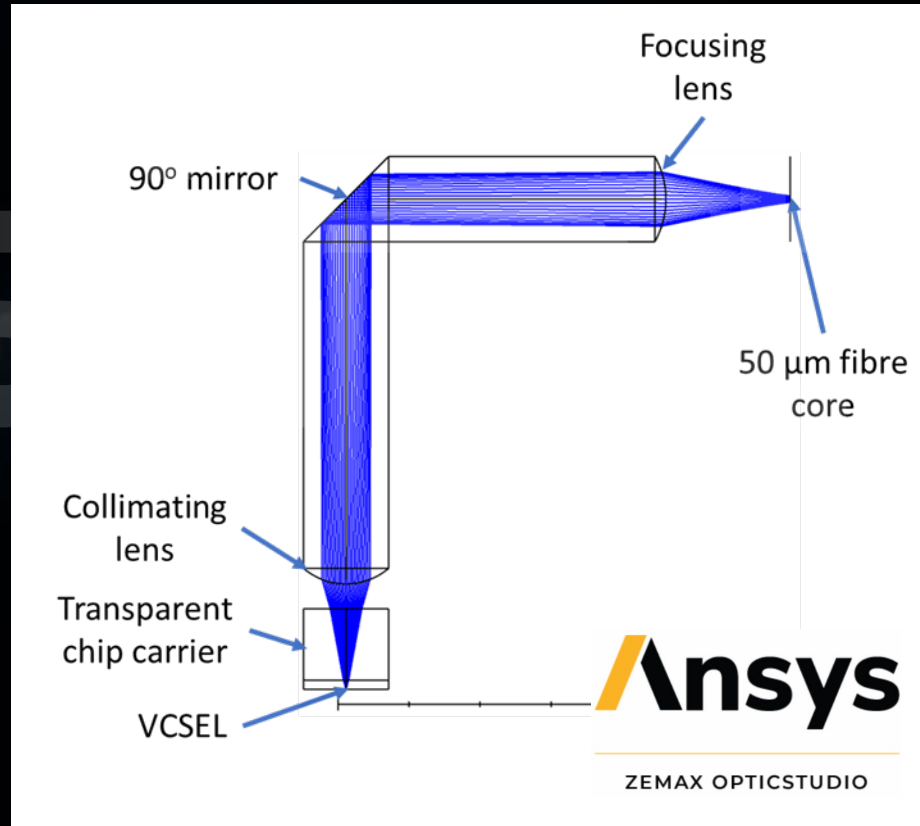
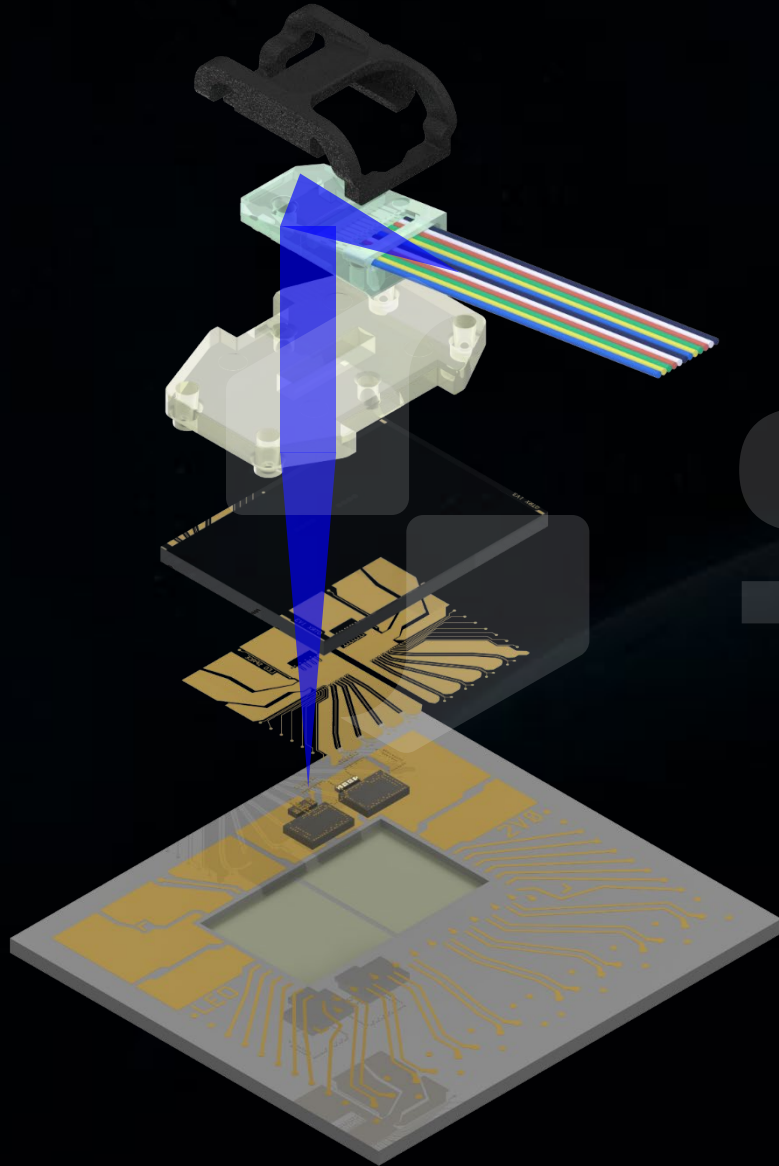


PIC OTRx



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# OTRx coupling design using ANSYS Zemax OpticStudio



# Photonic Integrated Circuit using ANSYS Lumerical FDTD



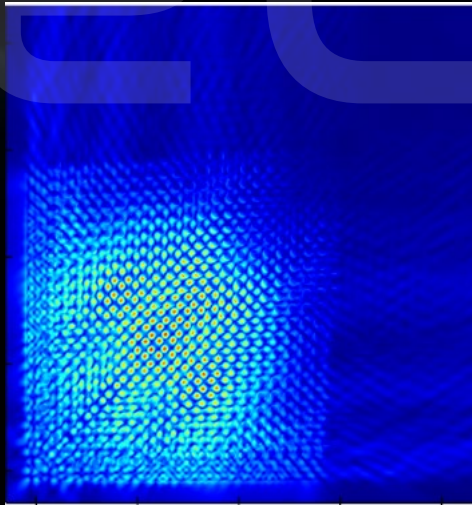
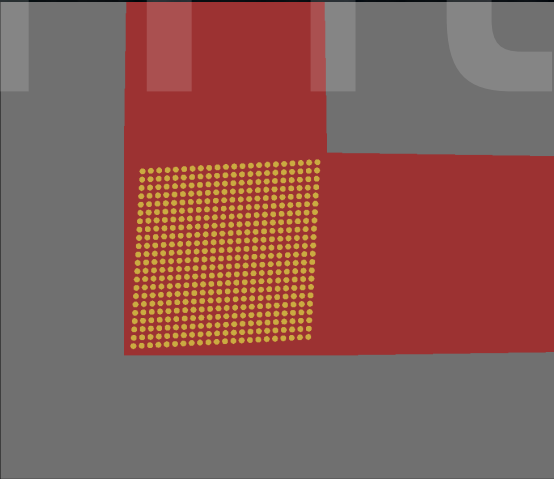
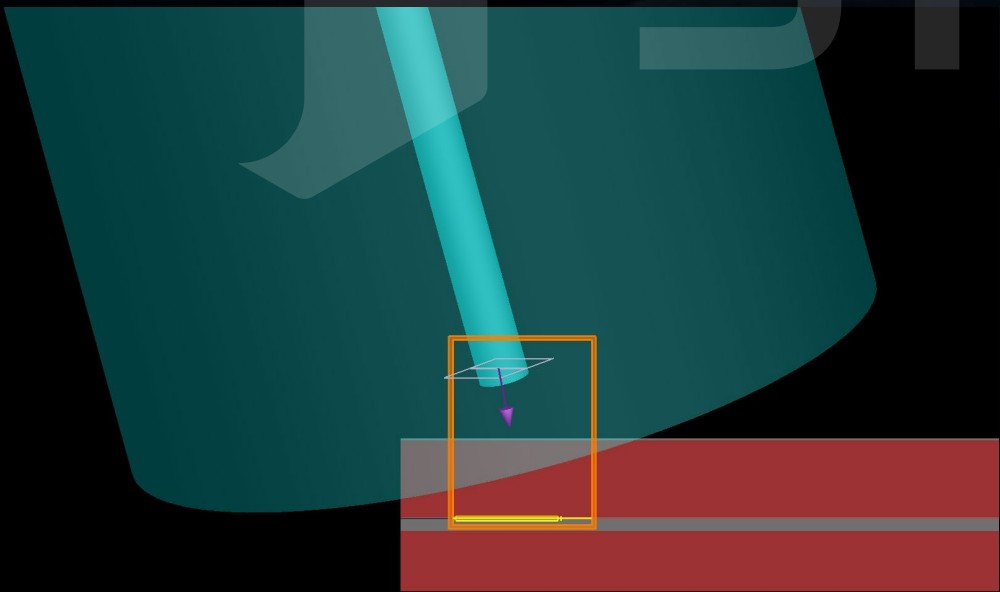
**PHOTONICS**  
Ansys Lumerical FDTD

**FREE**

6+ HOURS 7 COURSES Ansys

GO TO LEARNING PATH >

Tape-out in August 2025



# Acknowledgment



LEO SPACE PHOTONICS

European Union (EU) for funding through the “Horizon 2020”, Horizon EU and EDF framework

SIMTEC for providing support during software and simulation set-up



Horizon 2020  
European Union funding  
for Research & Innovation

