

# Photonics in the Medical Ecosystem

Engage Photonics LTD

14 Jan 2020

AEAI seminar, Tel Aviv

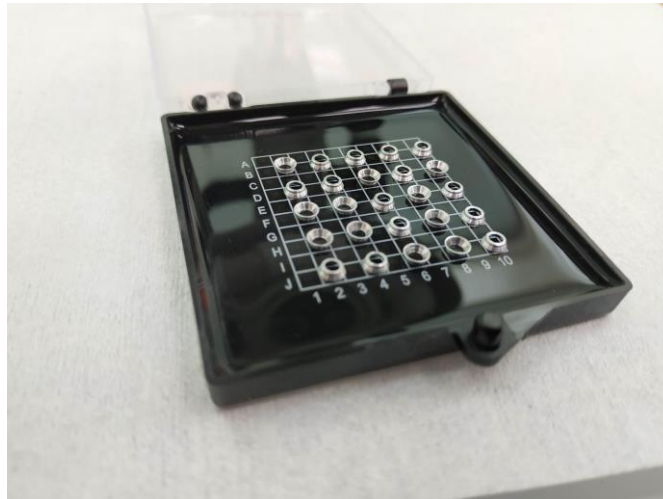
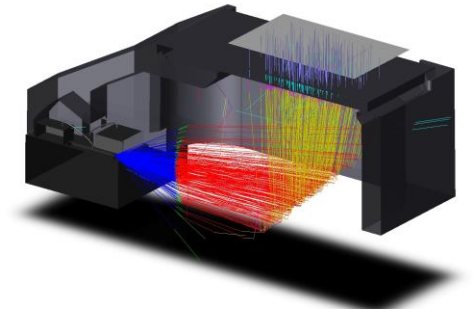
# Intro: **ENGAGE PHOTONICS LTD**

- Privately held, est. Jan 2019
- 100 sq. m
- Optics and Electronics labs
- 4 employees



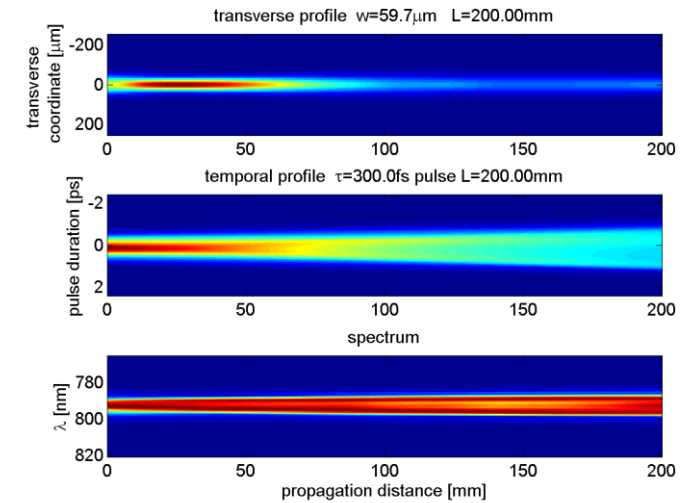
# Capabilities

- Optical design, optomechanical design, board & layout
- Mathematical models
- Image processing
- R&D and Optical experimentation
- Quick prototyping



# Core strength

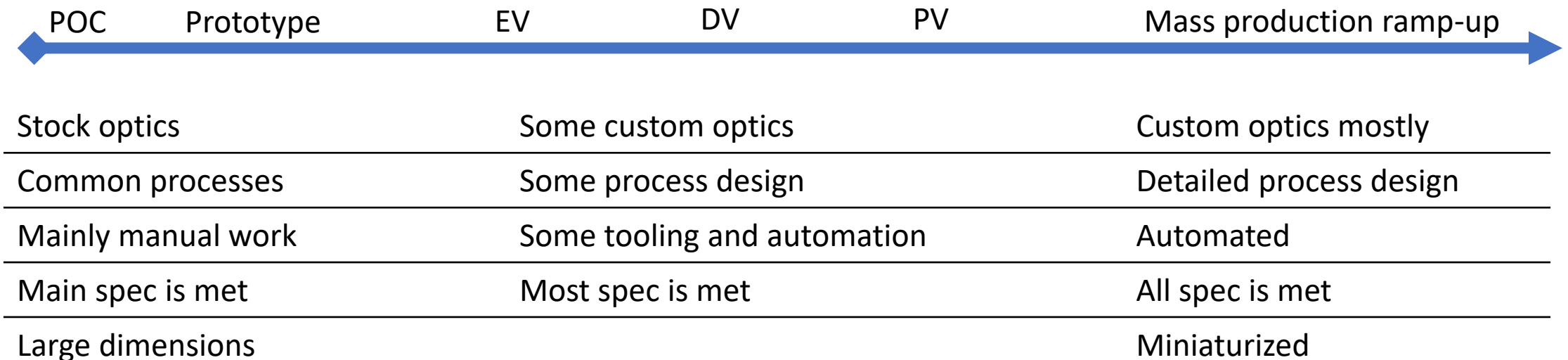
- Advanced optical design of miniaturized systems
- Design and utilization of microstructures and light source chips
- Complete set of design skills
- Design for manufacture (DFM)
- Characterization of optronic devices



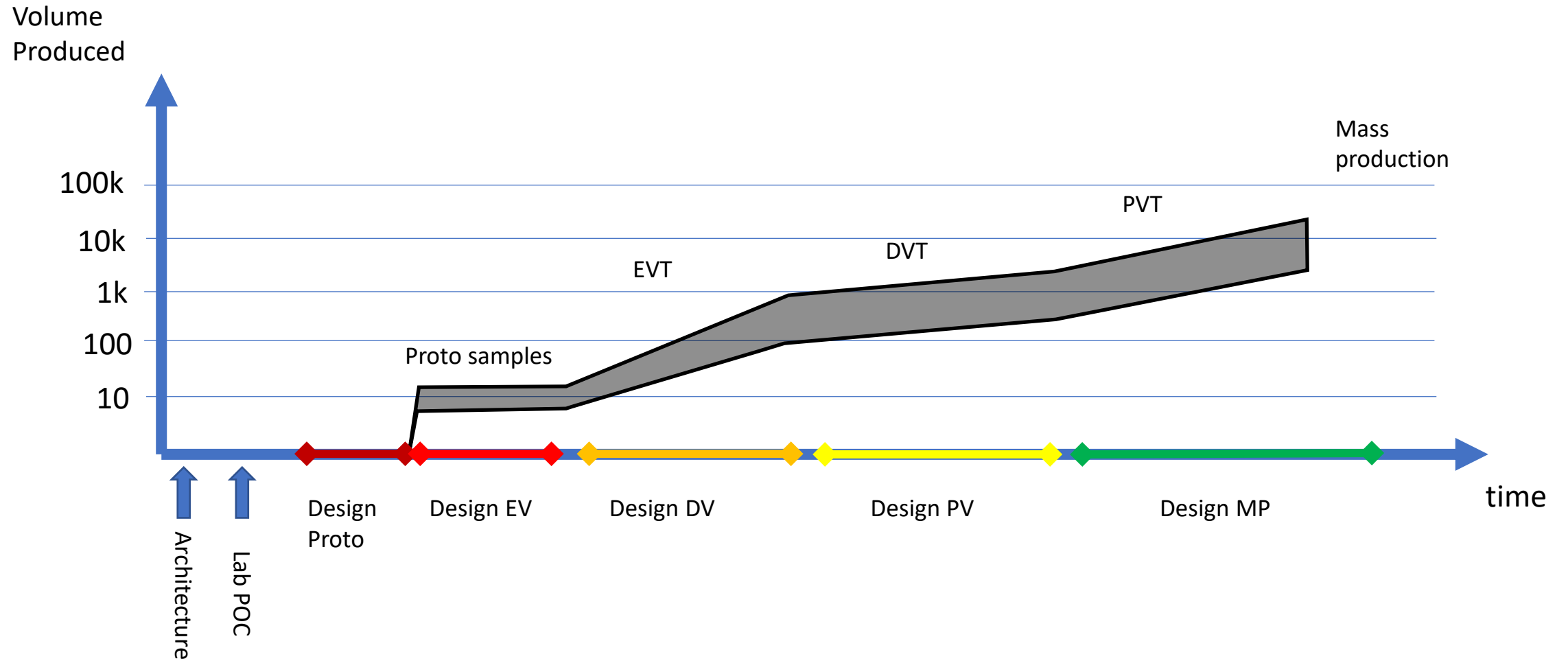
# Product life cycle

Production volume, unit price, performance, size are achieved through a few design and production cycles: POC, Prototype, EV, PV, DV, each can occur more than once.

A cycle consists of designing components (optical, mechanical, etc) and processes (adhesion, microassembly, alignment, etc).



# Product life cycle



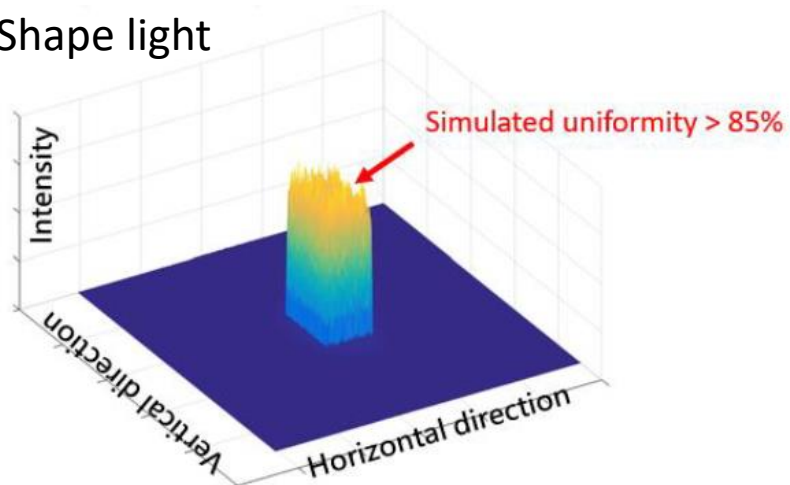
# *The* **PHOTONICS** *approach*

- What's Photonics?
  - Light emission, modulation, shaping, guiding, steering, conversion and detection
  - INTEGRATION
  - Miniaturization
- Why Photonics?
  - Physics limitations
  - Performance and efficiency
  - Size
  - Scalability and Cost

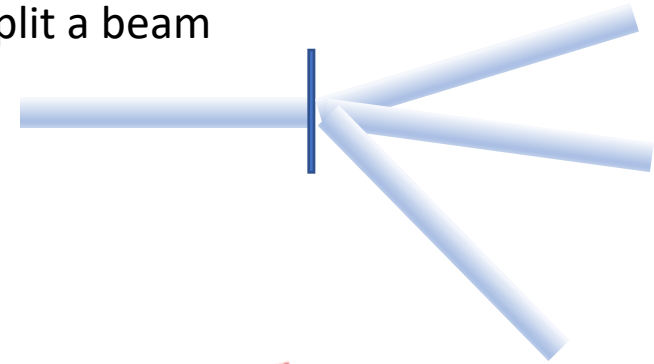
# Microstructures by **ENGAGE PHOTONICS**

- Miniaturization
- Dispersive components
- Beam splitting
- Engineered diffuser

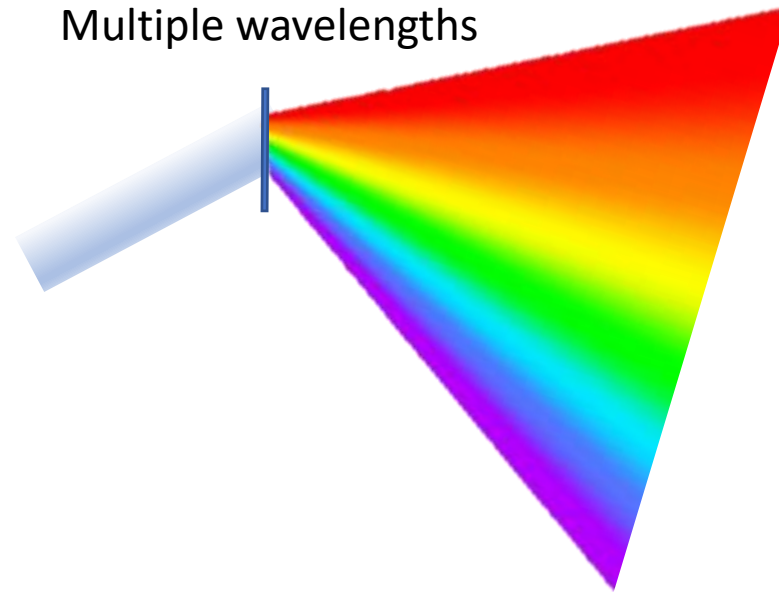
Shape light



Split a beam



Multiple wavelengths



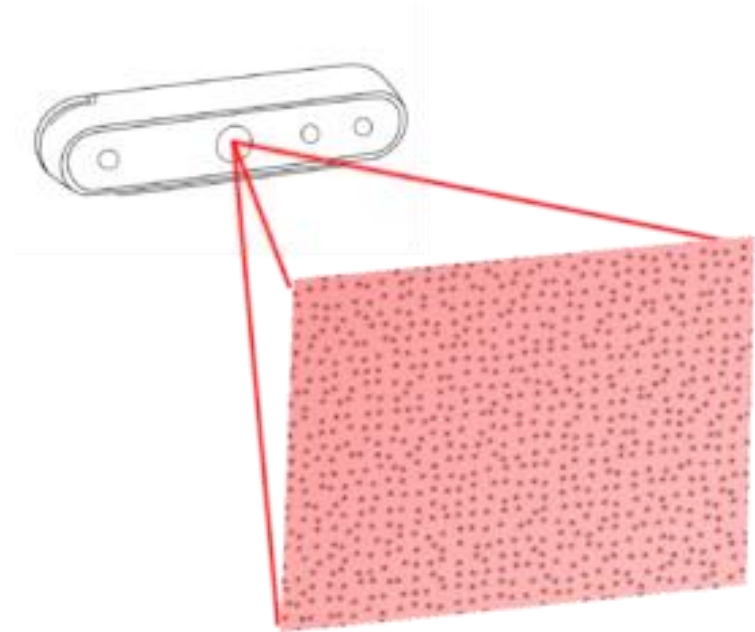
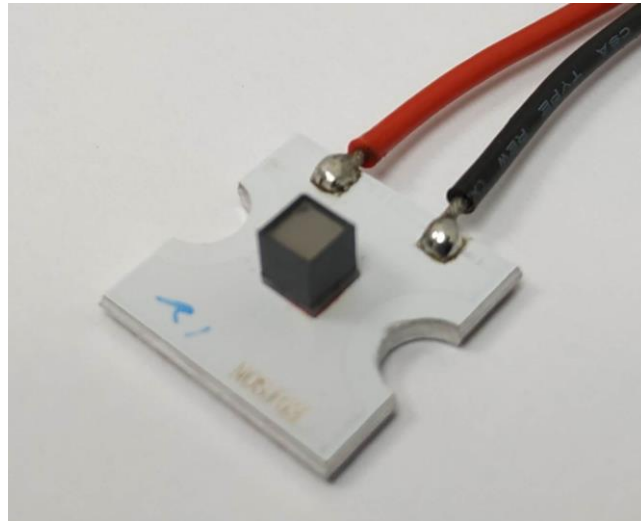
Project a pattern





# Products: structured illumination modules

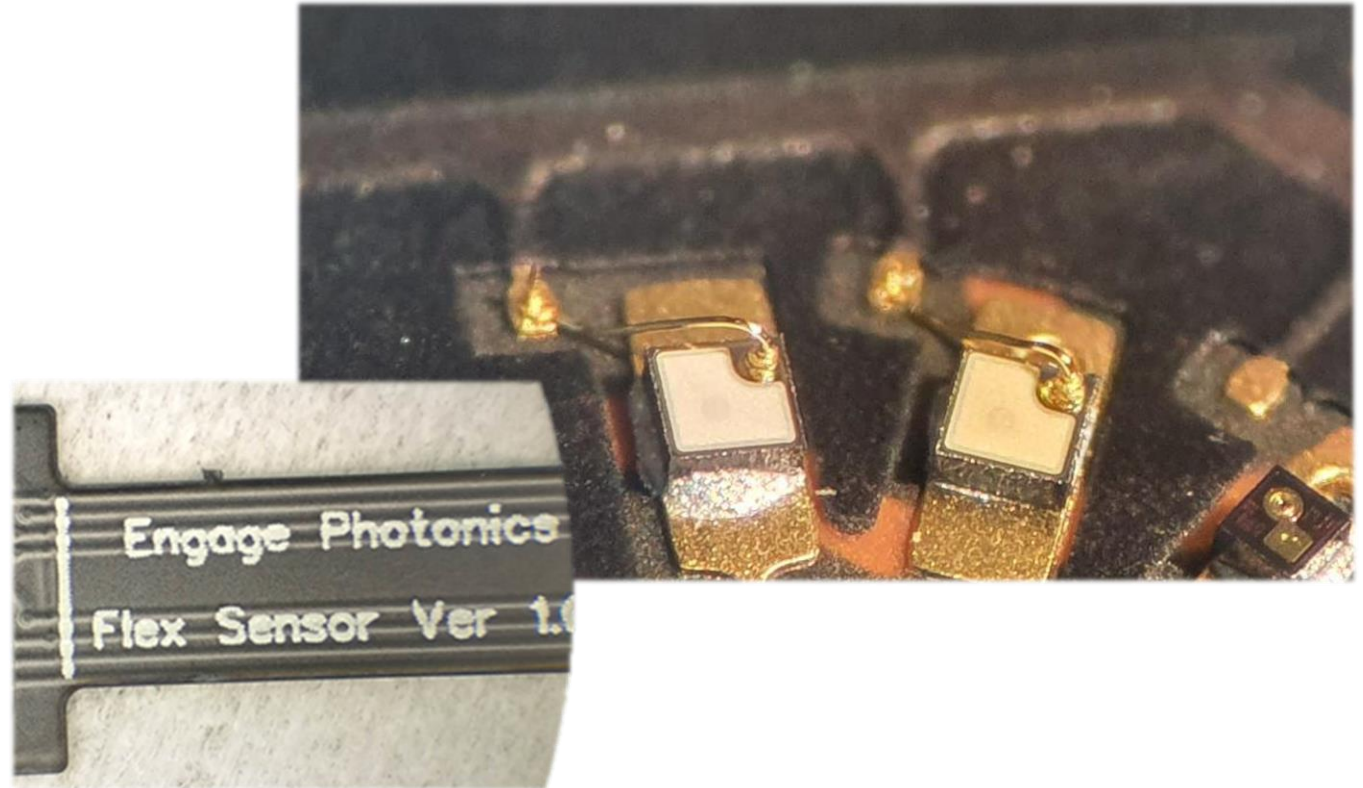
## Pattern dot projectors for 3D sensing



<https://enphotonics.com/patternprojectors/>

# Vital signs optical sensor

- Size 25x25x7 → 5x5x2 mm
- Improved performance
- Lower cost in MP
- > 15 optical dies





ENGAGE  
PHOTONICS

# Open for joint R&D

Bringing the power of photonics  
to future medical devices

[www.enphotonics.com](http://www.enphotonics.com)

