

# MedPhab

Photonic Medical Devices

Funded by



PHOTONICS<sup>21</sup>

PHOTONICS PUBLIC PRIVATE PARTNERSHIP

27 May 2020, Sören Fricke (CSEM)

# MedPhab – Accelerated Product Development



- First European Photonics Pilot Line dedicated to medical devices
- Founded to accelerate commercialisation of diagnostic devices and instrument for treatment
- Aimed at reducing R&D costs
- 18 partners with centralised communication (info@medphab.eu)
- Orders are channelled to the manufacturer with the best implementation capability



Hospital Use  
→ Medical Professionals



Home Care Service  
→ Citizens jointly with professionals



Equipment for Molecular Diagnostics  
→ Professionals in laboratories



## In R&D phase or ISO13485 certified manufacturing:

- Fibre optics
- Microfluidics
- Surface functionalisation
- Instrumentation
- Opto-electronic integration
- Miniaturisation for micromodules and wearables



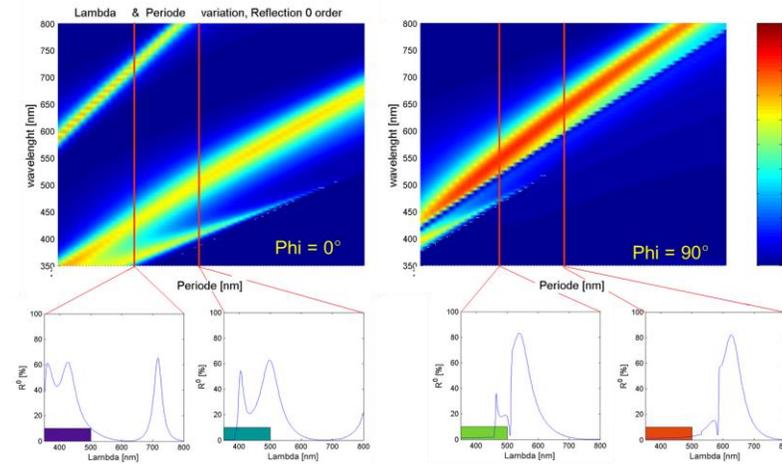
## Customer position

- Development phase
- Up-scaling phase

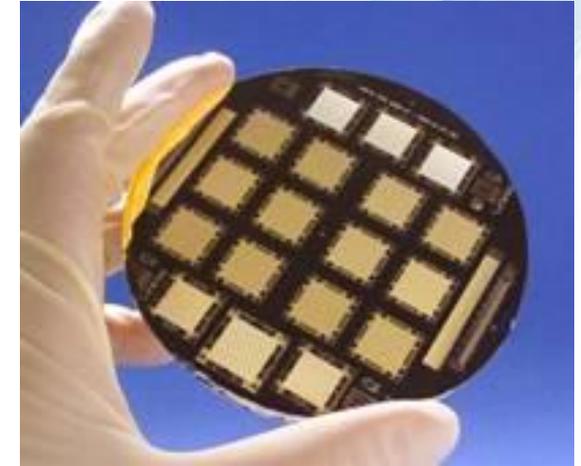
## MedPhab offering

- Designs for concepts
- Designs for manufacture
- Component manufacture
- Device integration
- Characterization

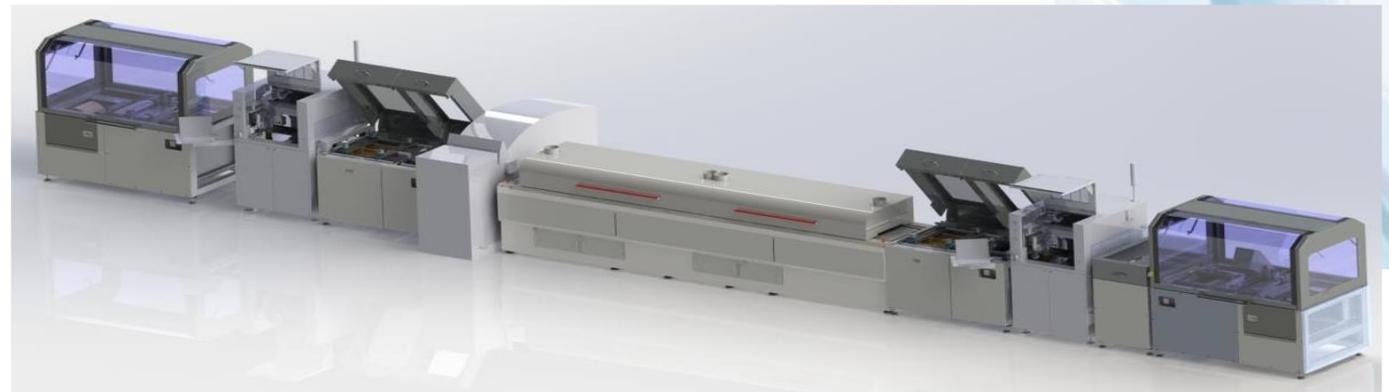
## Photonics simulation

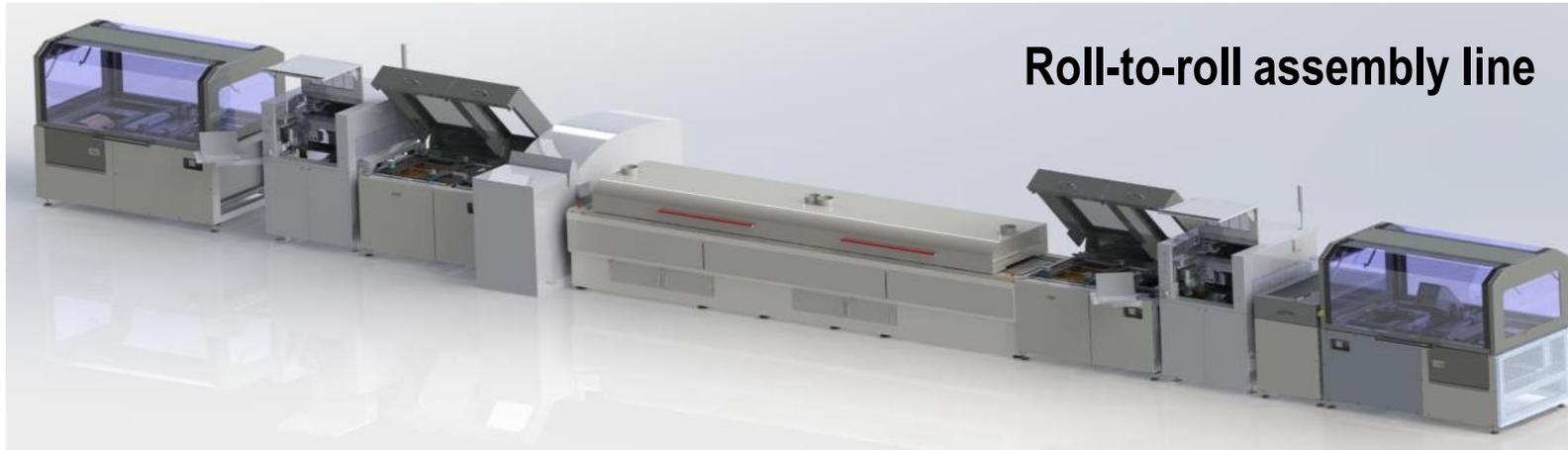


## Prototyping



## Pilot Production



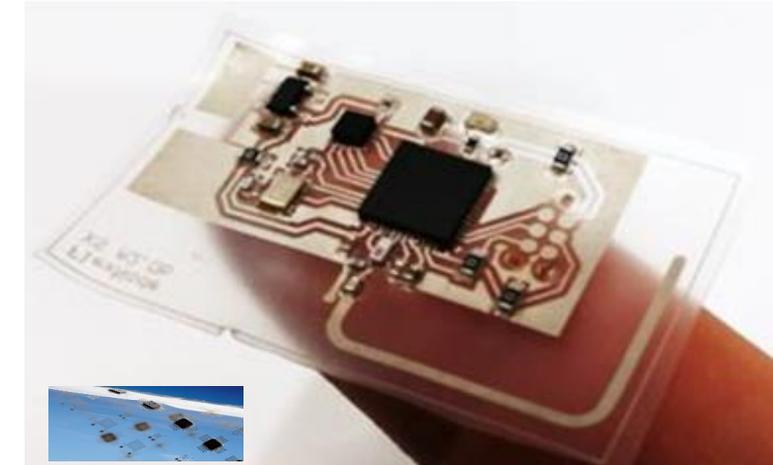


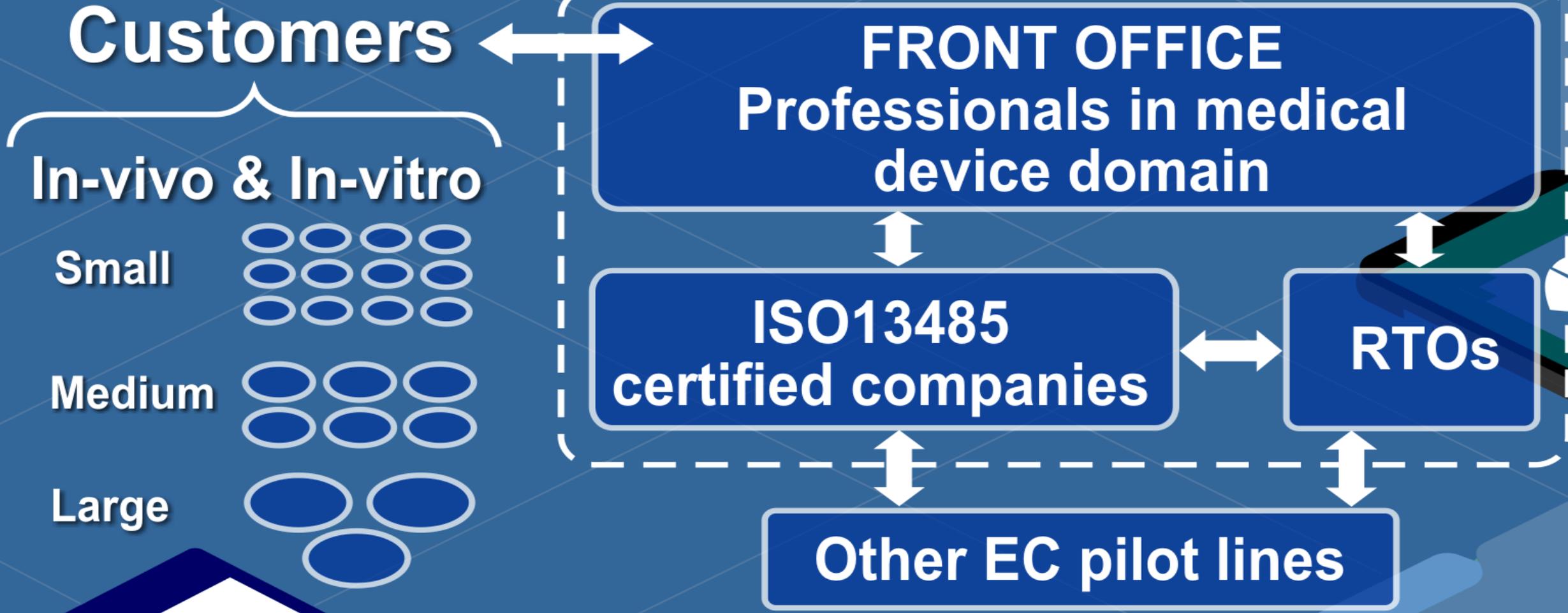
## Key features

- Packaged components and bare dies
- Devices down to  $100 \times 100 \mu\text{m}^2$  size
- Components up to  $10 \times 10 \text{cm}^2$  size
- Line width in roll-to-roll assembly up to 200 mm
- $20 \mu\text{m}$  alignment accuracy for assembly
- Thermal and UV-curing

## Applications

- Wearables
- Disposable patches
- PPG monitoring
- $\text{SpO}_2$  monitoring
- ECG monitoring





## Open calls for customers

info@medphab.eu  
medphab.eu

2020

2021

2022

2023

Operational Pilot Line

- Enabling early adoption of the technologies by external user
- Demonstrating the pilot line services
- Validating the open access business model

**MedPhab project to establish pilot line started in January 2020**  
... yet too early to operate in a centralized manner

**But willing to**

- Help companies
- Network
- Learn about the needs by the customers

**Currently to ensure short response time**

- Customer enquiries are passed to MedPhab partners
- Each partner will communicate directly with customers independently



# Project Partners

MedPhab  
Photonic Medical Devices



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# Thank you for your attention