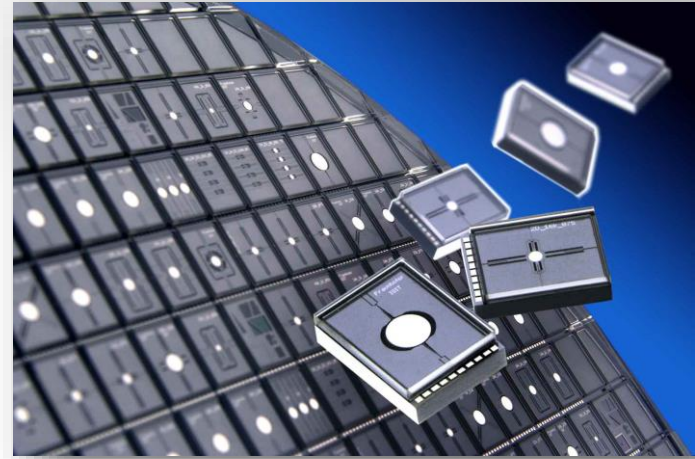




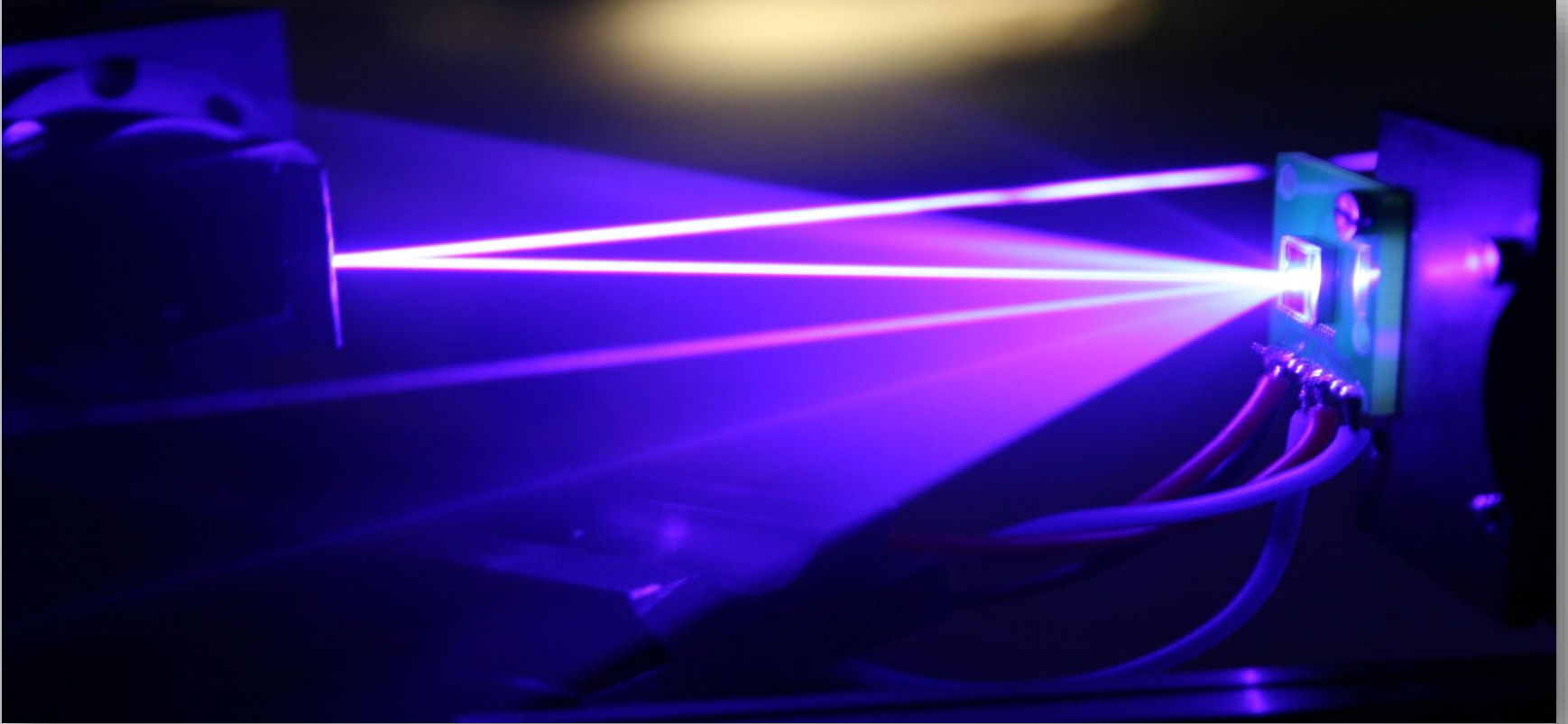
# MEMS based laser scanning solutions

Dr. Ulrich Hofmann  
Thomas von Wantoch

# SpinOff of Fraunhofer ISIT



# Expertise



# Expertise

more than 20 years of experience in:



# Expertise

more than 20 years of experience in:

- MEMS mirror design & fabrication

# Expertise

more than 20 years of experience in:

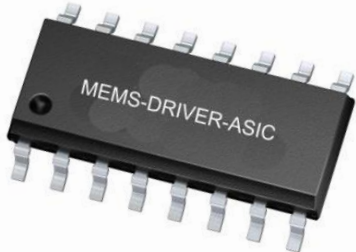
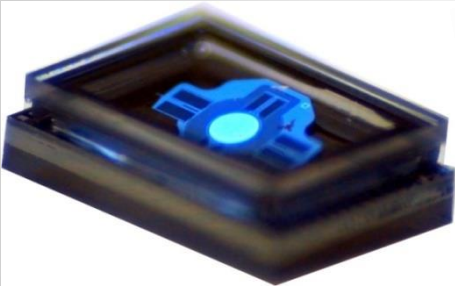
- MEMS mirror design & fabrication
- MEMS mirror drive & control

# Expertise

more than 20 years of experience in:

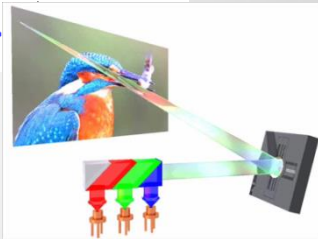
- MEMS mirror design & fabrication
- MEMS mirror drive & control
- MEMS mirror application

# Our product



+

```
1 library IEEE;
2 use IEEE.STD_LOGIC_1164.ALL;
3 use IEEE.STD_LOGIC_ARITH.ALL;
4 use IEEE.STD_LOGIC_UNSIGNED.ALL;
5 entity final_probl is
6     Port ( k : in  STD_LOGIC;
7           p : in  STD_LOGIC;
8           s : in  STD_LOGIC;
9           w : out STD_LOGIC);
10 end final_probl;
11 architecture Behavioral of final_probl is
12 begin
13     process(k, p,
14     begin
15         w <= (p AND
16     end process;
17 end Behavioral;
```



RGB-Laser      2D-MEMS-Scanner

Customized application specific  
MEMS Scanner module

Customized application specific  
system electronics





# Target Markets & Applications

# Target Markets & Applications

- Automotive LIDAR

# Target Markets & Applications

- Automotive LIDAR
- Automotive Laser-Headlights

# Target Markets & Applications

- Automotive LIDAR
- Automotive Laser-Headlights
- Automotive Head-Up Displays

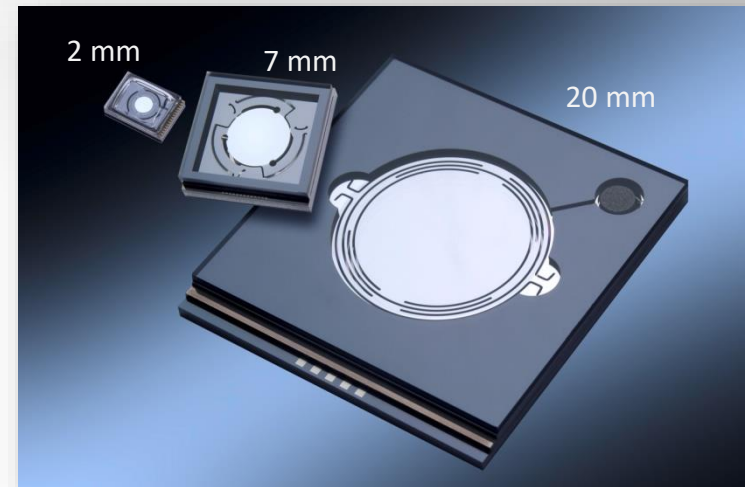
# Target Markets & Applications

- Automotive LIDAR
- Automotive Laser-Headlights
- Automotive Head-Up Displays
- Augmented Reality Displays

# Target Markets & Applications

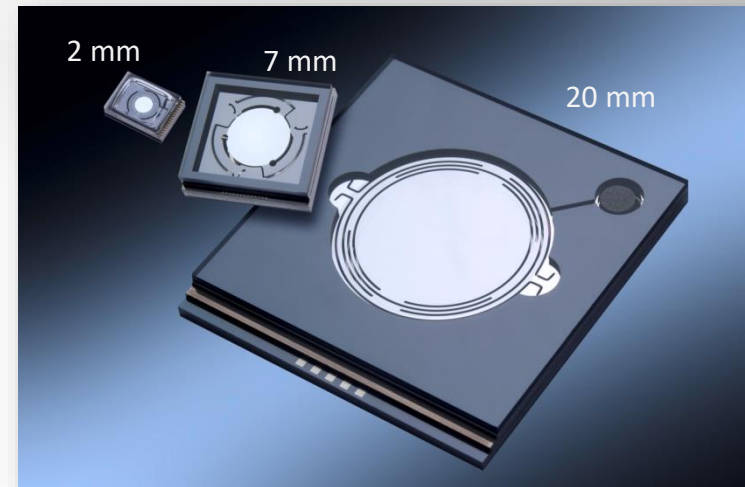
- Automotive LIDAR
- Automotive Laser-Headlights
- Automotive Head-Up Displays
- Augmented Reality Displays
- 3D-Cameras

# Unique selling points



# Unique selling points

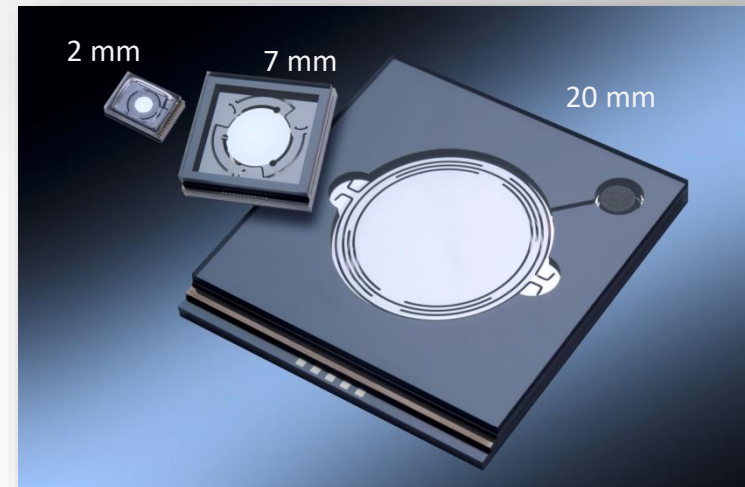
- Hermetic package





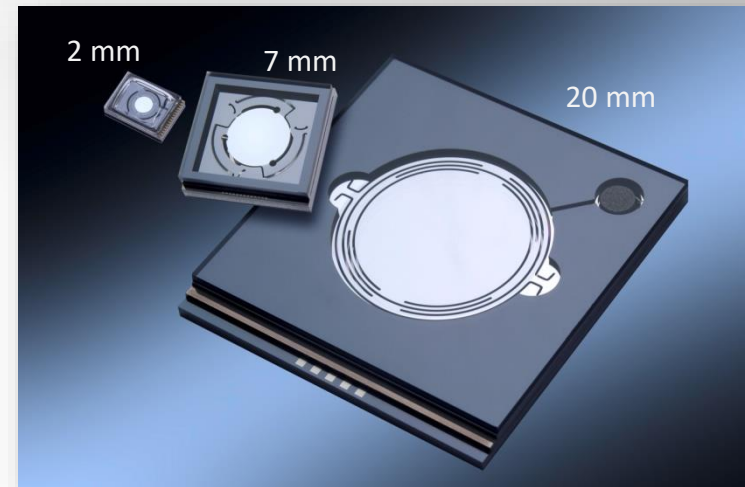
# Unique selling points

- Hermetic package
- Mirror size up to 20 mm



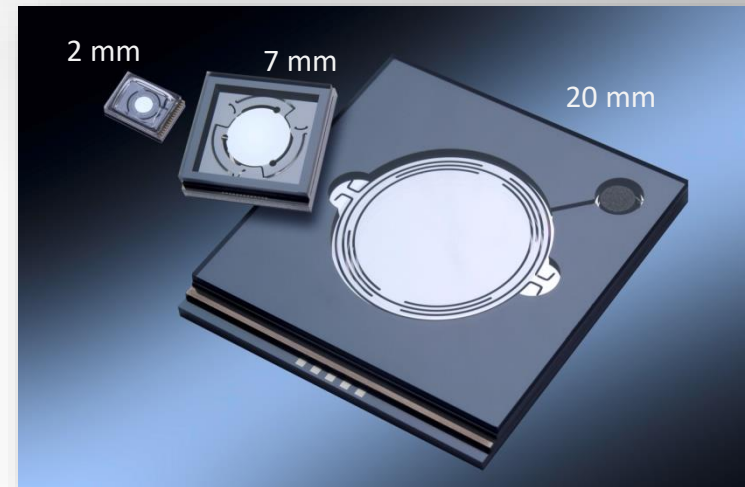
# Unique selling points

- Hermetic package
- Mirror size up to 20 mm
- Scan angle up to 180°



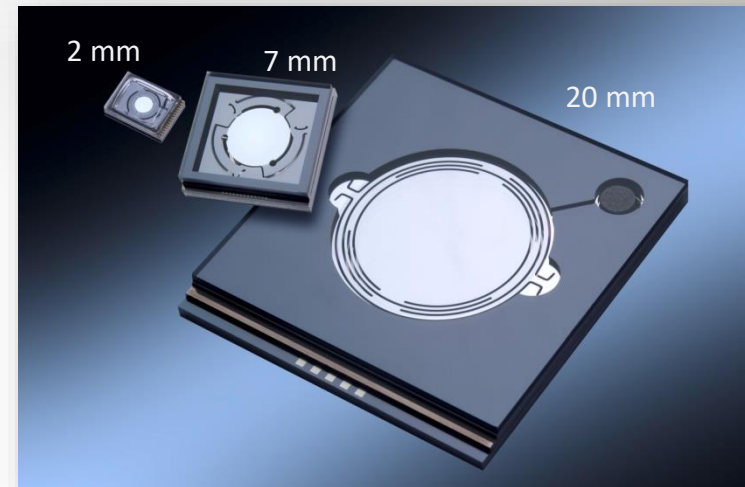
# Unique selling points

- Hermetic package
- Mirror size up to 20 mm
- Scan angle up to 180°
- Scan frequency up to 100 kHz



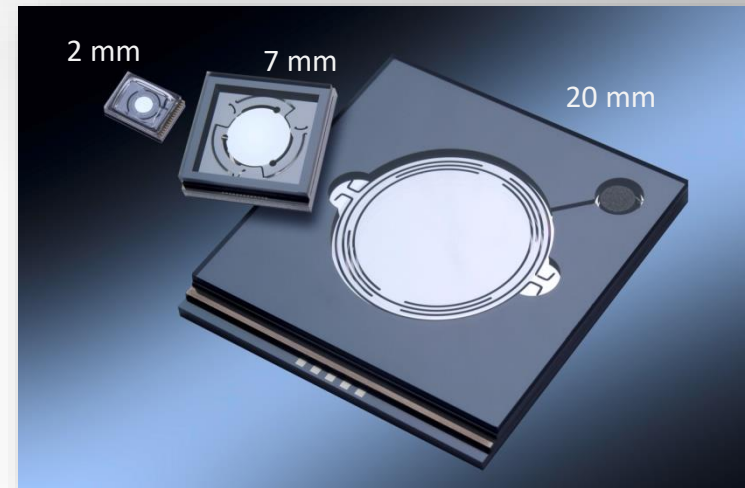
# Unique selling points

- Hermetic package
- Mirror size up to 20 mm
- Scan angle up to 180°
- Scan frequency up to 100 kHz
- Laser power load up to kW



# Unique selling points

- Hermetic package
- Mirror size up to 20 mm
- Scan angle up to 180°
- Scan frequency up to 100 kHz
- Laser power load up to kW
- Mass production ready (8 inch)



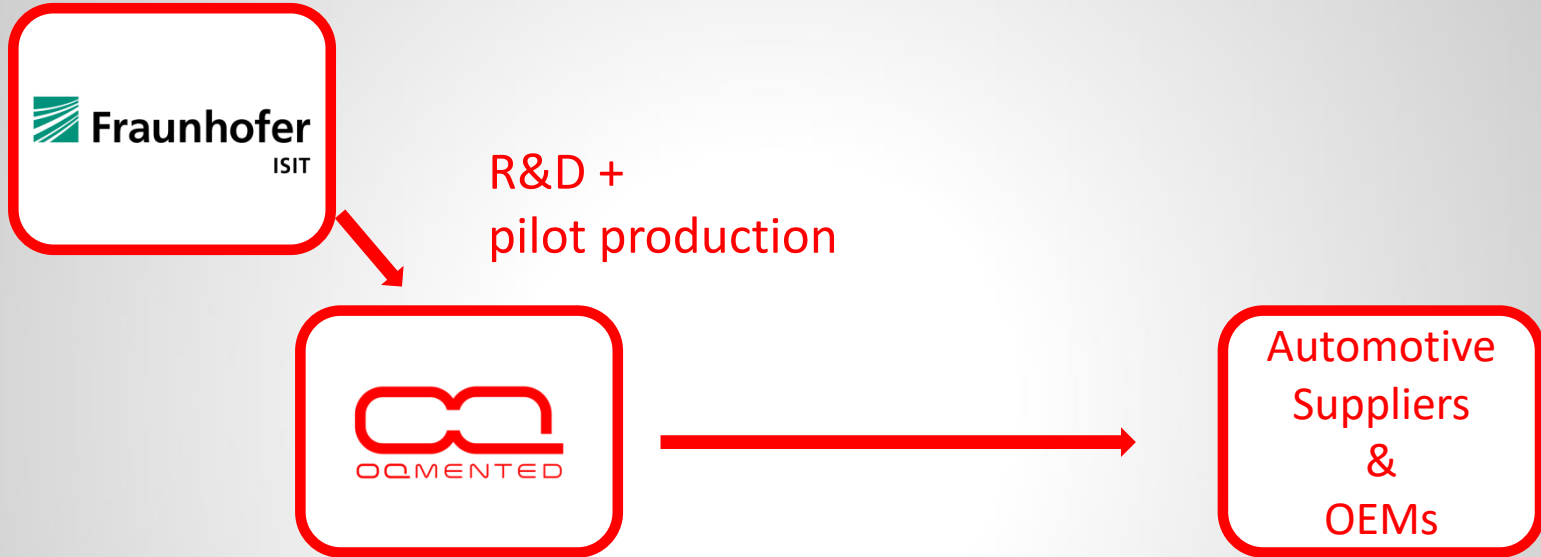
# LIDAR Scanner with 180° scan angle



# One-stop-shop

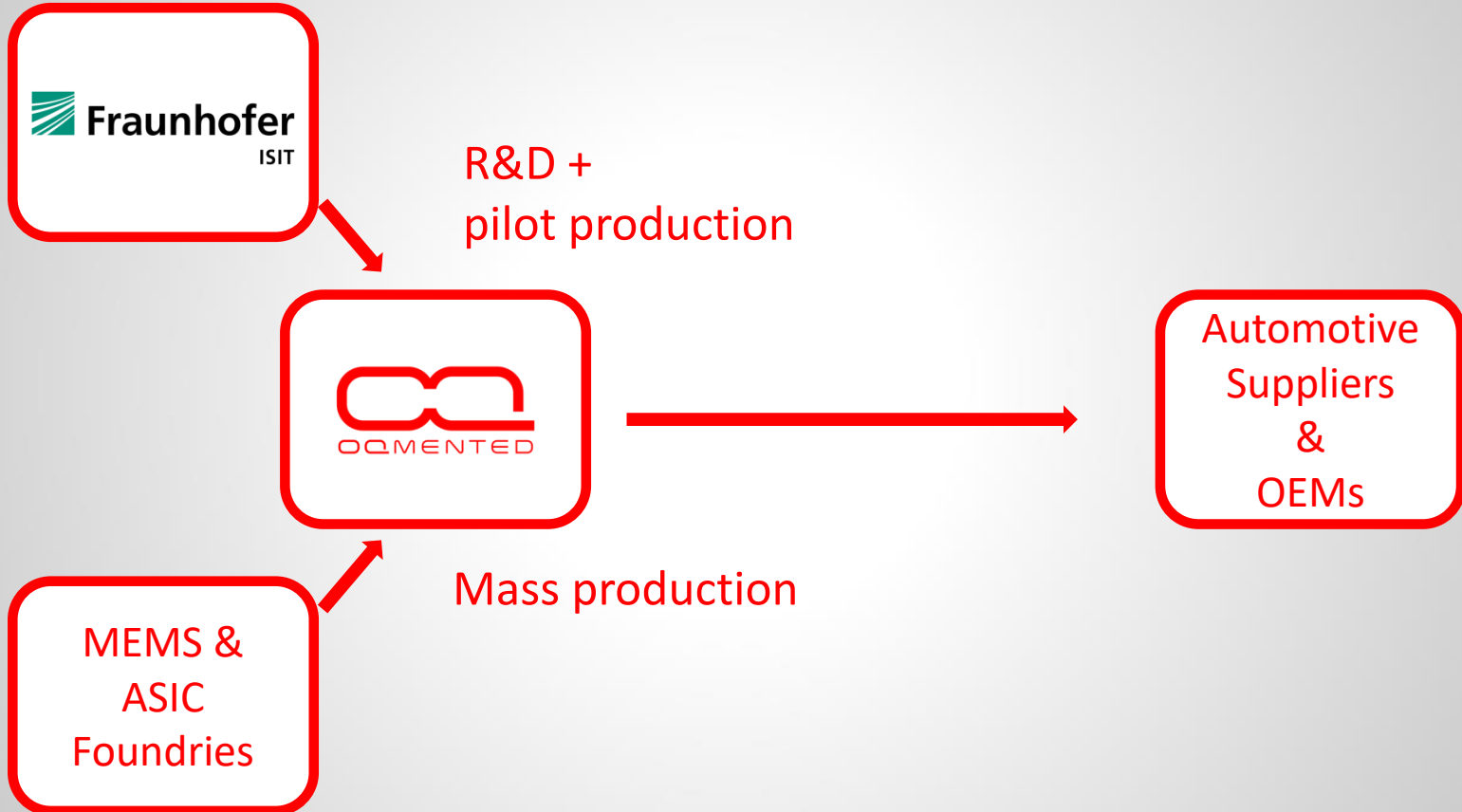


# One-stop-shop





# One-stop-shop



Meeting you at our booth!

Thanks!

