OOmented is a spinoff from Fraunhofer Institute for Silicon Technology ISIT. OOmented offers a unique MEMS mirror based laser scanning technology that represents almost 25 years of experience in MEMS mirror design, MEMS mirror manufacturing, MEMS mirror drive, control and synchronisation. OOmented is a new supplier of the automotive industry and consumer industry providing outstanding high performance MEMS mirror laser scanner products to support many different applications in automotive and consumer industry such as:

- LIDAR Sensors
- 3D Smartphone Cameras
- Augmented Reality Glasses
- Adaptive Automotive Laser Headlights
- Head-Up Displays
- Laser Material Processing

Based on the extensive advantages of hermetic wafer level vacuum packaging OOmented is able to offer customized MEMS mirror solutions of the broadest parameter range:

**MEMS Mirror Parameter Range (1D and 2D)**

- **mirror size**: 0.5 mm .. 30 mm
- **total optical scan angle**: 0 .. 175 degrees
- **scan frequency**: 300 Hz .. 150 kHz
- **cw-laser power load**: µW .. multi kW *(tailored dielectric coating)*
All MEMS mirror devices can be ordered with either open loop drive electronics or with closed loop control electronics. Capacitive or piezoelectric feedback signals enable high resolution position monitoring for 1D-laser scanning and 2D-laser scanning. Dedicated electronics enables synchronization of lasers or detectors to the 1D- or 2D-position of the MEMS mirror.

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### AVAILABLE RESONANT MEMS MIRRORS

<table>
<thead>
<tr>
<th>Mirror size [mm]</th>
<th>OQM_1D_2_1</th>
<th>OQM_2D_1_17_06</th>
<th>OQM_2D_5_2_2</th>
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<th>1D</th>
<th>2D</th>
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<tr>
<td>1</td>
<td>1</td>
<td>5.5</td>
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</table>

| Scan Frequency 1st Axis [kHz] | 1.3 | 15 | 17 | 16.3 | 171 | 179 | 2.1 | 2.3 | 2.5 |
| Scan Frequency 2nd Axis [kHz] | -   | -  | -  | 0.5  | 0.6 | 0.7 | 1.9 | 2.1 | 2.3 |
| Optical Scan Angle 1st Axis [deg] | 160 | 168 | 176 | 40 | 65 | 90 | 10 | 20 | 40 |
| Optical Scan Angle 2nd Axis [deg] | -   | -  | -  | 40 | 65 | 90 | 10 | 20 | 25 |
| Reflectivity [%] @ 450..1600nm | 75  | 85 | 95 | 75 | 85 | 95 | 75 | 85 | 95 |
| Drive Voltage 1st Axis [V] | 5   | 10 | 15 | 20 | 60 | 100 | 10 | 15 | 20 |
| Drive Voltage 2nd Axis [V] | -   | -  | -  | 5  | 15 | 25 | 5  | 10 | 15 |

**Fields of Application**  
Lidar, Wide Field Projection, Near-To-Eye-Displays, HUD, Safety Systems, Robotics  
AR/VR, 3D Camera, HUD, Robotics  
Lidar, 3D Camera, Adaptive Headlights, Robotics

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