

Successful R&I in Europe 2026 - 13th European Networking Event

Robust LiDAR lasers for monitoring of submarine infrastructure

Project Idea

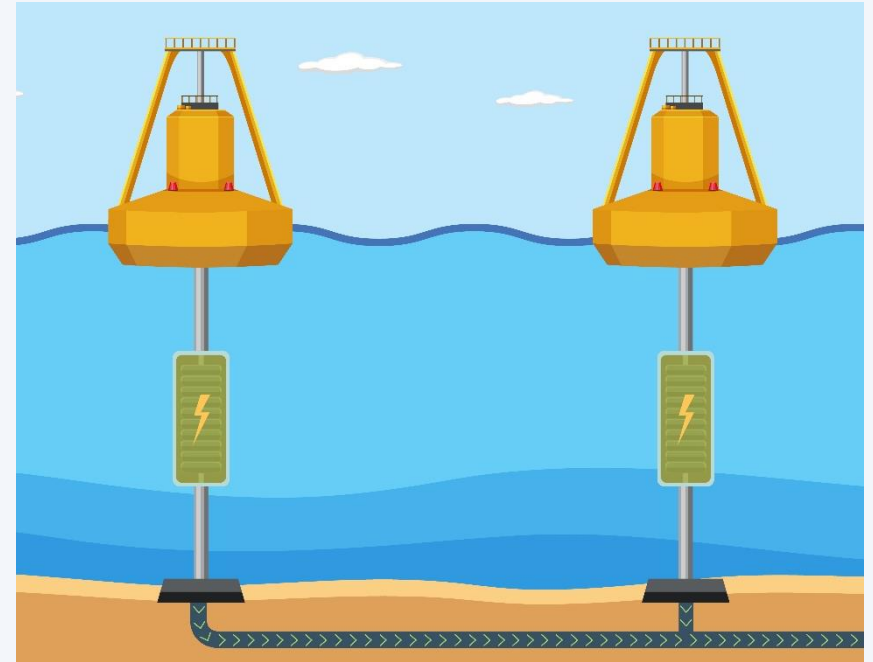
What we would like to work on – curious for your ideas

Submarine infrastructure

- Vulnerable
- Hard to protect
- Regular inspection can detect threats or beginning damage

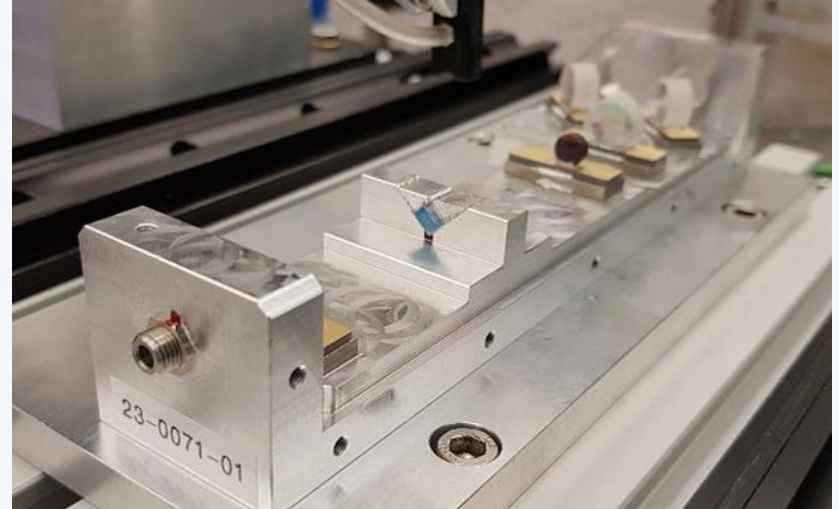
Possibilities for monitoring and inspection

- Sonar systems → limited image resolution
- Inspection by divers → dangerous and expensive
- LiDAR systems on unmanned submarine vehicles
 - Decent resolution of 3D images
 - Cost-effective solution



What we can provide: LiDAR Lasers + other Rugged Optical Assemblies

- **Tailored, frequency-doubled, pulsed Nd:YAG lasers for submarine LiDARs**
 - Output energy in the mJ range
 - Pulse repetition rate up to 10 kHz
 - Pulse duration < 5 ns
 - Flexible fiber-coupled pump
- **Platform adaptation towards**
 - Frequency-converted output (MIR, UV)
 - MIR laser gain media
 - Active Q-switching
- **Other possible assemblies**
 - Signal pick-up
 - Fiber coupling



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Partners

What we are looking for

- **LiDAR System Designers / Integrators**
- **LiDAR Signal Processing Experts**
- **LiDAR detector manufacturers**

- **Manufacturer of unmanned submarine vehicles**
- **Partner for submarine testing**
- **End users of submarine LiDAR systems, e.g.:**
 - Energy industry
 - Telecommunication industry
 - Civil and military security





Our previous Expertise

Technology heritage

- **MERLIN space laser technology**
 - Flux-free soldering of optics
 - Unparalleled stability over temperature, shock, vibration
 - No outgassing – no LIC → long lifetime
- **TRL-6 laser components with space qualification for resonators, amplifiers, frequency converters, fiber couplers...**

Expertise of the founders:

- **12+ years of experience in space business**
- **15+ years of laser and optical engineering**
- **PMP-certified project management**

