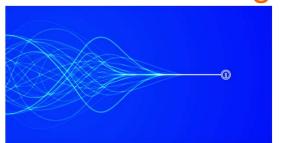
### **Netherlands**

### Optics11

We measure with light

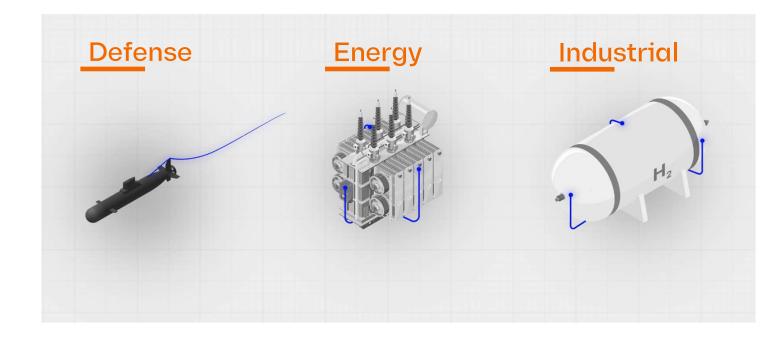




The world's thinnest and most sensitive fiber optic hydrophone array

"The world's only
 commercial fiber optic
 acoustic emission sensing
 system for partial discharge
 monitoring"

"The world's most sensitive and accurate FBG monitoring system"



# Fiber Optic Sensing systems @ Optics11

### **OptiFender**

The world's only fiber optic sensing system for partial discharge monitoring



### NovaFAZ

Accurate and precise fiber optic monitoring system



### **DeltaSens**

Extremely sensitive acceleration sensing system





### **OTADES**

Thin and highly sensitive fiber optic hydrophone array





### The Opportunity

### Possible sensing needs

- Temperature and T gradient
- Pressure
- Vacuum compromise (cryogenic storage has high vacuum insulation)
- Flow sensing
- Photo-acoustic Spectroscopy (Fiber-Optics allows multiplexing) for H2 and O2 concentrations
- Acoustic Leak detection
- Flame and fire (heat, H2 flame is hard to detect visually)
- Strain
- Vibration and shock (accelerometers)
- ..

### **Sensing purpose**

- Safety monitoring (e.g. leakage)
- Process monitoring (e.g. flow, concentration, ...)
- Process control, life-time extension (fuel cells)
- · Structural health monitoring
- Predictive maintenance
- Process modelling
- R&D stages of new installations
- Metering (custody transfer)

#### **Netherlands**

## I would love to continue the conversation.

### Opportunities on Fiber Optic Sensing:

- PhD team exchange of experience
- Mutual guest lecture
- Common development projects on FOS
- POC and pilot projects
- Project execution and support

# Please e-mail us at meus.vanderpoel@optics11.c

Optics11:
Sensitivity and Accuracy
in harsh environments



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