

# Technobis

## Specialists in Integrated Photonics Sensing

A E R O S P A C E | M E D I C A L | H I G H - T E C H | E N E R G Y



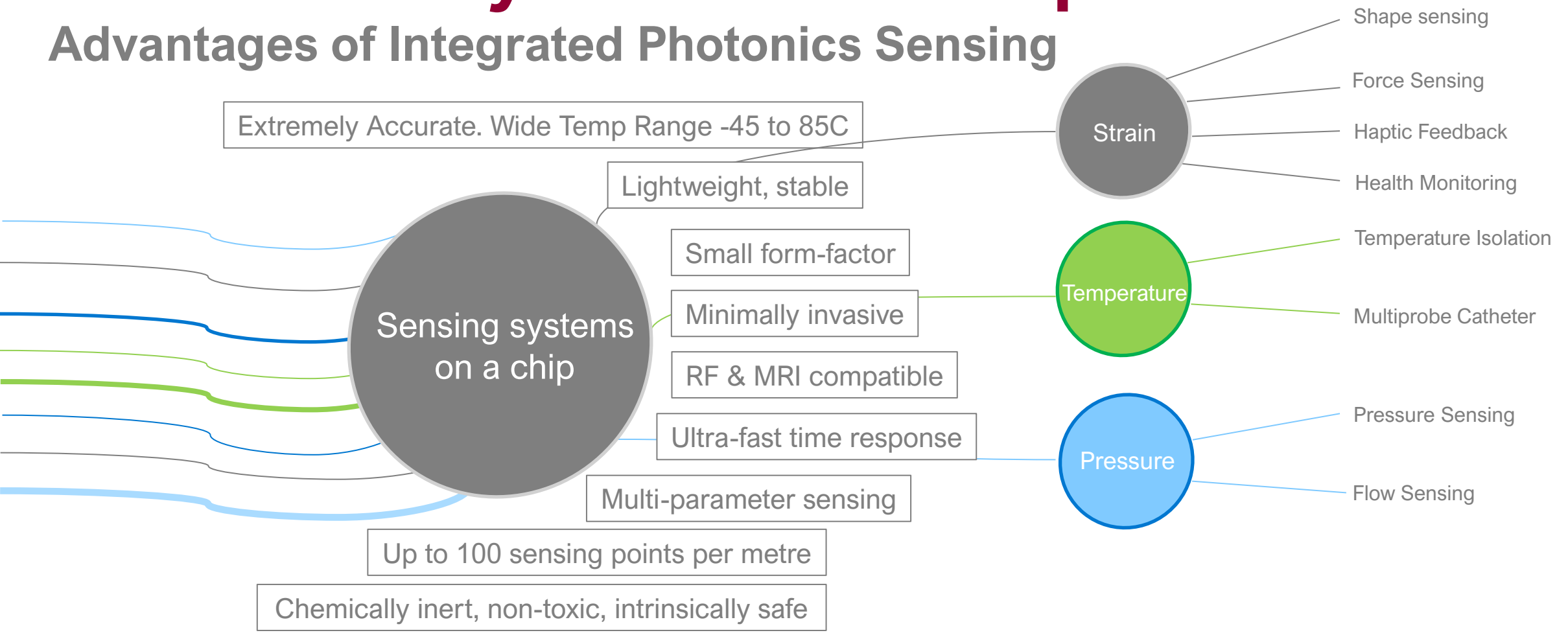
**Technobis HQ, Alkmaar, Netherlands**

**12+ years experience with Integrated photonics  
Expanding to 160 employees**

We're known for our temperature and strain Interrogators in aerospace.  
Now we're deploying that knowledge in other fields.

# Technobis: Systems on a Chip

## Advantages of Integrated Photonics Sensing

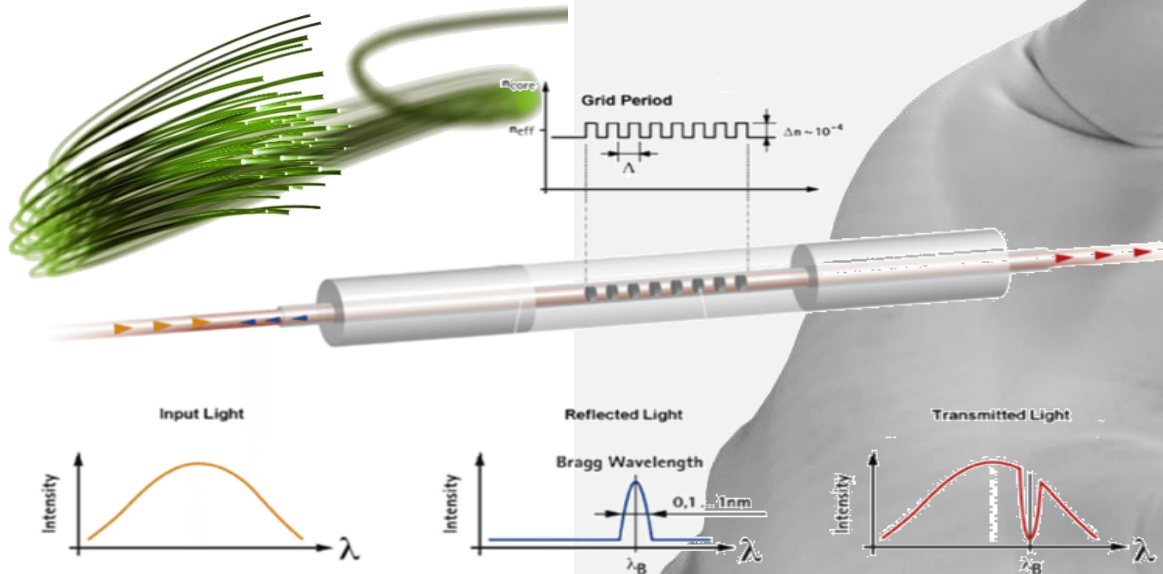


Questions? [anna.nikiel@technobis.com](mailto:anna.nikiel@technobis.com)

# Technobis

## Integrated Photonics Sensing

### Gator Platform



#### Why we use Fibre Bragg Grating (FBG)

Totally Passive | Small Size & Weight

Chemically Inert | Intrinsically Safe

Non-conductive Immune to EMI

Low Loss | Remote Sensing



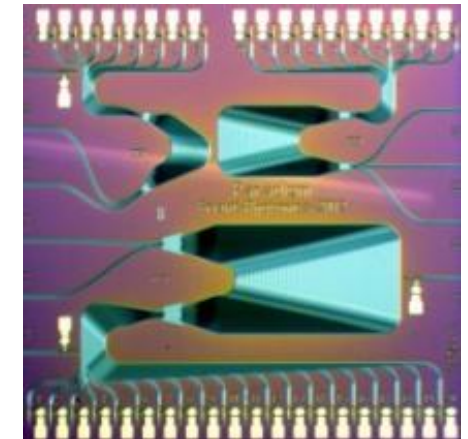
#### Application Specific Photonic Integrated Circuit (PIC)

Small Size, Reduced Weight

Improved Thermal and Vibration Stability

Hybrid Integration of Optics and Electronics

Improved Reliability | Low Power | Lower Costs



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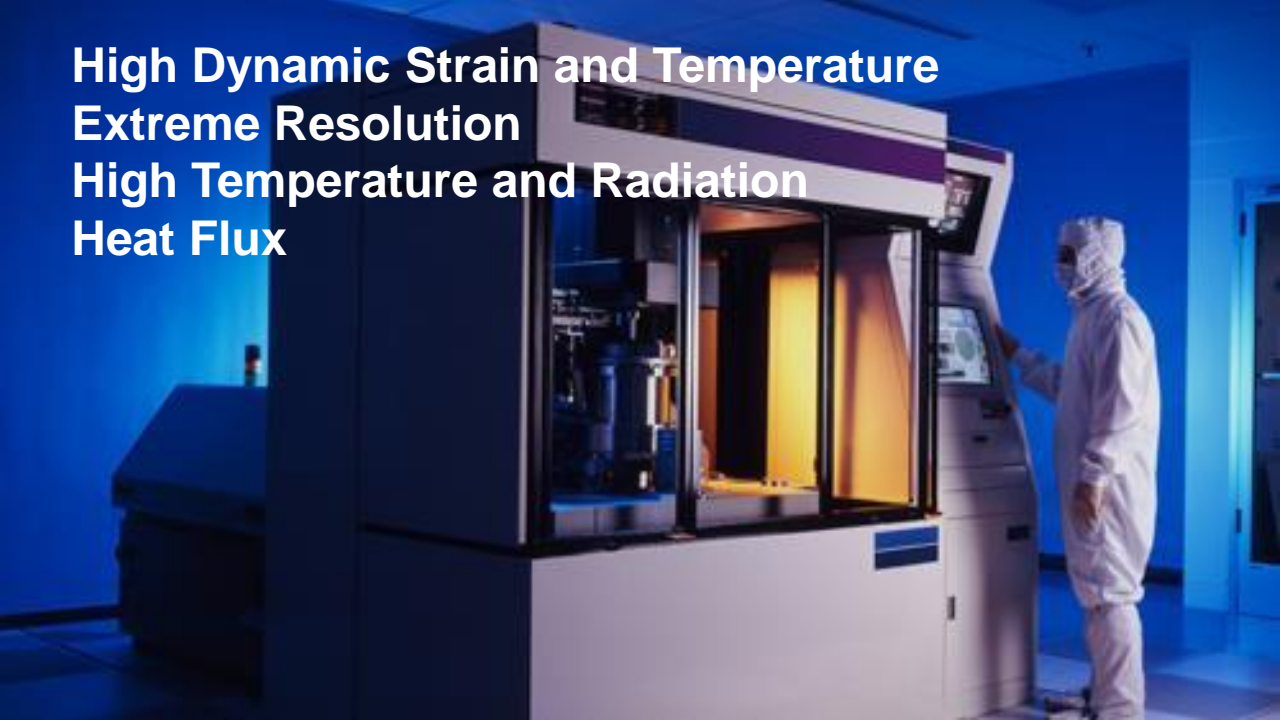
**RF/MRI Compatible In-Vivo Temperature Sensing**  
**Shape Reconstruction Sensing**



**Battery Condition Monitoring**  
**Downforce and Vibration**  
**Crash Testing**



**Overheating Detection**  
**Structural Health & Usage Monitoring**  
**Landing Gear Load Sensing**



**High Dynamic Strain and Temperature**  
**Extreme Resolution**  
**High Temperature and Radiation**  
**Heat Flux**

# Technobis

## Integrated Photonics Sensing

**Haptic Feedback (also called kinaesthetic communication or 3D touch) using Fiber Optic Sensing and Integrated Photonics**

Reduce lesion damage from too much force

Offers visco-elastic tissue feeling

Ergonomic pistol hand grip

Training: Much shorter learning curve



Packaged ASPIC 'OptiGator'



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# Technobis

## Integrated Photonics Sensing: OptiGrip

**Haptic Feedback (also called kinaesthetic communication or 3D touch) using Fiber Optic Sensing and Integrated Photonics**

Up to 4 times less force needed to manipulate tissue

More minimally invasive procedures possible, leading to faster recovery

Sterilizable fiber sensors in the instrument are reusable.

No interference to other equipment in the operating theatre.



Packaged ASPIC 'OptiGator'

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# Technobis Packaging Foundry is Expanding

What can we do for EPIC members - and what can they do for us?



Questions?: [anna.nikiel@technobis.com](mailto:anna.nikiel@technobis.com)

# Call out to Device Manufacturers: Partner with Technobis

What can we do for EPIC members and what can they do for us?

How can we collaborate to integrate our wide range of data-gathering sensor systems into your cutting-edge devices?

*Let's collaborate to make new outstanding products for a competitive price!*



Follow up? Contact me: [anna.nikiel@technobis.com](mailto:anna.nikiel@technobis.com)

