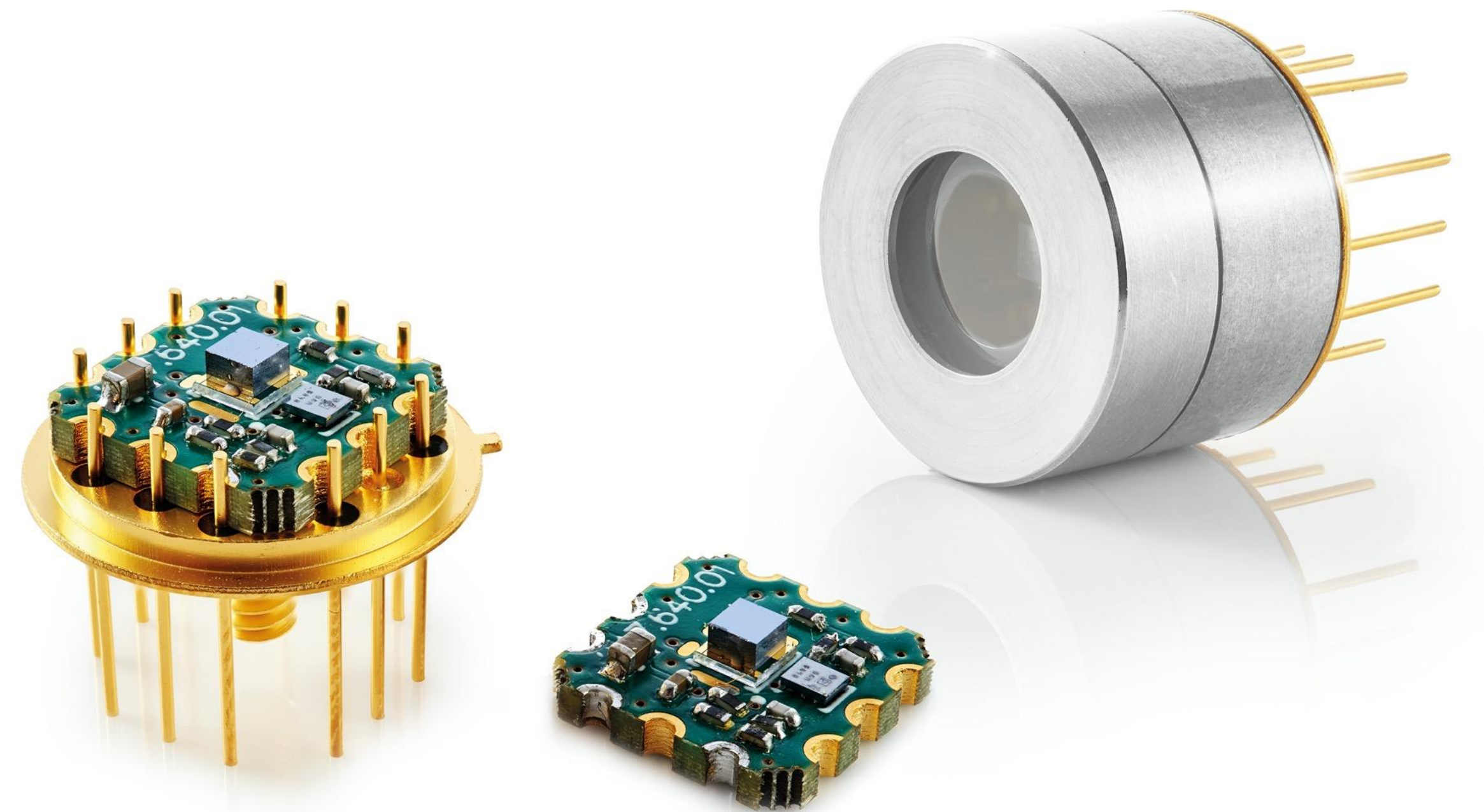




# AFFORDABLE DETECTION MODULE

EPIC New Product Release

Jędrzej Mijas, Technical Support Engineer @ VIGO System  
14 October 2020



# COMPANY HIGHLIGHTS



Epitaxial wafers



Photon Detectors



IR Detection modules

## WHO WE ARE

- Over 30 years of innovation and continuous improvement of the company's original concept
- Easy to use, robust, reliable devices with best parameters
- World class scientific R&D expertise
- Highly educated and experienced personnel

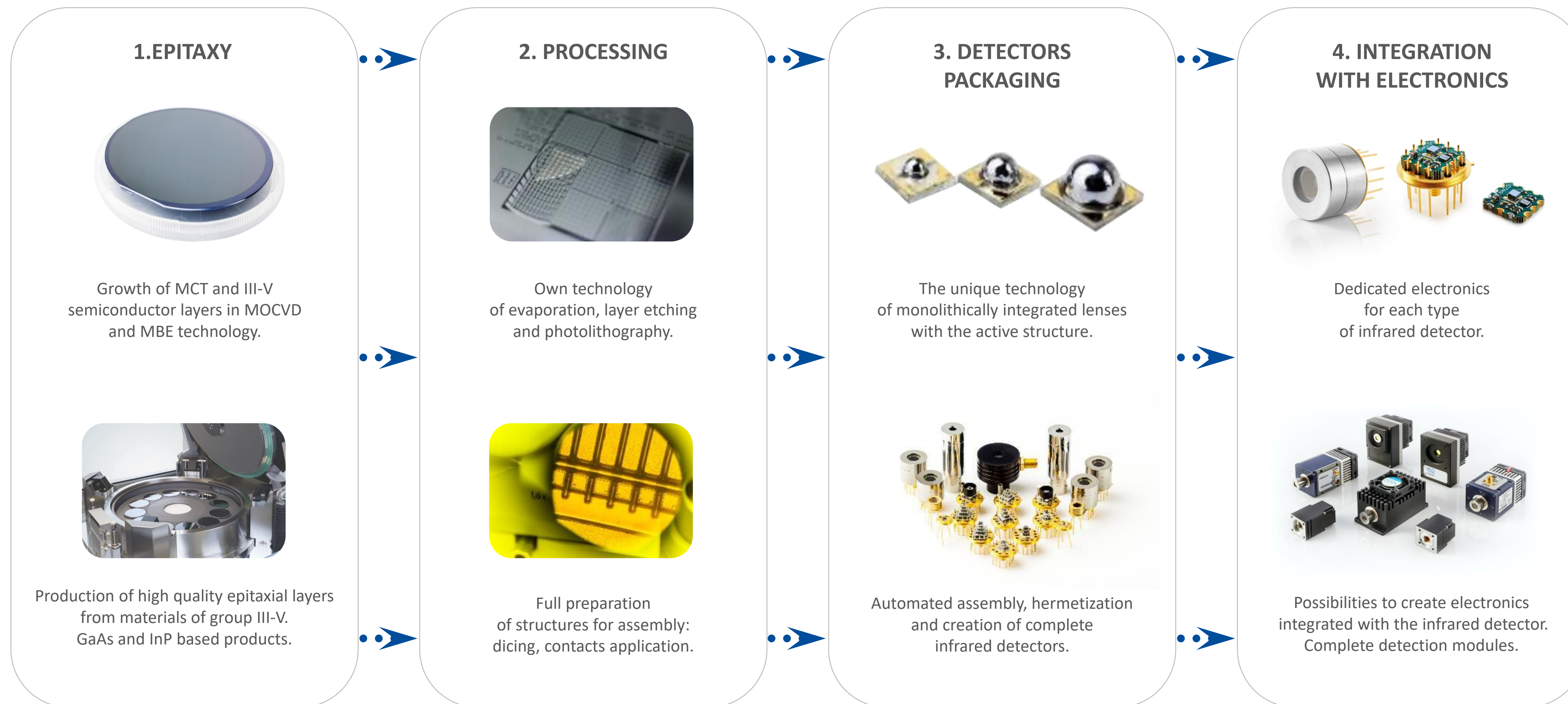
## WHAT WE OFFER

- Epitaxial semiconductor materials
- Infrared photon detectors
- Ready-to-use detector modules
- Custom-tailored and non-standard solutions suited to your needs



# PRODUCTION CAPACITY

## COMPLETE PRODUCTION LINE FOR INFRARED SEMICONDUCTORS AND PHOTONIC DEVICES (FROM NEAR TO FAR INFRARED)



# NEW PRODUCT LAUNCH

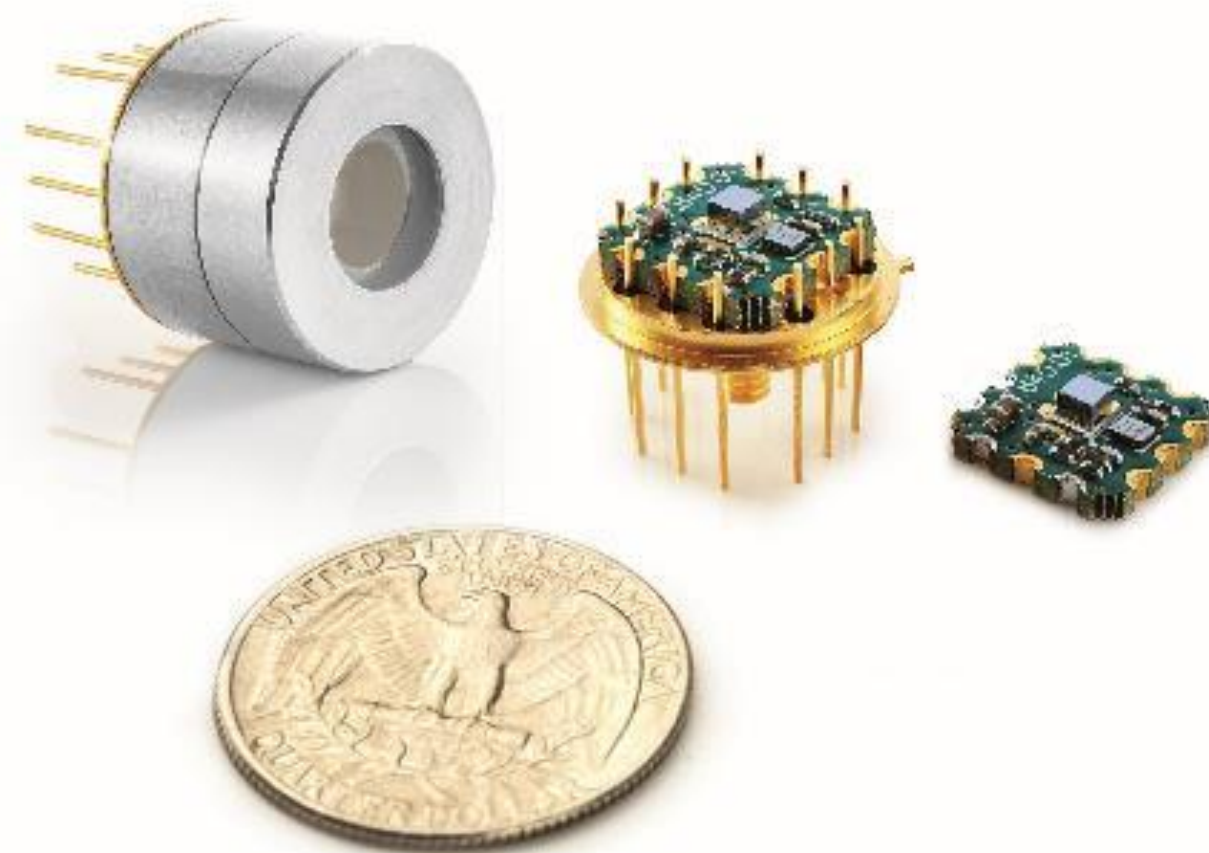
## AFFORDABLE DETECTION MODULE

### AFFORDABLE MWIR DETECTION MODULE:

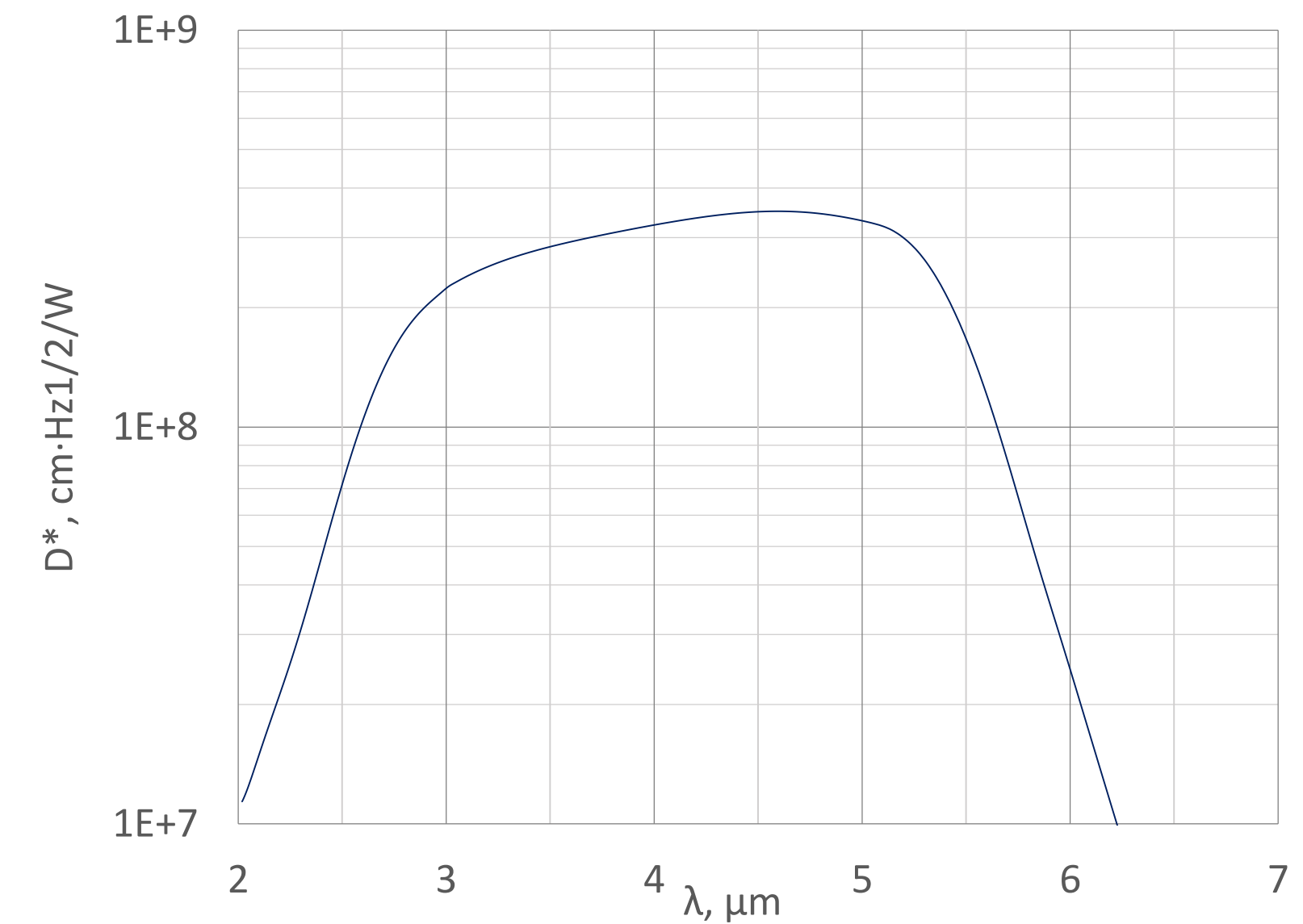
- **Compact size** (10×10×3 mm or TO8) – uncooled MWIR InAsSb detector integrated with **low noise preamplifier**
- Frequency response – DC to **3 MHz**
- **RoHS compliance** – consumer market safety!
- **Affordable price** in bulk quantities

### IN DEVELOPMENT:

- Other spectral ranges (1 – 3  $\mu\text{m}$ )
  - Temperature stabilization
  - Planar optics
- Evaluation Board with digital output (SPI and USB)

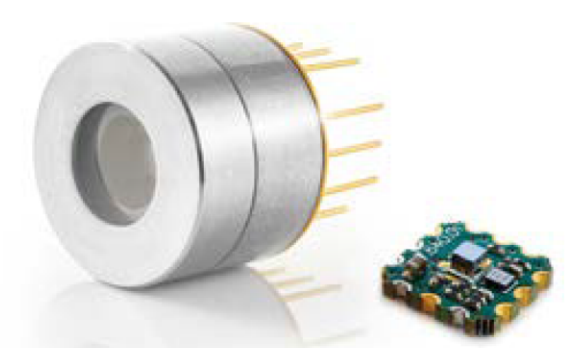
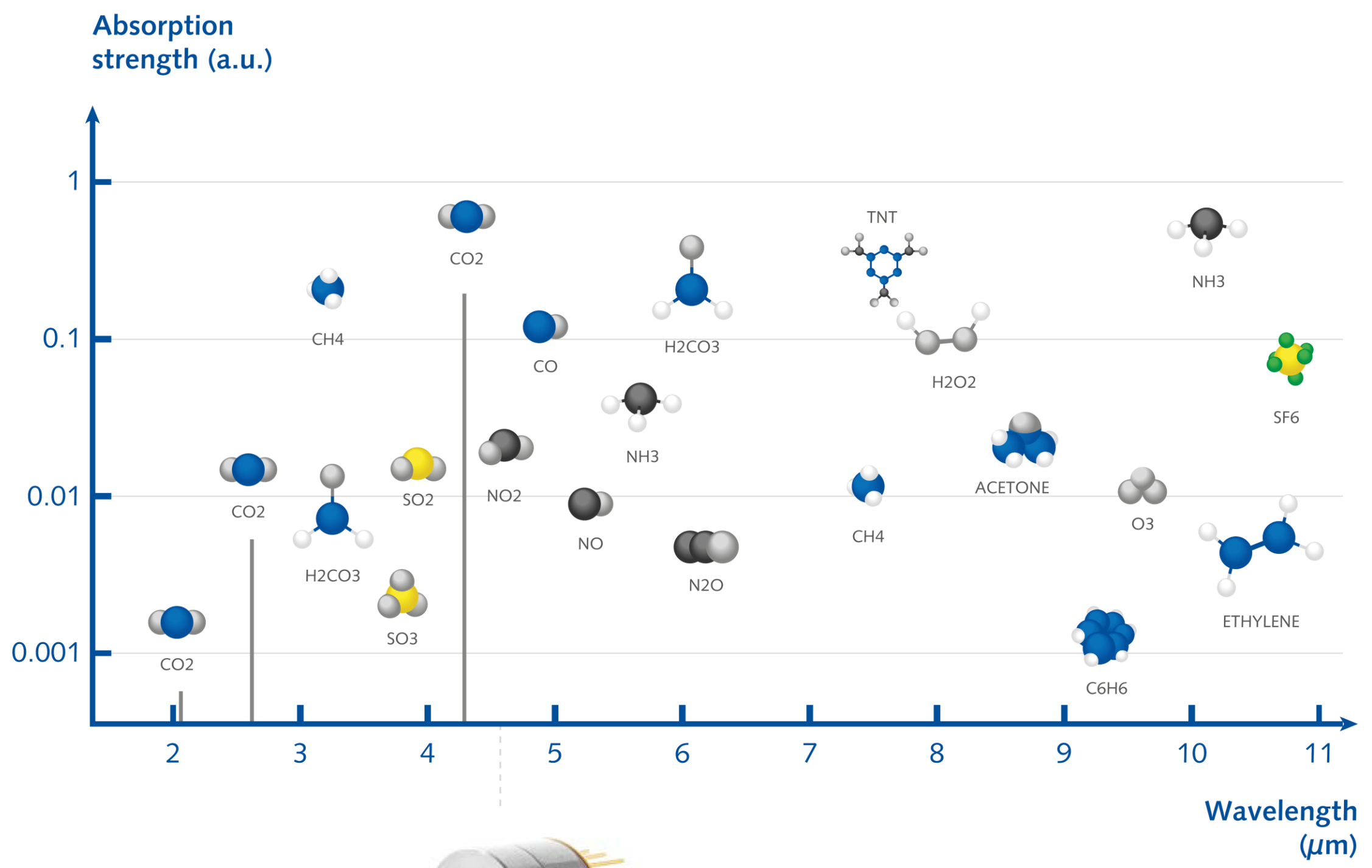


Parameters	
Peak wavelength	4.6 $\mu\text{m}$
10% cut-on wavelength	1.2 to 4.0 $\mu\text{m}$
10% cut-off wavelength	5.9 $\mu\text{m}$
Peak voltage responsivity	400 V/W
Peak detectivity	$3.5 \times 10^8 \text{ cm}\cdot\text{Hz}^{1/2}/\text{W}$
Electrical bandwidth	3 MHz
Acceptance angle	up to 160°
Output voltage swing	0.5 V
Storage temperature	-20 to 60°C



# AFFORDABLE DETECTION MODULE

## APPLICATION EXAMPLE – MWIR GAS ANALYSIS



Affordable MWIR InAsSb IR detection module  
Peak wavelength: 4.6 μm

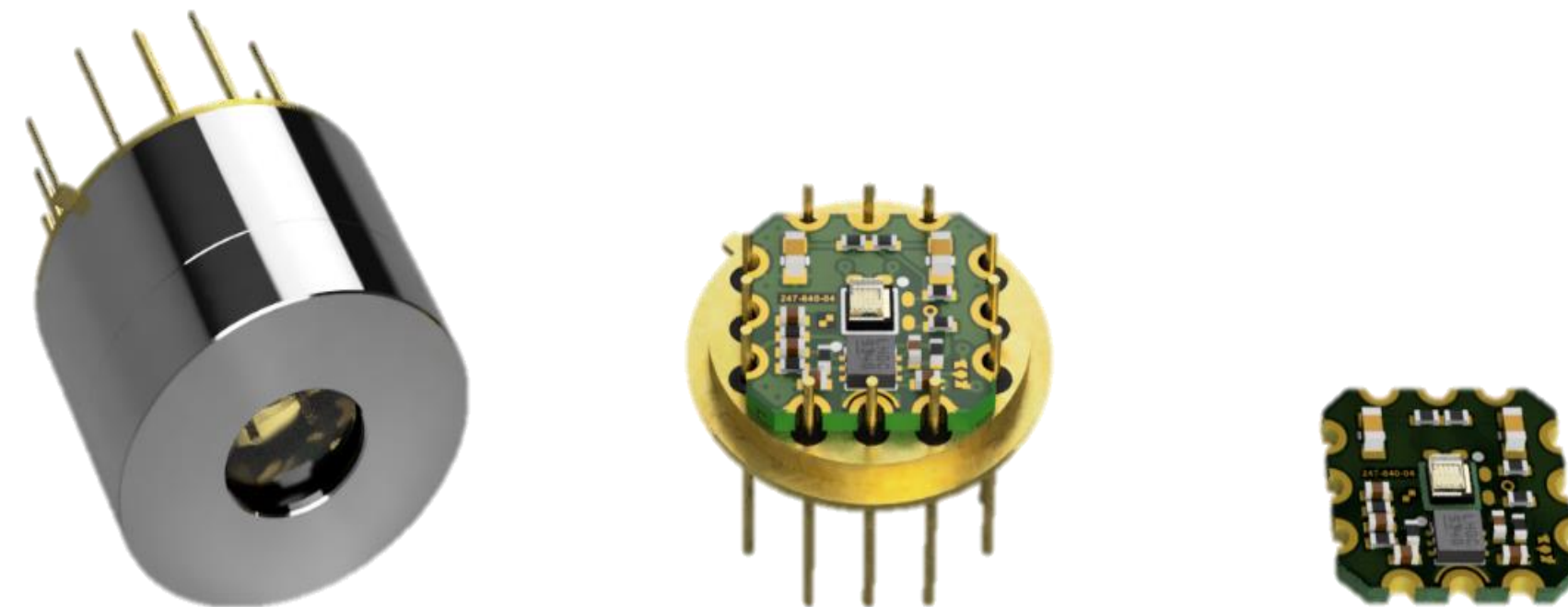
### ADVANTAGES

- Strong MWIR absorption lines
- Broad bandwidth – use with fast modulation
- Real-time operation
- Non-contact detection of CO2, CH4, NH3 and others
- Robust and compact – for in-situ measurements



## TAKE-HOME MESSAGES

- Compact, robust and affordable MWIR detection module with low-noise electronics
  - Broad bandwidth and RoHS compliance
  - Applications in gas analysis – TDLAS, CRDS, CEAS...
- Also: monitoring of temperature, industrial processes, laser parameters...
  - Ready for high-scale production, OEM versions, customizing...





THANK YOU  
FOR YOUR ATTENTION

EPIC New Product Release

Jędrzej Mijas, Technical Support Engineer @ VIGO System  
14 October 2020

Contact us:

VIGO System S.A.  
ul. Poznańska 129/133  
05-850 Ożarów Mazowiecki  
POLAND  
phone.: +48 22 733 54 10  
fax: +48 22 665 21 55  
email: [info@vigo.com.pl](mailto:info@vigo.com.pl)

[www.vigo.com.pl](http://www.vigo.com.pl)