

### Photodiode detectors

We are actively seeking technology / products / partners in the area of photodiode detectors for operation in the infra-red spectral band between 2.5  $\mu\text{m}$  – 5.5  $\mu\text{m}$  (can be wider) for various instrumentation applications. Photodiode detectors are commonly used for gas analysis and the client wishes to expand their product offering in this area.

Current detectors are based on materials such as InGaAs (Indium Gallium Arsenide) which operate up to 2.5 $\mu\text{m}$ . The client wishes to provide sensitivity in longer molecular absorption wavelengths, and specifically between 2.5  $\mu\text{m}$  and 5.5  $\mu\text{m}$ . Whilst there are materials such as HgCdTe (MCT or Mercury Cadmium Teleride) that allow this enhanced performance, they are predominantly used for military and defence applications (and therefore export regulations make them unattractive for use).

Therefore, the client wishes to **identify enabling technologies that can allow photodiode detectors to operate between 2.5 micron and 5.5 microns**. This could be achieved by:-

- **Alternative materials, e.g. Indium Arsenide Antimonide (InAsSb)**
- **Varying the composition of the materials used**
- **Modification of band structure**

**Companies or research groups that have developed photodiode detectors operating in the 2.5  $\mu\text{m}$  to 5.5 $\mu\text{m}$  region for commercial applications are particularly of interest. It is the expectation that the detectivity of the detectors will be greater than pyro-electric detectors, and such exhibit  $D^* > 10^9$ .**

Our client is an established company in the spectroscopy field and is keen to identify potential suppliers of appropriate products, in addition to companies, institutions or individuals with relevant technology and research in this area. They wish to engage with appropriate partners, enabling the introduction of improved performance products to the market.

We are interested in receiving information on potential suppliers and researchers working in the above areas.

Further information on any opportunity or potential contact for this search should be sent to Vicki O'Brien, Director ([vicki@strategicallies.co.uk](mailto:vicki@strategicallies.co.uk))