Seeking Adsorption-based Sensors for Measuring Carbon Dioxide Concentration in Ambient Air

A global leader in digital microsensors and systems is searching for technologies relating to the **development of adsorption-based sensors for measuring carbon dioxide (CO2) concentration in ambient air**. These sensors should be suited to **complement existing CO2 measurement technologies and should be optimised for low production cost rather than accuracy.**

Key Benefits/Features

The sensor should:

1. Be based on a chemical transduction principle
2. Have the potential to be significantly more cost-effective than the established sensor technologies
3. Have a measurement range between 400 and 2000 ppm CO2 (ambient air)
4. Have a limited cross sensitivity to ambient gases (humidity, VOCs, etc)
5. Have a small power consumption (e.g., very limited power budget for heating. Operation temperature should not exceed 100°C)
6. Be reflow solderable (temperature stable up to at least 200°C for 2 min)
7. Have a lifetime of more than two years, and be stable during several weeks of operation

Approaches of Interest

- Open to all transduction principles, however the manufacturing costs of the sensor should be below the established CO2 sensor technologies e.g., NDIR
- Technologies based on a chemical transduction principle (physisorption, chemisorption or a chemical reaction) are of the highest interest
- Technology should be fit for applications as e.g., indoor air quality, smart home, and low-cost ventilation
- Research into the most promising material classes for CO2 sensing

Development Stage

The client is interested in CO2 sensor approaches at the pretotype/prototype level that have undergone testing. As a minimum, they would expect testing for the features defined in points 2, 3, 4 and 5 as stated above. Technologies at TRL 5-6 are preferred but TRL 3-4 will still be taken into consideration.

Submission Information

Submission of one-page, 200-300 word briefs are encouraged. In submitting to this campaign, you confirm that your submission contains only non-confidential information.

Our client is open to a range of collaboration opportunities, with the most appropriate outcome being decided on a case-by-case basis. Example outcomes include licencing assets, project/PhD funding, and research collaborations.

Opportunities sought

- 💡 Technologies
- 🎓 Academics and expertise
- 🔬 Centres of excellence
- 📒 Research projects
- 🏢 Spinout companies

Submissions

Please submit relevant, non-confidential opportunities online via: discover.in-part.com

Deadline: **7th February 2022 - 11:59 pm GMT**

Have any questions?
Contact our team at discover@in-part.co.uk