



## High Sensitivity Broad-Target Capacitive Vapor Sensor

### The invention

A method for the manufacture of a sensor or array of sensors of the capacitive vapor sensor type. This being a new type of capacitive vapor sensor comprising porous graphene oxide (pGO) derivatives produced through a novel in-situ assembly of the pGO upon an electrode surface, having the pGO immobilized on the electrode surface. The sensor functions in gaseous media and has the advantage of not requiring any static power, and thus being ideal for energy constrained applications.

### The need

Highly sensitive, low energy consumption, inexpensive, easily produced, and fast response sensors are required. Capacitive sensors show improved fidelity and sensitivity over resistance based sensors. However, there is a need for additional sensitivity, wide dynamic range, high reproducibility and wider range of molecular targets.

### Potential applications

Potential application for sensors or array of sensors either installed in hand-held devices, battery powered, or for sensor-networks. Measuring from humidity to various volatile compounds, polar or non-polar compounds may be used. The employment of such sensors in hand-held devices for sampling of the vapor environment, or as part of sensor-networks designed to alert for the appearance of targeted compounds. Chemical, Environmental, Pharmaceutical, Food and in general process industries as well as laboratories of different kinds.

### Patent

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