Startup Contest Application

International Conference on Electron, Ion, and Photon Beam Technology and Nanofabrication

Please submit only one application per venture.
Type over/remove grey text from the completed application. Do NOT delete black text.

1. Venture Name. OG Sense

2. Team Leader and Primary Contact Information.
Valters Slava, CEO, University of Latvia, valters.slava@ogsense.com, +371 28323341

3. Additional Team Members.
Gatis Mozoļevskis, University of Latvia, PhD in Physics
Arturs Bundulis, University of Latvia, PhD in Physics
Aleksejs Bendins, University of Latvia, PhD student

4. Describe the business opportunity.

High ammonia gas concentration for birds and baby animals seriously affects the health conditions. It lowers productivity and increases the likelihood of respiratory diseases. Livestock health guidelines suggest that NH3 level be kept as low as possible. However, additional ventilation and heating create more costs. NH3 is a chemically aggressive substance, which causes fast degradation of the gas sensors (electrochemical) available in the market. So farmers have to change them on regular basis – 1-2 times a year.

5. Describe your technological solution.

Our team has developed a new technology for NH3 measurements. OG Sense is the first sensor in the market that does not degrade in reaction with ammonia. OG Sense uses a passive optical sensor that absorbs gas and detects it through light interaction with absorbing media. A single device will consist of multiple sensors to ensure both concentration and gas-type detection.

Instead of regular sensor replacement, farmers can use OG Sense and forget about sensor replacement for years.

6. Who is your competition and what are your product differentiators?

Currently, ~90% of ammonia gas detection sensors being used in farms are from one manufacturer – Doll. They are twice the price instead of our sensor and have to be changed at least once a year. For our sensor, there will be no need for regular replacement. In long term, our sensor will make significant savings to farmers' budget.

7. Describe the Market Opportunity. [Optional Section]

By talking with the industry we see that using any kind of gas sensors in farms is becoming more and more popular. Now it is estimated that only 20% of farms in Europe and USA use sensors for measuring air quality and it is estimated that in upcoming years the number of farms using sensors will significantly increase.

8. Describe the Team. [Optional Section]

We are a team of 4 people. Valters is CEO of the company and he is responsible for business development. Valters has successful previous experience in science-based project commercialization. Gatis is our CTO. He has experience in both academics and industry, related to device fabrication in the field of photonics and microdevices. A former engineer in start-up companies Alta Devices (USA) and EuroLCDs (Latvia), currently Head of Prototyping Laboratory at ISSP UL (Latvia). Arturs has experience in photonic device design, fabrication and testing. Aleksej has significant engineering experience in fiber optics and integrated optical chip manufacturing, as well as in process operation, set-up, development and management

9. Describe any traction. [Optional Section]

We have gained deep interest from ventilation and air quality management companies to cooperate with us in the future. They are already searching for new solutions and they are contacting us themselves. The interest is big. At the same time we have won several startup competitions in Europe and attracted funding 50k+ EUR.

Figures and Additional Information

Webpage – https://ogsense.com/

OG Sense as the 3rd place winners in EIT Food Startup competition - https://www.eitfood.eu/news/meet-our-eit-food-teamup-2022-winners

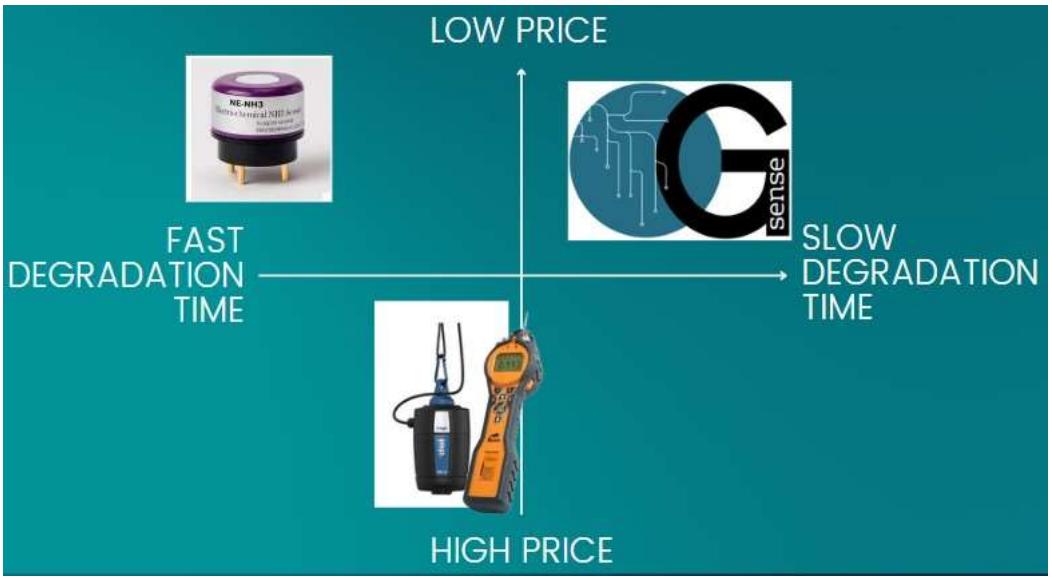

Figure 1: The "Magic Quadrant"