UK-based startup seeking European collaboration offers innovative Atmospheric Processors for onsite greenhouse gas capture and purification.

Summary

Profile type
Technology offer

Company's country
United Kingdom

POD reference
TOGB20241107017

Profile status
PUBLISHED

Type of partnership
Investment agreement
Commercial agreement with technical assistance

Targeted countries
• **World**

Contact Person
Giovanni CHIACCHIO

Term of validity
7 Nov 2024
7 Nov 2025

Last update
7 Nov 2024

General Information

Short summary

UK-based Universal Atmosphere Processing (UAP) develops innovative Atmospheric Processors (APs) to capture, purify, and manage atmospheric gases directly onsite. Their technology enables greenhouse gas (GHG) capture and noble gas recovery, offering industrial and environmental benefits. UAP seeks European partners for commercial agreements with technical assistance and R&D collaborations, aiming to advance applications in emissions control and industrial gas recovery.

Full description

UAP is a pioneering UK-based technology developer focused on atmospheric gas capture and purification, specifically targeting hard-to-decarbonise sectors. UAP's core innovation, the Atmospheric Processor (AP), addresses the critical challenge of greenhouse gas emissions and the reliable supply of noble gases. Current market solutions for emissions control primarily focus on carbon capture and storage (CCS) technology, focusing mainly on CO_2. UAP's AP technology is a more comprehensive solution, capturing a full range of greenhouse gases (GHGs), including methane and nitrous oxides while recovering valuable noble gases with high purity.

Main Features and Application Fields:
UAP's AP technology incorporates our patent-pending EMPS tech with advanced real-time purity monitoring,

ensuring over 99% purity of captured gases. Designed for scalability and modularity, AP units can be deployed across diverse industries such as manufacturing, aerospace, and environmental monitoring. They also have the added capability of producing high-purity gases crucial for sectors reliant on noble gases, like semiconductors and healthcare.

Justification of the Selected Cooperation Types:

- Commercial Agreements with Technical Assistance: This cooperation type was chosen to ensure that UAP's AP technology can be adapted to specific regulatory and operational needs across Europe. UAP aims to work closely with industry partners through these agreements, customising AP units to align with local compliance standards and industry-specific requirements. This collaboration will support seamless integration into the partner's operations, ensuring optimal performance and regulatory alignment.

- Joint R&D Projects: UAP envisions joint R&D collaborations with industry leaders and research institutions to optimise gas capture efficiency further and expand AP's application scope in challenging environments. This collaboration type will drive ongoing innovation, allowing UAP and its partners to stay at the forefront of emissions control and gas recovery technology. By working together on R&D initiatives, UAP can continue refining its technology to meet evolving industry needs and environmental standards, enhancing both partners' competitive positioning.

The desired outcome of these partnerships is to establish UAP and its collaborators as leaders in sustainable emissions management and gas recovery, with the flexibility to meet diverse market demands and contribute to Europe's net-zero targets.

Advantages and innovations

UAP's AP technology offers a revolutionary approach to atmospheric gas capture and resource recovery, providing advantages over conventional gas separation and greenhouse gas mitigation methods. Unlike traditional systems, which often focus solely on carbon capture, the AP is designed to capture a broad spectrum of atmospheric gases—including valuable noble gases like helium, neon, and xenon—at exceptionally high purities, making them directly usable in various industrial processes.

Key competitive advantages include:

- Onsite Emissions Management and Resource Recovery: UAP's AP technology manages emissions onsite and converts them into reusable resources, transforming emissions from liability into assets. This feature enables clients to offset emissions and generate new revenue streams simultaneously.
- Advanced Gas Capture and Purity: Leveraging patent-pending EMPS tech, the AP achieves high-purity gas capture without needing high-pressure systems or chemical reactants, making it more efficient and environmentally sustainable than conventional methods.
- Flexibility and Scalability: The AP's modular design allows it to scale with varying industrial needs, from smaller installations to large-scale applications, making it accessible for various industries, including aerospace, manufacturing, and energy.

This combination of sustainability, versatility, and efficiency sets UAP apart in the atmospheric processing market, presenting a compelling and innovative alternative to competitors.

Technical specification or expertise sought

The ideal partner for UAP will bring specific technical and strategic strengths to support their ambitious growth and product development goals. They are actively seeking partners with:

1. Research and Development (R&D) Expertise: Ideally, partners should have experience in advanced atmospheric processing, plasma technologies, or gas separation techniques. Expertise in experimental design, scaling, and validation of environmental or industrial technologies will enhance their capacity to refine and optimise the AP technology for diverse applications, including emissions control and noble gas recovery.
2. Financial Partnership: Given the high capital requirements for technology development and market entry, a partner with access to financial resources and investment experience in cleantech or climate-related projects would

be valuable. Potential partners may offer co-funding or be interested in equity investments to support R&D, prototype development, and commercialisation stages.
3. European Facilities and Test Sites: They are looking for partners with access to well-equipped laboratories, testing facilities, or industrial environments within Europe to conduct field trials and real-world testing of their AP technology. Ideal facilities may include those that comply with EU environmental and safety standards, allowing them to efficiently advance their technology through higher TRL levels.
This partnership would allow UAP to accelerate the development and scaling of the AP system, facilitate seamless integration into European industries, and ensure their technology meets the highest operational and regulatory standards.

Stage of development

Under development

Sustainable Development goals

- **Goal 11: Sustainable Cities and Communities**
- **Goal 7: Affordable and Clean Energy**
- **Goal 12: Responsible Consumption and Production**
- **Goal 9: Industry, Innovation and Infrastructure**
- **Goal 17: Partnerships to achieve the Goal**
- **Goal 13: Climate Action**

IPR Status

IPR applied but not yet granted

IPR Notes

Partner Sought

Expected role of the partner

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Type of partnership

Type and size of the partner

Investment agreement

Commercial agreement with technical assistance

- **SME 11-49**
- **SME <=10**
- **SME 50 - 249**
- **University**
- **Big company**
- **R&D Institution**
- **Other**

Dissemination

Technology keywords

- **04002012 - Other energy related machinery**
- **10003007 - Waste to Energy /Resource**

Market keywords

- **08002001 - Energy management**

Targeted countries

- **World**

Sector groups involved