Partner Profile Horizon Europe

Section 1 - Contact details

Organisation Name	Syncretise SRL
(full name)	
Type of organisation	SME - LLC
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Section 2 – Sector of interest

Work programme	Cluster 3
Topic according to the work programme	 HORIZON-CL3-2024-INFRA-01-01:Open Topic (Aerospace and Critical Infrastructure safety and security). HORIZON-CL3-2024-BM-01-02: Interoperability for border and maritime surveillance and situational awareness HORIZON-CL3-2024-BM-01-05: Detection and tracking of illegal and trafficked goods. Mitigating New Threats and Adapting Investigation Strategies (HORIZON-CL3-2024-FCT-01-01)

Section 3 - Description of the expertise and/or project idea

expertise (max 2.000 characters)	Syncretise offers an innovative solution to improve airspace safety through our project PRIMUS <i>passive radar technology</i> . PRIMUS uses non-emitting, ecofriendly radar technology to <i>simultaneously</i> detect drones and birds in real time, making it ideal for urban environments where traditional systems face limitations. By integrating AI and machine learning, PRIMUS continuously improves its detection capabilities, ensuring maximum operational efficiency and safety for airports, urban mobility vertiports, prisons, ports, government buildings and critical infrastructures. Our team's deep expertise in aviation, defense, radar and electronic countermeasures drives our commitment to building technology that makes a
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Description project idea

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Syncretise's core project area focuses on providing innovative, sustainable solutions for airspace safety through our PRIMUS passive radar technology. This technology provides real-time surveillance of both drones and birds, ensuring safe skies in urban areas, nature reserves and airports. The project has four key areas:

1. Urban airspace safety:

With the rise of urban air mobility (UAM) and increased drone activity, urban airspace is facing new challenges. PRIMUS provides safe, non-emitting detection of both drones and birds in densely populated areas, protecting airports, cities and critical infrastructure without causing electromagnetic pollution. This makes it ideal for urban airports, ensuring operational efficiency and safety in complex environments.

2. Al-powered detection and adaptability:

PRIMUS integrates AI and machine learning to distinguish between different objects in the airspace, such as drones, birds and other potential threats. This allows the system to continuously evolve and adapt to ever-changing conditions, ensuring maximum operational efficiency. The AI-driven radar provides accurate data even in challenging conditions such as bad weather, congested airspace or low visibility.

3. Sustainability and environmental impact:

Syncretise is committed to green innovation. Unlike traditional radar systems, PRIMUS is non-emitting, meaning it operates without producing electromagnetic waves, making it perfect for urban airspaces and areas with strict environmental regulations. PRIMUS contributes to net-zero aviation goals by providing an environmentally friendly, long-term solution that reduces the environmental footprint of air traffic management systems.

4. Bird detection for airports and nature reserves:

PRIMUS plays a vital role in bird detection at airports and nature reserves, ensuring both safety and sustainability. For airports, PRIMUS reduces the risk of bird strikes, preventing costly damage to aircraft and protecting human life, while operating in a green, environmentally friendly manner.

For nature reserves, PRIMUS offers a way to monitor bird activity without disturbing wildlife habitats, contributing to wildlife conservation efforts. The non-invasive, non-emitting nature of the radar technology ensures that the natural environment is preserved while monitoring bird populations in a safe and sustainable way.

Key project focus:

 Urban airspace integration: Drones and birds are seen as resources, not threats. PRIMUS helps to manage these resources and ensure their safe coexistence in urban airspace.

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- Sustainability and Green Innovation: PRIMUS is a leader in nonemitting, environmentally friendly technology, reducing the environmental impact of air traffic systems and contributing to sustainable aviation.
- Scalability and Adaptability: Designed to be flexible, PRIMUS can be easily integrated into existing systems at airports, nature reserves and urban areas, ensuring it can be scaled across different sectors and needs.

Syncretise project PRIMUS addresses the challenges of modern airspace by providing a sustainable, adaptable and environmentally friendly solution that not only enhances safety, but also supports the green goals of the future.

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