

SQORPION

Spin-based Quantum Optics for Robust and Precise Inertial Sensing, Orientation and Navigation

SELECTED PROJECTS EUROPEAN DEFENCE FUND (EDF) 2024

CALL TITLE:

Disruptive EDF research actions

TOPIC TITLE:

Quantum technologies

DURATION OF THE PROJECT:

48 Months

TYPE(S) OF ACTIVITIES:

Generating knowledge, Studies, Design

ESTIMATED TOTAL COST:

€ 8,676,606.86

MAXIMUM EU CONTRIBUTION :

€ 8,676,606.86



SHORT DESCRIPTION OF THE PROJECT:

SQORPION deals with the development of solid-state spin based quantum sensors for defence applications based on magnetic anomaly detection.

The project aims to provide a miniature position, navigation timing system based on a solid-state spin-based quantum system-on-a-chip approach. The nuclear spin-based quantum gyroscope's sensitivity to magnetic fields allows for magnetic anomaly detection and magnetic crustal field navigation, which will support positioning for defence systems in global navigation satellite system denied environments.

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**Members of the consortium and
country of establishment:**



 NAME OF THE ENTITY	 COUNTRY
SILICON AUSTRIA LABS GMBH (Coordinator)	Austria
COSYLAB LABORATORIJ ZA KONTROLNE SISTEME DD	Slovenia
IHP GMBH - LEIBNIZ INSTITUTE FOR HIGH PERFORMANCE MICROELECTRONICS	Germany
INSTITUT JOZEF STEFAN	Slovenia
JOHANNES GUTENBERG-UNIVERSITAT MAINZ	Germany
NORTHROP GRUMMAN ITALIA S.P.A.	Italy
SCHIEBEL ELEKTRONISCHE GERATE GMBH	Austria

