



Lynred launches HEROIC, €18M European Defence Fund project to produce strategic electronics for next-generation infrared sensors

Four-year project first to see EU infrared (IR) product manufacturers jointly acquire access to advanced CMOS technology to design new IR sensors

10-member consortium aims to gain European sovereignty in producing high-performance IR sensors for future defense systems

Grenoble, France, January 10, 2023 – Lynred, a leading global provider of high-quality infrared detectors for the aerospace, defense and commercial markets, today announces the launch of [HEROIC](#), a European Defence Fund project aimed at developing highly-advanced electronic components for next-generation infrared (IR) sensors, while consolidating the supply chain of these state-of-the-art products in Europe.

A consortium of 10 European partners led by Lynred, HEROIC (High Efficiency Read-Out Integrated Circuit) is a four-year project starting this month with a budget in the order of €19M (≈\$19.8M), of which the European Defence Fund is contributing €18M (≈\$18.8M).

HEROIC is the first collaboration of its kind to bring together European IR manufacturers, several of whom are competitors, to strategically tackle a common problem. The project's main objectives are to increase access to, and dexterity in, using a new European-derived advanced CMOS technology that offers key capabilities in developing the next generations of high-performance infrared sensors - these will feature smaller pixels and advanced functions for defense applications. One overall aim is to enable Europe to gain technological sovereignty in producing high-performance IR sensors.

Consortium members include three IR manufacturers: AIM (DE), project leader Lynred (FR), and Xenics (BE); four system integrators: Indra (ES), Miltech Hellas (GR), Kongsberg (NO) and PCO S.A. (PL); a component provider: Ideas, an IC developer (NO), as well as two research institutions CEA-Leti (FR), and the University of Seville (ES).

"Lynred is proud to collaborate on this game-changing project aimed at securing European industrial sovereignty in the design and supply of IR sensors," said David Billon-Lanfrey, chief strategy officer at Lynred. "This project represents the first phase for European IR manufacturers to gain access to a superior CMOS technology compatible with various IR detectors and 2D/3D architectures, and equally importantly, make it available within a robust EU supply chain."

Acquiring the latest advanced CMOS technology with a node that no consortium partner has had an opportunity to access is pivotal to the sustainable design of a next-generation Read-Out Integrated Circuit (ROIC). Its commonly specified platform will allow each consortium partner to pursue its respective technological roadmap and more effectively meet the higher performance expectations of post-2030 defense systems.

"The HEROIC Project will enable AIM to develop advanced ROICs based on European Silicon CMOS technology, as an important building block in its next-generation IR sensors," said Rainer Breiter, vice-president, IR-Module programs, at AIM. "We are looking forward to working together with our partners in this common approach to access the latest advanced CMOS technology."

IR sensors are used to detect, recognize and identify objects or targets during the night and in adverse weather and operational conditions. They are at the center of multiple defense applications: thermal imagers, surveillance systems, targeting systems and observation satellites.

Next-generation IR systems will need to exhibit longer detection, recognition and identification ranges, and offer larger fields of view and faster frame rates. This will require higher resolution formats encompassing further reductions in pixel pitch sizes down from today's standard 15µm and 10µm to 7.5µm and below. This will need to be obtained without increasing the small footprint of the IR sensor, thus maintaining reasonable system costs and mechanical/electrical interfaces. These requirements make the qualification of a new CMOS technology mandatory to achieving higher performance at the IR sensor level.

"Xenics sees the HEROIC project as a cornerstone for its strategy of SWIR development for defense applications," said Paul Ryckaert, CEO of Xenics. "Thanks to this project, the consortium partners will shape the future of European CMOS developments and technologies for IR sensors."

Origins of the project

HEROIC originated in a workgroup meeting that took place in 2019 on IR technologies of the European Defence Agency, where it was deemed necessary to fortify a supply chain of key technologies among European IR manufacturers. Lynred took the initiative to define a Europe-wide project and created a consortium to consolidate the IR ecosystem in Europe.

About AIM

AIM Infrarot-Module GmbH develops, manufactures and sells premium infrared detectors and thermal sights as well as the Stirling cooling engines required for the operation of detectors at cryogenic temperatures. The company combines all the necessary core competencies, such as electronic engineering, microelectronics, semiconductor technology including crystal growth, optics and precision engineering, under one roof. AIM products are in service with the German Bundeswehr and in other countries, particularly within the NATO. They are also used in research, industrial processes, safety & security technologies and environmental protection. Space applications constitute an important new segment.

www.aim-ir.com

About CEA-Leti

CEA-Leti, a technology research institute at CEA Tech, pioneers micro and nanotechnologies, tailoring differentiating applicative solutions that ensure competitiveness in a wide range of markets. The institute tackles critical challenges such as healthcare, energy, transport and ICTs. Its multidisciplinary teams deliver solid expertise for applications ranging from sensors to data processing and computing solutions, leveraging world-class pre-industrialization facilities.

www.leti-cea.com

About Ideas (Integrated Detector Electronics)

Founded in 1992 by scientists and engineers from The European Organization for Nuclear Research (CERN) and the University of Oslo, Ideas develops full-custom-made integrated circuits and sub-systems for many types of radiation detectors and imaging systems. The company's products are used in medical imaging, industrial scanning, nuclear science and astrophysics.

www.ideas.no

About Indra

Indra is one of the leading global technology and consulting companies and the technological partner for the core business operations of its customers world-wide. It is a world-leader in providing proprietary solutions in specific segments in transport and defense markets, and the leading firm in digital transformation consultancy and information technologies in Spain and Latin America through its affiliate Minsait. Indra

employs 52,000 staff and has a local presence in 46 countries and business operations in over 140 countries.

www.indracompany.com

About Kongsberg

Kongsberg specializes in developing advanced technologies to provide extreme performance for extreme conditions. Working together as a global team, it has created an integrated portfolio of solutions, for businesses, partners and nations operating from the depths of the sea; to outer space; to the digital frontier.

www.kongsberg.com

About Miltech Hellas

Miltech Hellas provides state-of-the-art products that address the modern needs of the defense and civilian domains. These include thermal imagers, radio accessories and multi-function displays for avionics. The company is located 20km east of Athens and is housed in a 10,000 m² building with cutting-edge technological equipment.

www.miltech.gr

About PCO S.A.

PCO S.A, Poland's largest producer of optoelectronic devices with laser, night vision or thermal vision technologies, offers a wide range of optoelectronic observation and targeting devices to military personnel and uniformed services.

www.pcosa.com

About the University of Seville

The University of Seville (Universidad de Sevilla) in Spain is one of the top-ranked institutions for research in technology and science.

www.us.es

About Xenics

Xenics was established in Belgium in 2000 as a designer and manufacturer of infrared sensors, cores and cameras. As a commercial spin-off from IMEC, Xenics specialises in the development of SWIR InGaAs imaging detectors and cameras. Today, Xenics is part of the Photonis group and is Europe's leading supplier of SWIR imagers, steadily growing internationally with sales offices worldwide. The company retains its expertise in SWIR imagers, expanding its portfolio in the LWIR range for various markets.

www.xenics.com

About Lynred

Lynred and its subsidiaries, Lynred USA and Lynred Asia-Pacific, are global leaders in designing and manufacturing high quality infrared technologies for aerospace, defense and commercial markets. It has a vast portfolio of infrared detectors that covers the entire electromagnetic spectrum from near to very far infrared. The Group's products are at the center of multiple military programs and applications. Its IR detectors are the key component of many top brands in commercial thermal imaging equipment sold across Europe, Asia and North America. Lynred is the leading European manufacturer for IR detectors deployed in space.

www.lynred.com

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