



## **Lynred selected to develop SWIR detector for European Land Surface Temperature Monitoring (LSTM) mission**

**LSTM prime contractor Airbus Defence & Space will integrate Lynred's shortwave infrared (SWIR) detector into satellite's imager, whose land-surface temperature observations will help improve sustainable agriculture productivity**

**Grenoble, France, April 8, 2021** – Lynred, a leading global provider of high-quality infrared detectors for aerospace, defense and commercial markets, today announces that Airbus Defence & Space (ADS), the prime contractor in the European Copernicus Land Surface Temperature Monitoring (LSTM) mission, has selected it to develop a new linear SWIR (shortwave infrared) array to meet the special requirements of the satellite's imager instrument.

The linear SWIR array will be integrated into an imager; a high-resolution radiometer that measures land-surface temperatures. The overall aim of LSTM is to improve sustainable agricultural productivity at field-scale in regions experiencing increasing water scarcity and climate variability. It has as its objective improving how the agriculture sector predicts droughts and addresses other land degradation issues.

"Lynred has a long track record in developing and manufacturing SWIR detectors for space instruments. We trust in Lynred's capacity and technological performance to tackle the challenges in this program and deliver the LSTM SWIR detector according to our expectations," said Vincent Chorvalli, LSTM instrument project manager at ADS.

It is important to note that this type of IR detector, in particular its performance, is one of the major components enabling the imager instrument to achieve its overall system performance. Equally important is the requirement for the IR detector to operate at nominal performance whilst withstanding the rigors of space, notably high radiation levels. This makes its role and the requirement to perform reliably all the more critical.

"Lynred is proud to have been selected by ADS to participate in a flagship European environmental program, designed to bring solutions to some of the most serious challenges facing the agricultural sector," said Philippe Chorier, space business development manager at Lynred. "Our brand of IR detectors for space applications, built upon decades of the highest technological performance, reassures customers of Lynred's reliability as a supplier and its ability to help them achieve the ambitious goals of their space programs. We see this legacy as a key driver in the design of future missions - based on this large-format SWIR detector. We look forward to engaging with customers on other projects designed to preserve and protect the planet, which is in line with our company motto."

Lynred's SWIR detector will capture infrared light at three different wavelengths (0.945  $\mu\text{m}$ , 1.375  $\mu\text{m}$  and 1.61  $\mu\text{m}$ ). Its design will meet the special needs of the mission, notably a linear array with four different lines (the line at 0.945  $\mu\text{m}$  being duplicated according to mission needs) of 1,200 pixels each in the across-track satellite velocity direction and 12 pixels in the long-track scanning direction (scanning methods are used to acquire a multispectral image). The 12 pixels will enable the implementation of a TDI (Time-Delay Integration) operation – a signal-to-noise ratio improvement method employed to enhance image quality - directly on the detector chip. As a consequence, the interface towards detector electronics is significantly simplified for global detection chain design optimization.



Lynred will deliver the first flight model by the end of 2023. The company has previously contracted with ADS on other space missions, such as Sentinel 2, Sentinel 5, Microcarb and METImage.

#### **Note to editor**

The Copernicus Land Surface Temperature Monitoring (LSTM) mission will carry a high spatial-temporal resolution thermal infrared sensor to provide observations of land-surface temperature. The mission responds to the priority requirements of the agricultural user community for improving sustainable agricultural productivity at field-scale in a world of increasing water scarcity and variability. Land-surface temperature measurements and derived evapotranspiration are key variables in understanding and responding to climate variability, managing water resources for agricultural production, predicting droughts and addressing land degradation, natural hazards such as fires and volcanoes, coastal and inland water management, and urban heat island issues.

<https://www.esa.int/eseach?q=land+surface+temperature+mission>

#### **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. Lynred, a recent merger between Sofradir and ULIS, 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. The organization is the leading European manufacturer for IR detectors deployed in space.

[www.lynred.com](http://www.lynred.com)

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