

# Koheras fiber lasers from NKT Photonics space qualified for the Swarm Absolute Scalar Magnetometers

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NKT Photonics A/S, a pioneer and manufacturer of narrow linewidth, single frequency Koheras fiber lasers announces that its DFB fiber lasers have been incorporated into the Absolute Scalar Magnetometers from CNES and CEA/LETI which were selected by the ESA for the Swarm mission. These instruments were designed, manufactured and space qualified by CEA-LETI in France in close partnership with CNES.

The Koheras DFB fiber lasers are generally characterized by a very low frequency and intensity noise and inherent single frequency operation, making them suitable for applications e.g. demanding a high spectral stability. These DFB fiber lasers were explored by CEA-LETI due to their ability to match the Helium transition line at ~1083 nm. *“During this collaboration we could assess the good adequacy between their laser and our needs in magnetometry. We were also able to appreciate both their professionalism and good working atmosphere, which has justified our choice”,* says Jean-Michel Léger, Space Applications Program Manager at the CEA-LETI.

The objective of the Swarm mission conducted by the ESA is to provide the best ever survey of the geomagnetic field and its temporal evolution, and gain new insights into improving our knowledge of the Earth’s interior and climate. The Swarm mission, a constellation of three identical satellites in three different polar orbits between 400 and 550 km altitude to measure the Earth's magnetic field, was decided by ESA as an Opportunity mission as part of the Earth Explorer Program and will be launched in 2012.

High-precision and high-resolution measurements of the strength and direction of the magnetic field will be provided by each satellite. In combination, they will provide the necessary observations that are required to model various sources of the geomagnetic field. GPS receivers, an accelerometer and an electric field instrument will provide supplementary information for studying the interaction of the magnetic field with other physical quantities describing the Earth system – for example, SWARM could provide independent data on ocean circulation.

*“We have come to this stage after more than 10 years of collaboration with CEA-LETI for which we contributed with unpackaged DFB fiber lasers, and we are very proud to deliver a critical part for such a cutting edge application”,* says Søren Løvgreen, Sales Manager for Koheras fiber lasers“. *It also demonstrates that our fiber laser technology has the capability to meet the requirements of the most demanding applications“.*

For detailed information please visit: [www.nktphotonics.com](http://www.nktphotonics.com)

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**About NKT Photonics:**

NKT Photonics designs and manufactures supercontinuum lasers (SuperK), ultra-low noise fiber lasers (Koheras) and microstructured fibers (Crystal Fibre). Applications for SuperK supercontinuum lasers include biomedicine, metrology and R&D. The Koheras lasers address markets for interferometric sensing for oil & gas exploration, perimeter surveillance, security, as well as wind LIDAR. The Crystal Fibre product line includes all-glass double clad fibers for high power lasers and amplifiers, hollow core gyroscope fibers and supercontinuum fibers.