



Saint-Etienne, May 27, 2019

**iXblue and the Hubert Curien Laboratory (UJM/ CNRS / Institut d'Optique Graduate School) are proud to announce today the creation of the LabH6, a joint research laboratory focusing on the study of optical fibers and optical fiber-based sensors in harsh environments.**



iXblue Photonics division and the Hubert Curien Laboratory, which have been working together since 2006 on studying the vulnerability of optical fibers in a variety of nuclear environments, are opening up their joint research laboratory, the LabH6.

#### **Combining complementary skills**

The new LabH6 brings together all complementary skill sets of both partners. It will benefit from the synergy between iXblue's R&D capabilities in fibers and components and the experimental and modeling tools of the Hubert Curien Laboratory, which develops experimental methods and simulation tools for the characterization and description of the behaviour of optical and photonic components and systems in a variety of harsh environments.

#### **In depth material knowledge for technological breakthroughs**

The LabH6 goal is to characterize the vulnerability in radiative environments of different types of materials and optical fibers, to understand and identify the mechanisms that are at the origin of this deterioration, and to develop and confirm simulation tools capable of predicting how they will respond. With an influence on numerous applications in space, nuclear sector, medicine or even high-energy physics, such scientific advances will allow to develop disruptive technologies in these fields.

#### **A joint research laboratory for greater complementarity of the public/private partnership**

By creating this joint research laboratory, iXblue Fibers and Components Division and the Hubert Curien Laboratory allows the research activity to be structured within the framework of a national policy to establish closer ties between those working in scientific research and economic partners in France.

*"The LabH6 gives a formal structure to a longstanding collaboration between our two teams", explains Benoît Cadier, Manager of the Fibers and Components Division. "We have worked together on numerous projects, publications and PhD studies. These have allowed us to gain an understanding of many physical issues and major technological advances such as the modification of the composition of the core of double-clad Erbium-Ytterbium co-doped fiber which allows it to be used in space for 1.5 μm high-power amplification applications."*

*"Our resources really are complementary to those of iXblue, both in the design and production of fibers, as well as in their characterization using means of irradiation," adds Sylvain Girard, scientific lead of the project. "LabH6 means we can define a joint scientific program in which we will both take part. The idea of this laboratory is to make breakthroughs in the field of photonics by managing to control the response of optical fibers under conditions of irradiation, either to make them insensitive to radiation, or to enable them to be used as means of detection. It is by developing models which we hope to be predictive, that we will be able to know, in advance, how the systems are going to age. This will enable us, by working backwards from the predicted results, to anticipate problems ahead of time and to design new architectures for the systems."*

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**About iXblue**

iXblue Photonics helps photonics engineers all around the world get the most out of light by providing high-performance, innovative and reliable photonic solutions. The company offers specialty fibers, Bragg gratings and optical modulation solutions based on its integrated modulators for a variety of applications: optical communications, fiber lasers and amplifiers, fiber optics sensors, space and sciences. iXblue Photonics is part of iXblue, a global high-tech company that specializes in the design and manufacturing of advanced autonomous, marine and photonics technologies.

**About the Hubert Curien Laboratory**

The Hubert Curien laboratory is a joint research unit (UMR 5516) of the Jean Monnet University, Saint-Etienne, the National Research Centre "CNRS" and the Institut d'Optique Graduate School. It is composed of about 90 researchers, professors and assistant professors, 20 engineers and administrative staff and 130 PhD and post-PhD students. This makes the Hubert Curien laboratory with a total of about 240 staff the most important research structure of Saint-Etienne. Our research activities are organized according to two scientific departments: Optics, photonics and microwave and Computer science, telecom and image. The research activity is structured into scientific projects within 6 main teams: Micro/Nano structuring, Radiation-matter Interaction, Image Science & computer vision, Data Intelligence, Connected Intelligence and Secure Embedded Systems & Hardware Architectures.