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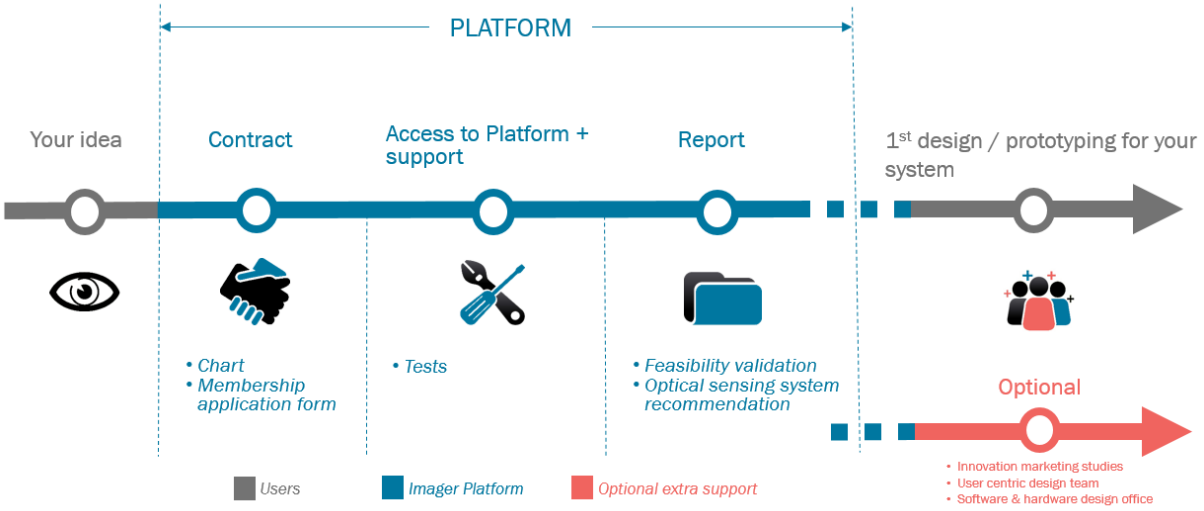
Press release

Open Access Platform to explore new applications for Imaging and Optical Sensing with Artificial Intelligence and multiple wavelengths.

In collaboration with STMicroelectronics, Lynred, Prophesee and 4 institutional players*, IRT Nanoelec has launched the System Lab initiative to develop new imaging applications by combining the information from existing optical components. The approach aims to close the gap between potential users and R&D actors in Optical Sensing to explore, anticipate, and conquer the challenges of tomorrow.

Setup by the French technological research institute Nanoelec, the System Lab initiative aims to develop functional demonstrators and to study new usage scenarios based on experimental fusion exercises, primarily in imaging applications. Example usage scenarios might explore autonomous optical sensors placed in natural settings to monitor fires or measure biodiversity; image sensors capable of analyzing human posture and expressions to detect emotion, loss of human vigilance or consciousness; sensors capable of detecting or sorting materials, controlling industrial processes, or scanning buildings. The System Lab will also investigate the use of artificial intelligence based on focus use cases.

(*) Minalogic, Captronic, CEA and Grenoble Business School (GEM)



System Lab platform access modality © CEA/Nanoelec

Building on a technical platform that combines a wide variety of technologies that include a visible imager, event-based sensor**, TOF imager***, and infrared and thermal imagers, the partners are exploring the functions and services that image sensors could provide for the industries of tomorrow. These next-generation imagers will be suitable for a wide variety of situations such as very fast phenomena, little or no illumination, multispectral analysis to detect or sort materials, and even augmented reality, by combining all the sensors, from which the data can be superposed over a high-quality visible image.

The group will consider numerous critical technical elements within the platform including data-flow management, security and transmission, digital trust, and the use of artificial intelligence.

Using this technical platform and collaborative innovation process methodologies at CEA/Y.Spot with contributions from Grenoble Business School (GEM) students, System Lab partners are seeking to explore new applications by involving end-users (integrators, equipment manufacturers) early on in the R&D process. At the same time, the partners want to explore new applications by involving end-users (integrators, equipment manufacturers) early in the R&D process.

Over time the industrial partners will integrate the results of the approach to broaden or enhance the characteristics of their components and generate new technological opportunities.

(**) type of sensor which only transmits information about variations between successive changes in the scene.

(***) distance measurement per pixel.

They are working together at System Lab

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About IRT Nanoelec

The Nanoelec technological research institute is a consortium of private and public sector players. Our mission is to help companies create value and enable their products to stand out on the digital transition stage.

Nanoelec contributes to the competitiveness of the electronics sector, especially in France. It is based in Grenoble, a world-class hub for research, innovation, and production in the field.

Given the pervasive nature of digital technologies, Nanoelec is in contact with actors from all sectors ranging from goods to services, industry, and infrastructures to consumer products, not forgetting transportation, environment and health.

Press contact: francois.legrand@cea.fr – +33 (0)7 87 37 21 37