

SWIFTS 400-1000: New High-Resolution Spectrometers

Background

The SWIFTS project will use stationary-wave integrated Fourier-transform spectrometry (SWIFTS) technology to develop high-resolution miniature spectrometers for wavelengths of 400-1000 nm. These spectrometers will be designed to meet the need for high-performance, compact, and easy-to-use measuring devices.

After the technology is proven through prototypes, the spectrometers will be manufactured on a commercial scale with the first products expected to reach the market in 2012. The spectrometers will initially target the scientific instrumentation, spatial, and LIBS markets, highlighting the product's potential on growing markets. The project partners hope to be able to make this a sustainable business after three years and create 40-150 new jobs in the Grenoble area.

Partners

Corporate

e2v Semiconductors

SME

Floralis - TeemPhotonics

Research laboratories

Université Joseph Fourier-Grenoble 1 - Université de Technologie de Troyes

Key figures

Budget: €4 million

Duration: 30 months

Human resources allocated: 31 FTE

Innovation

SWIFTS is a patented technology developed by French universities. It can lead to a new family of unparallelled micro-spectrometers, and opens the door to breakthrough applications by drawing on one of the strengths of Grenoble area scientists: nanotechnology. SWIFTS couples photosensitive elements with a stationary wave obtained from a reflection off of a mirror placed at the end of a waveguide. It can analyze a light spectrum statically, in a parallel and optimal manner with minimal instrument volume, and cover a large wavelength band without any moving parts.