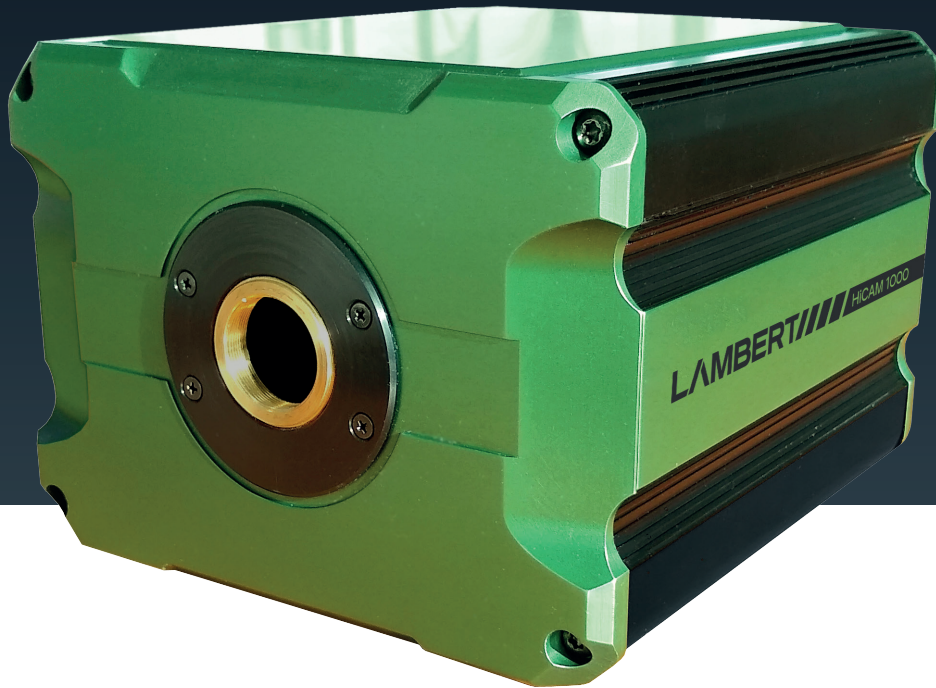


# HiCAM

Intensified High-speed Camera



**The HiCAM is an intensified high-speed camera for low light applications.**

It has an integrated fiber-optically coupled image intensifier, which offers a unique combination of high-speed imaging and increased light sensitivity. The HiCAM records high resolution images at a frame rate in excess of 2000 fps at full frame in the most challenging low-light conditions.

## **/ Ultra-short Gating**

The camera's effective exposure time can be reduced to  $< 3$  ns (FWHM) for time resolved imaging, or capturing very fast events.

## **/ Fast Streaming**

To transfer all the high-resolution image data, the HiCAM streams live over a CoaXPress (CXP) interface. The camera has four CXP connectors, each of which has a channel speed of 6.25 Gbit/s.

## **/ Longterm Streaming**

The recordings can be directly streamed to the hard drive. For optimised recorders the length is limited only by drive capacity.

## **/ High-sensitivity Intensifiers**

You can choose from a wide variety of high-sensitivity image intensifiers to match the spectral needs of your application.

## **/ Cycled Bursts**

Adjust for changing light levels by cycling through three different gate widths and optionally combine this with the burst mode to optimize the dynamic range.

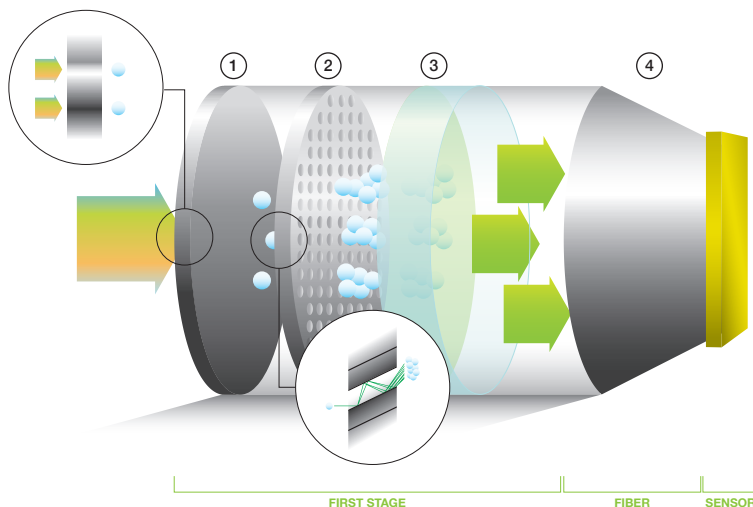
## **/ Fiber-optically Coupled**

Our experienced engineers couple the sensor to the image intensifier with a fiber-optic window.

## Intensifier working principle

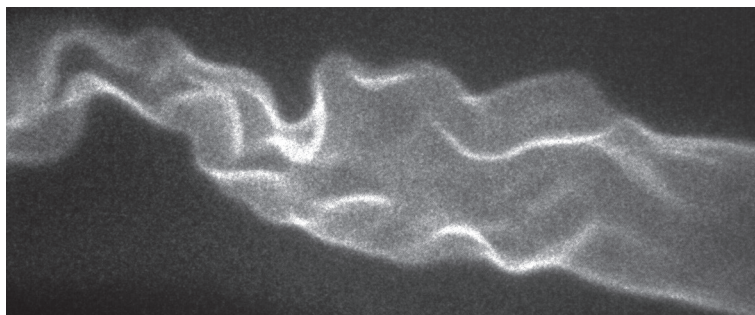
Photons are converted into electrons at the photocathode (1). These are accelerated towards the micro-channel plate (2) by an electric field and hit the channel walls. Depending on the voltage across the channel, multiple electrons are generated by secondary emission.

This cloud of electrons is accelerated towards the anode screen (3), where the electrons are converted back into photons by the phosphor layer, and these photons are transferred to the camera by a fiber-optic taper (4).

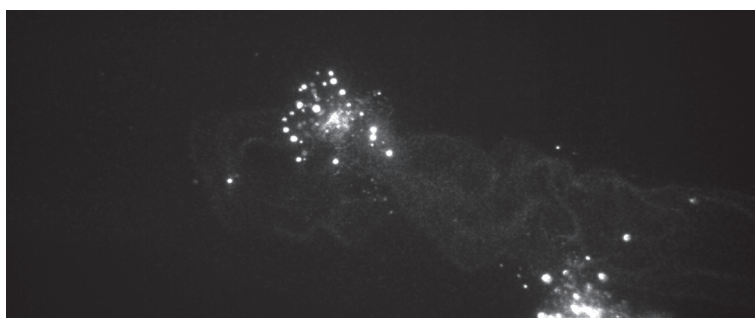


## Applications

- Combustion research
- Plasma physics
- Time-resolved fluorescence
- Laser Induced Fluorescence (LIF)
- Particle Image Velocimetry (PIV)
- Micro-fluidics
- Blood-flow analysis
- Quantum communication
- Mechanosensing
- Laser Induced Incandescence
- Molecular Tagging Velocimetry
- Active Imaging
- High speed spectral imaging



**Above: Combustion research** - A single frame of a flame recorded with a gate of 15  $\mu$ s



**Above: PIV** - A single frame of spark recorded with a gate of 4  $\mu$ s

## Intensify your camera

Upgrade your existing camera with an engineered intensifier solution from Lambert.

**Lambert Instruments BV**  
Leonard Springerlaan 19  
9727 KB Groningen  
The Netherlands

**T:** +31 50 501 8461

**E:** [sales@lambertinstruments.com](mailto:sales@lambertinstruments.com)

Part of Tibidabo Scientific Industries

LI-HiCAM-SF-Rev03 / Oct2024

Lambert Instruments is dedicated to development, production and worldwide sales of products for **time resolved imaging at low-light levels**.

Our mission is to enable our users to **reveal previously unseen phenomena**. Our products provide a possibility to record fast events at low-light conditions. Together with our software, we **reimagine detection** to offer complete solutions to challenging imaging problems.