



# Infrared sensors

## The temperature in images

Until about 15 years ago, all infrared detectors were based on photodiodes and required cooling to around  $-200\text{ }^{\circ}\text{C}$ , making them very expensive.

Since then, CEA Tech has been working on bolometer technologies capable of operating at ambient temperature. A bolometer transforms infrared radiation into heat which is then converted into an electrical signal. Current work is focused on miniaturization (micro-bolometers) and the transfer of the technology to mass-market products. For the

past ten years, this work has been carried out in partnership with Ulis, a spin-off company from the Leti Institute.

There are many applications for 'room temperature' infrared imagers. These include safety (night driving and the detection of gas leaks), energy saving (insulation and occupancy detection for lighting or heating), health (monitoring hospital treatment at home and detection of infected travelers at airports), and the preventive maintenance of overheating components.

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