

Xenics company profile

1. Name of company

Xenics

2. Title and text

Leading developer of innovative infrared detection solutions.

Xenics designs and manufactures infrared detectors, both line-scan and 2D arrays, as well as camera systems covering infrared wavelengths up to 14 micrometer. In addition, we deliver custom products according to the agreed specification. Our infrared detection solutions cover a wide range of applications in surveillance, border control, night vision...

Our key competences include:

- Shortwave infrared (SWIR InGaAs) sensor and camera manufacturing
- Thermal imaging camera manufacturing: Mid-wave infrared (MWIR InSb and MCT), Cooled long-wave infrared (LWIR MCT and QWIP) and Uncooled long-wave infrared (LWIR microbolometer)
- Custom design (sensors and camera engines)

Shortwave infrared (SWIR) systems

Our range of shortwave infrared systems includes the XS, Xeva and Cheetah ranges.

Unlike LWIR and MWIR imagers, SWIR imagers see reflected light. SWIR InGaAs cameras offer unique capabilities, complementary to LWIR and MWIR cameras. Moreover, small, low-power and lightweight SWIR InGaAs cameras can be used on airplanes and UAVs (unmanned air vehicles) for reconnaissance and surveillance missions

Laser gated imaging, detection of laser designators and range finders

Laser gated imaging allows for imaging at long distances while reducing the effect of obscurants in the atmosphere. In laser gated imaging, a pulsed laser is used to illuminate the scene while the reflected light is detected by a camera with a short exposure or gating time. Range-finding lasers are used to detect the range of an object whereas target designator lasers are used for attack. The most common military lasers can be detected using SWIR InGaAs cameras.

Company confidential.

This document is the property of Xenics. It may not be reproduced – completely or partially – or passed to a third party without written permission from Xenics.

Night vision and target recognition cameras

While thermal imaging can easily detect the presence of warm objects such as cars, trucks or people in a cooler environment, a SWIR camera can be used to accurately identify and recognize those objects. SWIR night vision is based on reflection of infrared rays from atmospheric glow or nightglow rather than on thermal radiation. Additionally, by using SWIR illumination for example 1550 nm LEDs or lasers, a scene can be covertly illuminated: viewing is only possible with a SWIR camera.

Situational awareness cameras for gunshot detection

Acoustic sensors that "listen" to the shockwave of a bullet are not the only solution for gunshot detection. Gunshot signature can be identified, located and processed even faster using high-speed SWIR InGaAs cameras, either at night or during daytime. The combustion gases and hot debris projected from the gun upon firing are detectable.

Cameras for seeing through haze, smoke and fog

Compared to visible cameras, SWIR InGaAs cameras offer superior performance in imaging through dust, fog, haze or smoke. In case of fire, the location of the flames can easily be found.

Thermal imaging

Our range of thermal imaging products includes Gobi, Raven, Meerkat and Onca.

There exist a multitude of applications for thermal imagers in defense and security including search and rescue, precision targeting, border or critical facility protection and fever detection.

Nobody can hide from a thermal imager. Whereas uncooled LWIR microbolometer cameras are much less expensive than cooled MWIR or LWIR cameras, they are also less sensitive - they cannot distinguish between very small temperature differences, and in general have lower frame rates.

Thermal imaging cameras see the heat signature of people, boats and vehicles in total darkness, and through smoke, haze and light fog. Typically they even work better at night than during daytime. In general, MWIR cameras, compared to LWIR, are better suited to see through humid air at long distances, whereas cooled LWIR cameras have a superior dynamic range. LWIR cameras are also well-suited for thermal imaging of cold objects, even at temperatures down to -100°C.

Our thermal imaging cameras or camera engines are based on uncooled microbolometer sensors (LWIR) or cooled InSb (MWIR), MCT (MWIR and LWIR) or QWIP (LWIR) and are used in:

- Multi-sensor thermal imaging systems
- Short-range or long-range, fixed or PTZ systems
- Vehicle- or helmet-mounted thermal imaging systems

Company confidential.

This document is the property of Xenics. It may not be reproduced – completely or partially – or passed to a third party without written permission from Xenics.

3. Photos



Night vision with SWIR InGaAs camera XEVA 1.7 320 TE1 picture taken at midnight, partly cloudy, few stars, no illumination used.



Seeing through smoke.



Thermal images with microbolometer camera.

4. References:

Xenics nv
Ambachtenlaan 44
BE-3001 Leuven • Belgium
T +32 16 38 99 00
F +32 16 38 99 01
sales@xenics.com
www.xenics.com

Company confidential.

This document is the property of Xenics. It may not be reproduced – completely or partially – or passed to a third party without written permission from Xenics.

Xenics nv
Ambachtenlaan 44
BE-3001 Leuven • Belgium

T +32 16 38 99 00
F +32 16 38 99 01
www.xenics.com

Reference: XF_036
Issue: 01
Date: 31/03/2009