

briefing

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PRODUCT PROFILE

International Success for Bespoke Scientific Cameras

A Northamptonshire-based company is set to revolutionise lifescience research photography thanks to its range of bespoke, state-of-the-art cameras.

XCAM Limited specialises in producing custom digital cameras for use in medical research and science experiments and is already enjoying international success, with exports accounting for 80% of sales.

Karen Holland of XCAM explained: "A few years ago we were asked to produce a unique system for a scientist who needed a camera for a laser plasma experiment he was running at the Rutherford Appleton Laboratory.

He needed an exceedingly large area sensor for his experiments – larger than anything commercially available. The largest CCD sensor then available was used in astronomy and needed to be cryogenically cooled to temperatures of about -130°C .

"This was not suitable for the scientist but, after some calculations, we realised that his scientific goals could be achieved by higher temperatures."



Part of the hi-tech camera system developed by XCAM.

XCAM then developed a housing that would satisfy the specialised mechanical and thermal requirements of this sensor. Utilising a combination of thermoelectric and water-cooling it is able to produce excellent results at more easily achievable temperatures of around -60°C .

Since then the company has continued to modify its camera system for a range of different applications, and it is now generating interest from a number of scientists working in medical research. The high tech cameras have potential applications in drug development and research into diseases such as cancer and drug addiction.

Karen added: "We start by working directly with the end-user to understand their experiment. Then we design the mechanical and electronic parts, write software, assemble, test and commission the full system on-site – enabling them to achieve outstanding science."