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## PRESS RELEASE

### **Loughborough innovators develop 'invisible' holograms to beat counterfeit crime**

A pioneering laser technique to identify fake versions of high-value products such as computer parts could soon be on the market place – and posing a major threat to the financially devastating counterfeit racket.

Laser Optical Engineering, a spin-out company from Loughborough University, will spend 18 months testing an 'invisible' hologram which will only respond to infra red light using a special reading device. The hologram will be marked on high value products to prove their authenticity. The company has just scooped £45,000 from the Government's Smart award scheme for small businesses to help turn its innovative idea into commercial reality.

Visible holograms – such as the dove and Shakespeare's head on credit cards – are widely accepted as authenticity guarantees throughout the commercial world. However such holograms are relatively easy to produce, and are invariably checked with just a cursory glance. "Tests have proved that people spot a small glittery patch and assume it's a hologram, rather than checking carefully, thus making it easier for counterfeits to be bought inadvertently" said Simon Hargrave, Business Manager of Laser Optical Engineering.

"Our technique involves using a high powered laser to burn a pattern onto the surface of the product that is not visible to the naked eye," he continued. "A small hand-held infra red reader will then be used to detect the pattern and guarantee authenticity, and also to hopefully identify the product – rather like a bar code reader. We're confident that this new technology will be vital in areas where counterfeiting is rife and companies want to protect their brand identity. The feasibility of the project will take 18 months to test, so the Smart funding is invaluable," concluded Simon.

The new Consumer Minister, Melanie Johnson, praised the Loughborough firm's idea: "Fake goods are at best poor quality and at worst deadly. This type of crime poses a serious danger to consumers as well as hitting profits and jobs in legal businesses. It is vital that consumers are aware of the risks posed by counterfeit goods, and know how to identify fakes when they are offered them. It is also good news for the local economy," she continued. "Often firms can't compete with counterfeiters' use of cheap labour and materials, which in turn puts jobs at risk."

The technology behind Laser Optical Engineering sprang from research pioneered in Loughborough University's Wolfson School of Mechanical and Manufacturing Engineering Department. The company designs and manufactures computer-generated optical holographic elements (kinoforms) which are used to shape laser beams, and Electronic Speckle Pattern Shearing Interferometer which are used to show the strain patterns in a mechanical system. It also provides Health and Safety policies and training for companies using lasers and is involved in a number of special projects involving the use of lasers in innovative measuring applications.





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Smart grants are a DTI initiative awarded for ideas that are both technically innovative and a sound commercial prospect. Laser Optical Engineering is the fifth Loughborough University spin-out company to receive a Smart award this year. This is a strong reflection of the DTI's belief that the 'invisible' hologram technique and its four innovative predecessors will bring great benefit to both the regional and the national economy.



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