

Securing the UK's borders

The development of a lorry scanning system to meet an urgent requirement from the UK Government to detect illegal immigrants entering the country.



Case study

Roke Manor Research Ltd
a Siemens company

Background

As part of the UK Government's Home Office, the Immigration and Nationality Directorate (IND) are responsible for immigration control in the United Kingdom. The IND manage immigration in the interests of Britain's security, economic growth and social stability. As part of their role, it is the IND's job to deter illegal workers and illegal entrants, and as such have legal powers to detain and remove them from the UK.

In 2002 the number of people seeking asylum in the UK rose to an all time high of 86,000. In a press release issued by the Home Office, the Home Secretary David Blunkett said: ***“2002 was a difficult year, with scores of illegal immigrants... trying to smuggle themselves into the UK to abuse the asylum process.”***

Challenge

Many illegal immigrants enter the UK via the English Channel ports by hiding in curtain sided freight vehicles. To address this the IND had been investigating lorry scanning techniques. However, they now had an urgent requirement to address the escalating numbers of illegal immigrants entering the country and turned to Roke Manor Research to deliver a solution quickly.

Speaking about why Roke Manor Research was selected for this work, Mick Storey, HM Inspector of the UK Immigration Service (UKIS), said: ***“Their track record indicated to us that they could come up with a solution that would meet our requirements in the very short timescale we gave them.”*** The timescales were short. Roke had less than seven months to design, prototype and build a system to meet the IND's requirements.

Solution

Aware that IND were after a solution quickly, Roke Manor Research put together a technology demonstrator in just ten days. The system, called Pandora™, was trialled at a secure location before being deployed to the UK port of Ramsgate. This prototype was then shipped to Calais for further trials where it was thoroughly tested over a ten week period using real port traffic.

The Pandora™ solution had to meet, amongst others, two key requirements:

- It had to be designed so that anyone hiding in a lorry was not exposed to harmful radiation as a result of being scanned. Roke's solution was to make Pandora™ a passive sensing system using radiometry. Pandora™ therefore does not transmit any energy and cannot harm anyone.
- It could not delay traffic flowing through the port. To allow a continuous flow of traffic (at about 20mph) Pandora™ was designed to scan a lorry in just three seconds.

Result

On the strength of the trials IND gave Roke an order to build two 'production' Pandora™ units. The timescales were still tight, but Roke's development team succeeded in building both units and completed testing in the remaining four months. The Pandora™ units provided the IND with improved illegal immigrant detection capability without impeding the flow of traffic at ports. Summing up their experience of working with Roke, Mick Storey said: ***“We were working with new technology. Theory suggested that it should work, but until the prototype was tested and the production version built we didn't know for sure. Roke Manor was aware of the risks and managed these and UKIS's expectations well, while maintaining confidence and enthusiasm for the project.”***

Roke has several technologies which passively scan, position and track in order to keep its clients one step ahead. For further information on these areas of expertise, please contact us.

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