

**BIDS AND DEALS**

**Parsons purchase**

Balfour Beatty is to buy engineering consultancy Parsons Brinckerhoff for £380 million. The construction giant intends to bolster its position in the US through the move. It will be financed by a rights issue.

**Swan song**

The historic Swan Hunter shipyard has been purchased by North Tyneside Council in a joint venture with regional development agency One North East. The 60-acre site is marked for regeneration as part of a development project for the area.

**Nuclear partners**

Rolls-Royce is planning to collaborate with EDF Energy on the construction of four nuclear reactors in the UK. The agreement covers engineering and technical support before and during construction.

**Gone with the wind**

BP has sold its wind-power interests in India to Green Infra, an independent power producer. The \$95 million deal will see Green Infra take control of three windfarms in India with a total capacity of 100MW.

**Refinery maintenance**

Industrial services firm Hertel has agreed a seven-year maintenance contract with Shell for Cheshire's Stanlow refinery. The contract is for maintenance services including insulation, scaffolding and painting as well as civil and mechanical engineering. Hertel has more than 500 employees on site.

**Lighter Jag**

Aluminium producer Novelis has been selected as sole supplier of aluminium sheet for the new Jaguar XJ sedan. Jaguar said the aluminium body will help to make the car at least 150kg lighter than its rivals.

# Liquid scanner could lead to easing of security restrictions at airports

**UK-developed scanner shows whether liquid in bottles is harmless or poses terror threat**

AN END could be in sight to the restrictions on carrying liquids in hand baggage on aircraft, following trials at Newcastle Airport of a scanner that can detect liquid explosives.

The X-ray scanner, developed by Sedgefield-based high-tech engineering firm Kromek, was being tested last week as three British terrorists were sentenced to life in prison for planning to blow up aircraft on transatlantic flights with liquid explosives.

Discovery of the plot three years ago saw restrictions placed on what could be carried in hand luggage. Today, passengers can only take liquids on board aircraft if they are in small containers under 100ml and carried in clear plastic bags.

Kromek's X-ray scanning machine is based on cadmium telluride technology. An airport worker scans the bottle's barcode, which accesses a database of unique "spectral



**Travel check: Terror plot led to restrictions on carrying liquids**

signatures" of liquids. The bottle is placed inside the machine, where an X-ray beam tracks down its axis to compare the signature of the liquid inside, determining

what the bottle actually contains.

The machine can detect the difference between harmless liquids such as water or alcohol and others such as hydro-

gen peroxide – the substance intended to be used by the convicted plotters to destroy aircraft in mid-flight. It then gives a simple yes-no answer as to whether the liquid can safely be carried on board. It can also detect substances such as narcotics in liquids.

Another version of Kromek's technology can be used to compare liquids with a "threat list" defined by the customer. The company hopes to incorporate its machine into baggage scanners.

Chief executive Arnab Basu said Kromek was growing fast and would move to a new headquarters early next year. It now has more than 40 staff. "We've identified an opportunity and responded to it with a quick, pragmatic solution," he said. "We are growing very fast and expect that to continue. We have a unique solution.

"As and when the airports decide time is right for deployment, we will be in a strong position."

## Biomass could provide a third of all airliner fuel by 2030

BIOFUELS will provide up to a third of all commercial jet fuel by 2030, the European planemaker Airbus has claimed.

Much of that stock will be provided by "second-generation" fuels derived from algae and micro-organisms such as yeast and bacteria which do not compete with food resources.

The development of such fuels could significantly reduce the carbon footprint of an industry that is coming under increasing pressure to

improve its environmental performance.

Laurent Rouaud, Airbus senior vice-president for market and product strategy, said: "We strongly believe in biofuels. Second-generation biofuels are very interesting. They could account for up to 30% of aviation fuel in the next 20 years."

The company is involved with several research and demonstration projects looking into biofuels, most notably with Honeywell, International Aero Engines and JetBlue

Airways, studying the potential of algae-derived fuel. Airbus said it is excited by the growth speed delivered by algae and by the number of strains to be investigated.

But Airbus admitted that there were many issues that needed to be resolved before the production of algae can be scaled up to make it a commercially viable source of fuel. One area requiring further investigation, it said, was the means to harvest cells, which can vary in size from a few nanometres to a few microns.

"Today, with production at pre-industrial scale, the price of a gallon of algae-derived fuel is not on the same scale as a gallon of kerosene. Algae culture costs are likely to represent the biggest part of the fuel user price," said Airbus.

Among the micro-organisms being considered for their potential use for biofuels are yeasts, which offer two main advantages. They provide a very high accumulation yield (up to 70% weight), and industrial processes already exist for food applications.