

Steam train X-rayed for first time

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(PhysOrg.com) -- A steam locomotive has been X-rayed by an innovative new mobile X-ray unit used for scanning cargo and vehicles for criminal activity.

The replica 1830 Planet at MOSI (Museum of Science & Industry, Manchester) was X-rayed to test the new Rapiscan Eagle M60, which was developed by Rapiscan in association with The University of Manchester.

It now hits the road to scan cargo and unoccupied passenger vehicles to protect against threats, counter trade fraud and detect contraband such as narcotics.

The insides of Planet locomotive are revealed in a fascinating X-ray

image taken by the M60, which shows its complicated system of boiler tubes, cylinders, valves and watertank. It is the first time that such an image has been taken of a steam locomotive.

The M60 was originally designed to help identify contraband and plastic explosive type materials in cargo shipments, and is able to detect different materials such as wood and metal.

It is the first Rapiscan system with a high energy X-ray imaging system in a road legal, mobile platform.

Rapiscan Systems works regularly with The University of Manchester and funds research work by mathematics postgraduates to help develop X-ray imaging, including work on the M60.

Professor Bill Lionheart, professor of Applied Mathematics at The University of Manchester, said: "Stephenson's Planet was made for the first passenger railway here in the North West so it seems fitting to make an X-ray image of it with Rapiscan's Eagle truck scanner, which has also been developed in the region.

“Unlike Stephenson's more famous rocket the cylinders of Planet are inside. With Rapiscan's huge X-ray machine we should be able to show the inside workings of the engine.”

Robin Holgate, MOSI's Head of Interpretation and Learning said: “It's fascinating to see the insides of Planet in the image taken by Rapiscan's Eagle M60 and really helps us to understand the complex engineering behind this 19th century technology. We hope to display the photo in the future for our visitors to see the inner workings of our favourite steam locomotive.”

The original Planet steam locomotive was built by Robert Stephenson

and ran on the Liverpool & Manchester Railway – the world’s first passenger railway, built in 1830. MOSI is based in the buildings of the former Liverpool Road railway station – the oldest surviving station on the line.

Rapiscan Systems, a division of OSI Systems, Inc. is the world’s leading security screening provider, utilizing X-ray and gamma-ray imaging, and advanced threat identification techniques such as neutron and diffraction analysis. Rapiscan Systems products are manufactured at four locations including Biddulph near Stoke-on-Trent.

More information: For more information on Rapiscan Systems, please visit www.rapiscansystems.com.
For more information on MOSI look up www.mosi.org.uk

Provided by University of Manchester

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