About time

Pat Musgrave looks at the UK Government's latest attempt to solve the growing congestion problems on the South-West's highways

In his June 2013 spending review, UK Chancellor of the Exchequer George Osborne announced the Government's biggest programme of roads investment for 40 years. £28 billion (€34 billion) of investment, including a trebling of funding for motorways and major A-roads, will lead to the biggest ever upgrade of the existing network.

In the long-term the investment will result in a more efficient UK road network and the enhanced infrastructure will have beneficial ramifications throughout the economy but in the short-term the immediate consequence will be a proliferation of roadworks, the potential for a rise in the number of disrupted journeys, disgruntled drivers and an impeded commercial distribution system.

In order to minimise the anticipated disruption, highway managers are looking to a new generation of temporary journey time solutions to provide road users with an effective real-time information service.

One major highways investment already well underway is

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the M4/M5 managed motorways project. These two motorways converge near Bristol and provide the main north-south and east-west links to the south-west of England. Historically the area has suffered from heavy congestion and unpredictable journey times.

The Highways Agency is working to improve journey times between the M4 junctions 19 and 20 and the M5 junctions 15 and 17, by converting the hard shoulder to a running lane for use during peak periods. The project, with an estimated cost of £88 million, is being undertaken by Balfour Beatty and began in January 2012, with a target completion date of the end of the first quarter of 2014.

HW Martin was appointed to control all traffic management requirements and that company in turn brought Vysionics on board to take operational responsibility. Vysionics then selected MVIS to work alongside it in the development and implementation of a temporary journey time system.

An average speed limit of 50mph was enforced to promote safety throughout the roadworks, which were anticipated to result in journey time delays for drivers. It was decided that drivers needed to be informed of these delays at key decision points prior to the works area, keeping them informed of journey times and enabling them to plan an alternative route when necessary.

THE ART OF SEAMLESSNESS

Of Vysionics' decision to appoint MVIS as its partner on the project, Vysionics' sales and marketing director, Geoff Collins said: "Our automatic number plate recognition (ANPR) based camera systems were able to generate the journey time information needed to inform road users through the works, but we needed a robust and reliable portable variable message sign (VMS) system to manage and display these journey times and key strategic messages. MVIS were able to provide a flexible and effective solution for this, which integrated seamlessly with our technology."

The two companies worked together to develop an intelligent transport system (ITS) solution. Four of MVIS' Bartco solar-powered VMS-C signs communicate with Vysionics' SkyHawk integrated ANPR cameras via MVIS' Web Studio web-based sign management and control system, providing real time journey information to drivers at strategic points along the route. The SkyHawk cameras are installed on

The M4/5 temporary ITS solution featured Vysionics' SkyHawk integrated ANPR cameras along with MVIS' VMS-Cs and Web Studio sign management and control system

standard SPECS speed enforcement camera columns within the works areas, and on CCTV columns prior to the start of the works areas. They send vehicle number plate data back to a remote server, which calculates journey times for matched number plates between camera locations. The average journey time from multiple journeys is then put into Highways Agency VMS message format and relayed via general packet radio service (GPRS) to be displayed on the VMS signs at the approaches to the works.

This integration incorporates a lock-on/lock-off facility which enables the operators at the Highways Agency South West Regional Traffic Control Centre to override the default journey time information display with additional driver information, for example regarding road closures

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and incidents ahead, thereby negating the need for additional signs. Once the incident is cleared, the sign reverts to displaying journey time information as soon as the unlock function is selected.

Two of the VMS signs are sited to give strategic information about upcoming works, and again can be overridden via Web Studio, to provide real time information to drivers. MVIS' trailer- mounted solar-powered HD Digital Wave Radar provides detailed traffic data to the main contractors, supporting the speed detection element of the overall ITS solution, promoting safety for both drivers and roadworkers.

The M4/M5 managed motorways installation is now in the testing and commissioning phase and Paul Unwin, senior project manager at the Highways Agency, is impressed with the results of the temporary journey time solution: "The Highways Agency aims to deliver reliable journeys to informed travelers – this journey time monitoring system achieves exactly that, providing accurate journey time data through the use of ANPR cameras and portable roadside VMS."

A PORTABLE SOLUTION

The project has provided MVIS with valuable experience valuable in the development of real time monitoring systems, and in response to the growing demand for journey time solutions, the company has recently launched a new temporary real-time monitoring system, the Portable Solar Powered Journey Time Solution (SPJTS).

Incorporating the latest software and hardware technology, the SPJTS provides users with a comprehensive cost-effective and stand-alone solution for short-term road works projects. Affirming the company's status as one of the UK's leading temporary ITS solutions providers, the package was developed in response to interest from a leading infrastructure services supplier, reflecting its ongoing dedication to develop innovative ITS solutions in partnership with public and private sector traffic management organisations.

The SPJTS is portable and solar powered, and so may be quickly and easily installed without the need for civil engineering or external power provision. As such, it is a cost-effective and stand-alone solution for short-term road works. The ITS solution enables road users to make informed decisions regarding how to minimise journey disruption, warning of delays and advising of their extent, providing users with the opportunity to take an alternative route if necessary.

MVIS' Solar 2012 multi-use trailer platform – an integral part of its new Portable Solar Powered Journey Time Solution

The SPJTS comprises two Vysionics' SkyHawk ANPR cameras mounted on MVIS' new Solar 2012 multi-use trailers and a VMS-A. When deployed the system converts information gathered utilising the SkyHawk ANPR system into a message which is viewed by the road user and gives prior notification of journey times through a roadwork scheme.

This is a tremendously exciting time for the UK's road network, as we anticipate significant improvements designed to help the highways operate with increasing efficiency. As the investment is undertaken, the demand for efficient journey time solutions will grow in the drive to minimise temporary journey disruptions. MVIS launched its new system at Traffex 2013 in April and already it has generated a great deal of interest in the highways industry where it has been widely hailed as a real-time monitoring system that will really help drivers to navigate roadworks efficiently. MVIS is looking forward to playing its part in a major government investment that will help not only the UK's highways, but also its entire economy, to operate more effectively.

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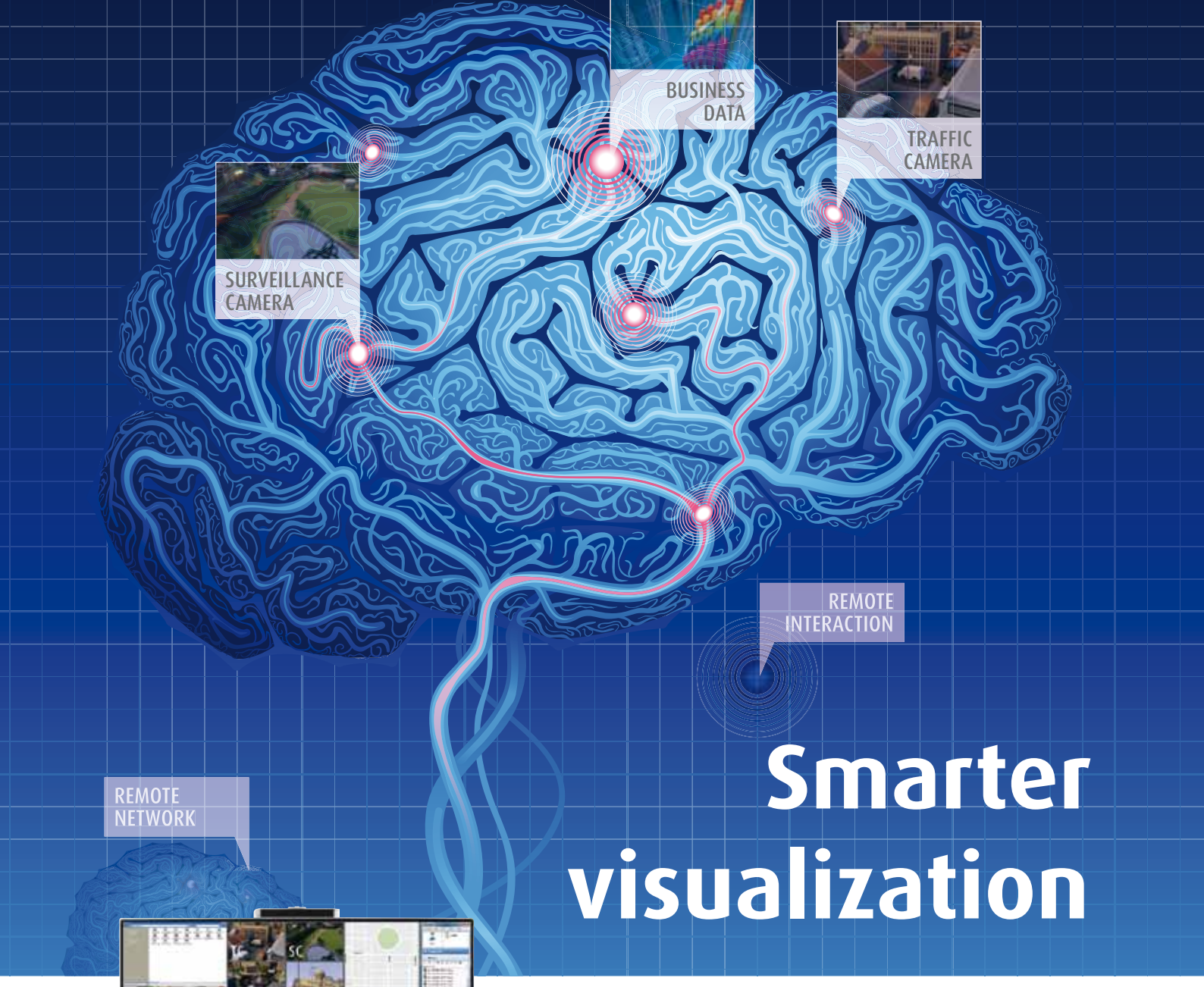

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