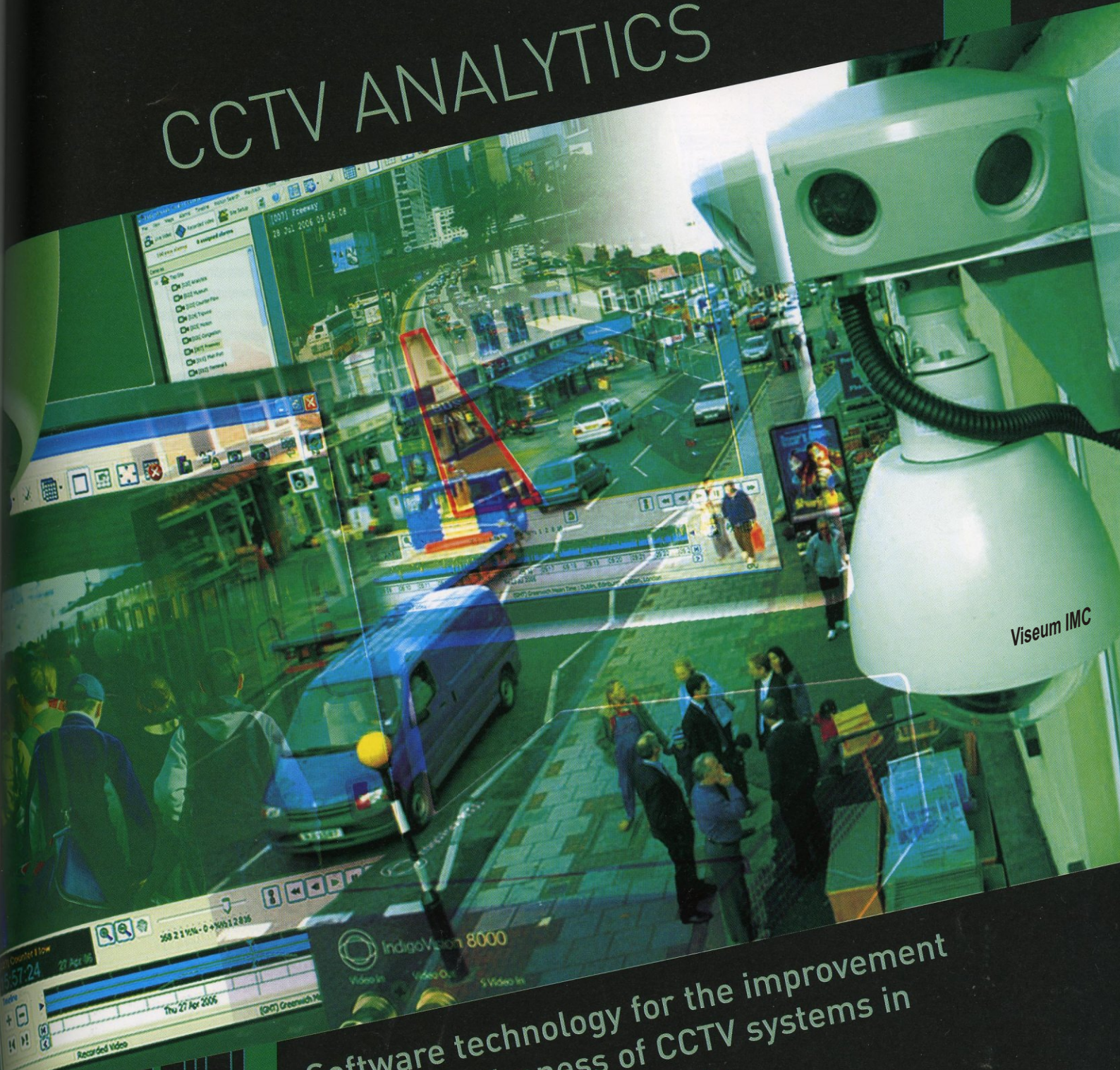


# CCTV ANALYTICS



Software technology for the improvement of the effectiveness of CCTV systems in recognising security events



**Communities are being threatened by vandals and petty criminals who are moving out of town centres – but help is at hand. Stuart Thompson of Viseum (UK) unveils a new thinking CCTV camera which is following them**

At present the areas protected by local authorities' CCTV are in and around town centres. However, there are many other populated areas within a local authority which do not fall within town centre CCTV coverage. There is evidence that CCTV moves a proportion of crime and youth disorder out to these areas. This has aggravated the problem of random crime in the wider areas.

One attempt to protect more areas whilst meeting budgetary constraints has been to use CCTV systems which can be re-deployed to different places. However, in practice these re-deployable systems have shortcomings which discourage users from actually re-deploying them. In particular, they need to be manually operated and as a result need mobile remote communications which can be more costly.

In the run-up to the Millennium, Viseum (UK) Limited undertook a nationwide study to identify the problems associated with CCTV surveillance. It was supported by the UK Department of Trade and Industry which offered the maximum UK DTI SMART Award to develop the solution to the problems identified. This led to the development of Intelligent Moving Cameras (IMC), an automated system controlled by new software which enables individual cameras to lock onto and record crime incidents only when they happen.

Teams of developers around the world have attempted to produce effective IMC technology but, in every case, they have failed to overcome the many technical obstacles. In fact, prior to supporting this development the UK DTI initially declared it would be impossible.

Each IMC unit effectively has nine different cameras – a ring of eight static, behavioural recording cameras which together point in every direction through 360 degrees and, slung underneath, a moving, master camera which records only when it is required to. When an incident is detected by one of the eight static cameras, the master camera immediately swivels round in that direction and starts recording.

Once development of this system was complete, it was time to test it live in the field. Various product models incorporating this software were placed under rigorous trialling with a number of local authorities. Areas suffering most from random crime were chosen and a like-for-like comparison was undertaken between the IMC and the existing operator-monitored infrastructure. The results were outstanding. Every crime reported had been captured by the IMC and its close-up evidence was used on all occasions, but nothing had been captured by the operator-monitored infrastructure.

In one particular installation, the IMC even captured evidence of a crime which had not been reported. The incident involved a drunk who, at 3am, threw a bottle at the window of a flat over some shops. The images recorded were of sufficient quality to provide the police with a positive identification of the man.

In another installation, the system caught evidence of

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several unreported misdemeanours which the council acted upon and intelligence was provided to the police about a potential drug dealer. This sent out strong deterrent messages and eventually that authority even relied on it as a management tool to ensure staff were maintaining certain areas properly. Throughout all IMC trials, the deterrent effect was highly noticeable with a drop in crime statistics.

The system has attracted the interest of security agencies in America where public opinion is concerned about the random recording of innocent civilians. For the British trials have proved that there are many situations where it is no longer necessary for operators to constantly monitor the camera to catch criminals. The trials also showed that IMC technology has several other advantages. These include detecting events too far away for the naked eye to see and being able to watch multiple events in different directions at the same time.

But one of its most compelling arguments is the budgetary one. Each Viseum unit is designed to be moved to wherever it is needed. It can be rapidly deployed to combat new crime and youth disorder hotspots and then be re-deployed to follow them wherever they may go. With re-deployable CCTV units using IMC technology for post-crime video retrieval, there is no need to use remote communications at all - although the system does have the flexibility to do so if required.

The system also has the facility to constantly and automatically monitor any given area day and night to capture evidence of what it has been instructed to look for and can be told to look for different things at different times of the day or week. Camera sites can either be completely left alone to manage themselves or used proactively at certain times dependant on the operators' local knowledge.

It has been trialled in such varying locations as Luton, parts of Kent, certain hotspots in the Metropolitan Police area and is shortly to be installed in Chester and Exeter. It has been universally acclaimed by operators, shopkeepers who rely upon it to prevent shoplifting, the police and Community Safety Partnership officials. The software was developed to help areas affected by sporadic crime outside traditional town centre CCTV coverage and I believe the technology is set to be the driving force for a new generation of surveillance.

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