CCTV Solutions

– on the Ground, in the Air, on the Move

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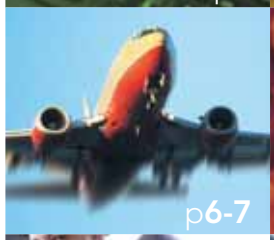
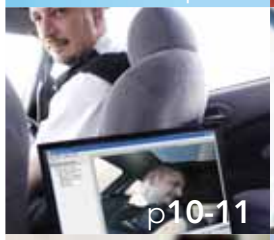
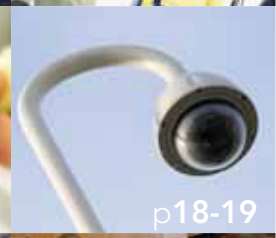
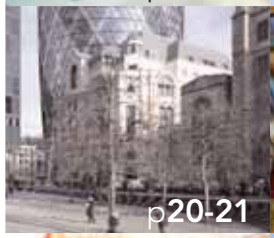








Introduction to AD Group

AD Group was established in 1997, its primary objective being to create and bring to market leading edge CCTV solutions. The pioneering nature of the Group's products, with the emphasis very much on R&D, has undoubtedly been a critical element in AD's success to date.

AD's growth has been remarkable, with turnover soaring from £930k in 1998 to £84 million in 2005, a fact recognised when the Group came out on top in the prestigious 2004 Deloitte Indy 100 award. More recently, the company has been rated as the fastest growing technology business in the North of England by the Deloitte Technology Fast 50 awards.

Shared Technology Base

The principal shareholder of AD is Mike Newton who founded UK CCTV giant Dedicated Micros in 1982 which ranks No1 globally for multi channel digital video recorders. In 2001 Dedicated Micros became an integral part of AD Group. Since that time all AD companies have been able to take advantage of a shared technology base, offering the potential for flexible CCTV solutions on the ground, in the air and on the move. Members of AD Group include: AD Aerospace, AD Aviation, AD Network Video, ChipWrights, Dennard, DM, D-Tec, RemGuard, TSS and TES.

Diverse Range of Applications

One of the first companies to embrace the concept of video over IP, AD's interests now include CCTV systems for aircraft, transport, smoke detection, together with camera technology, digital video signal processors and digital video recorders and multiplexers.

The Group is firmly committed to the implementation of effective CCTV standards and its senior personnel play an active role in key industry bodies, helping to drive best practice in critical areas from detector activated CCTV (BS 8418:2003) to digital video evidence.

Beyond CCTV the Group's interests include the operation of an aircraft charter business to destinations across Europe and sponsorship of global motorsport, supporting winning entrants in prestige events such as the Le Mans 24 Hours.

AD Additions

In 2005 there were two major acquisitions by AD Group. The first in May involved US-based ChipWrights a specialist in Visual Signal Processors (ViSPs) being brought into the Group. More recently AD acquired the entire share capital of D-Tec (Detector Technologies Limited) headquartered in Alton, Hampshire – a world leader in video smoke detection. Both of these developments offer significant benefits for the whole Group with the potential for the latest ViSPs fromChipWrights and D-Tec's image processing technology to be integrated into new AD Group products.

Innovation on a Global Scale

The philosophy of AD Group founder Mike Newton is one of constant innovation, with the flexibility to rapidly move from the drawing board to a physical product, to meet the demands of customers worldwide.

Even if competitors attempt to copy what the Group is doing, Mike is confident that by the time they bring their solutions to market, AD will have moved on, maintaining a competitive advantage.

"We're pioneers in the industry, when we innovate it's not by adding a whistle or bell to a box but by introducing something genuinely new."

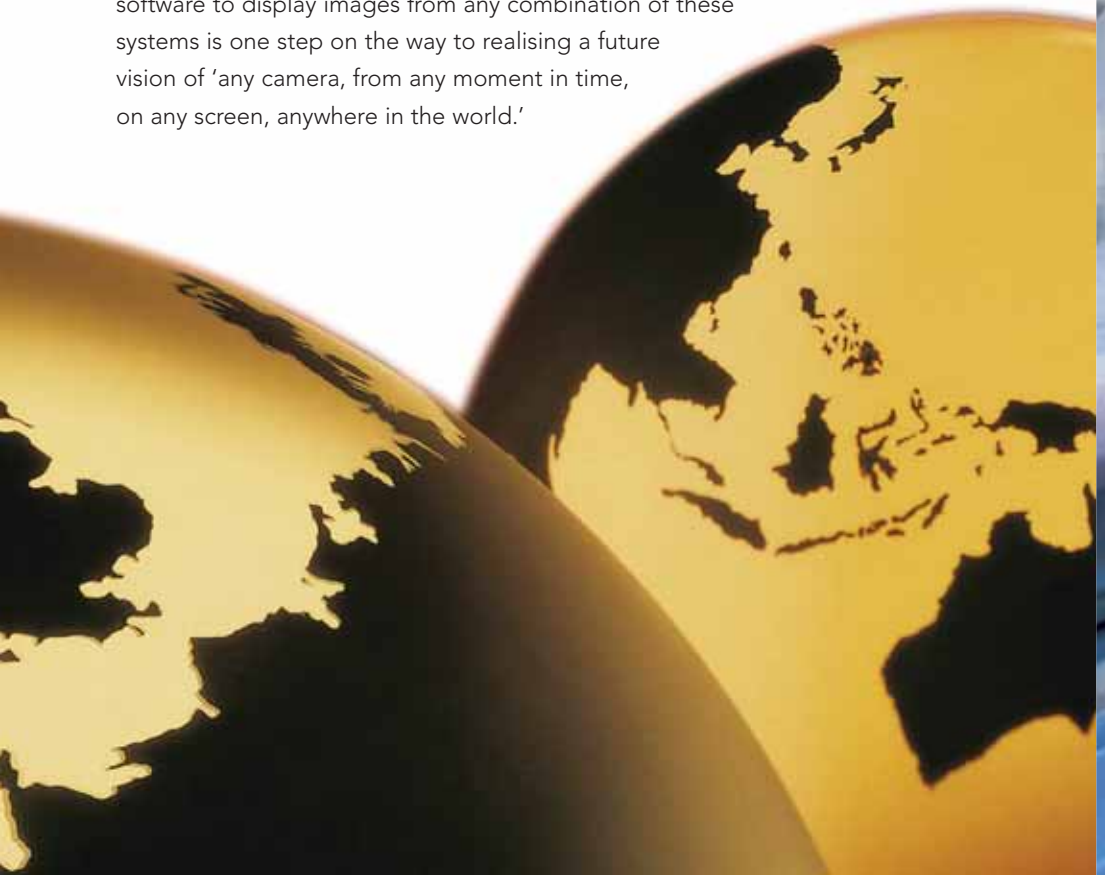
Whatever area the Group commits its energies to, from leading edge CCTV systems for aircraft to video smoke detection; it soon establishes itself as a force to be reckoned with.

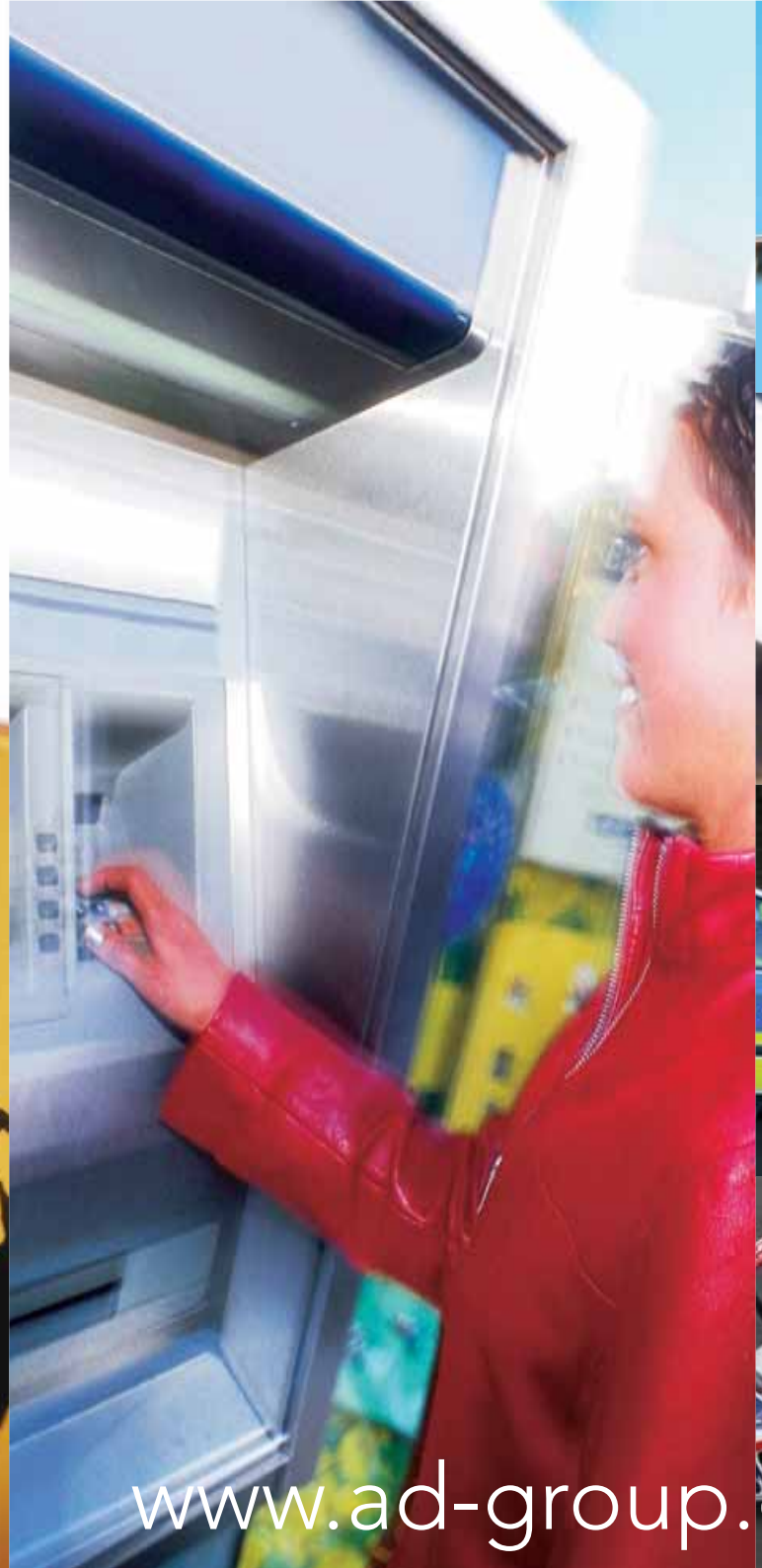
Take a trip on a transatlantic jet, for example, and one of AD's subsidiaries could very well have supplied the equipment to detect a fire in the terminal building; video servers dropped into the airport's IT network to monitor your progress as a passenger through to the gate; mobile CCTV recorders to keep track of groundside vehicles and, when on board, specialised internal cameras/recorders to monitor the cabin environment and, externally, to ensure that the undercarriage has deployed correctly.

NetVu CONNECTED

For the individual companies which make up the Group, the real practical benefit they gain from the AD link is the ability to tap into a common technological base. A good example is 'NetVu Connected' the software technology DNA from AD which is now at the heart of the very latest range of networked video over IP security solutions from Dedicated Micros. DV-IP products with 'NetVu Connected' are able to take IP connectivity to another level, offering truly scaleable solutions that encompass integrated video capture, recording, transmission and viewing.

The powerful NetVu client/server software has already proven its worth embedded in a diverse portfolio of AD Group systems, whether TransVu to monitor school buses, FlightVu to keep cockpit doors secure on international passenger aircraft or FireVu to detect smoke in an aircraft hanger. The fact that it is now possible to use the same software to display images from any combination of these systems is one step on the way to realising a future vision of 'any camera, from any moment in time, on any screen, anywhere in the world.'





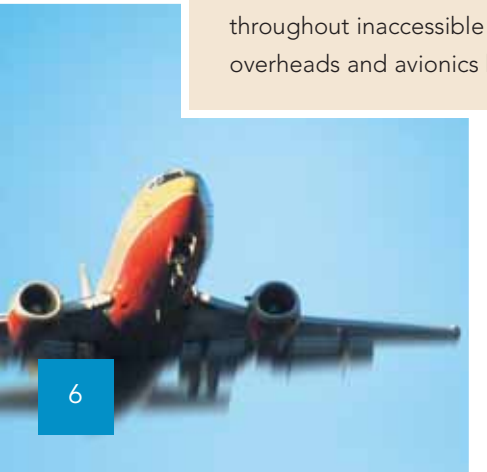
AD Aerospace

Aircraft Video Systems for Security, Safety and Entertainment

AD Aerospace of Manchester, England and Atlanta, USA, designs and manufactures the FlightVu range of aerospace video products, including state-of-the-art video security, safety and entertainment systems. In addition to general security applications such as threat detection, physical security and access control, these systems can be used for monitoring activity in the cockpit, passenger cabin, external control surfaces, and for cargo/baggage hold surveillance.

AD Aerospace was founded in 1995. The first aerospace certified video server was produced for a Defender system for Lufthansa Technik in 1999 and the 8th generation video server is now under development.

A major milestone for AD Aerospace was achieving Boeing approved supplier status in early 2001 with the order to fit a video smoke verification system to the entire Swiss Air MD-11 fleet. This was carried out in response to the Peggy's Cove disaster and consisted of environmentally protected cameras being fitted throughout inaccessible areas of the aircraft such as the cargo hold, cabin overheads and avionics bay.



Cabin and Flight Deck Security

In November 2001 AD Aerospace received the first order for video cameras for cockpit door security from JetBlue which would become the first fleet wide fit of a Cockpit Door Monitoring System. These CabinVu systems are now fitted on many more airlines such as easyJet, Britannia, bmi, Hapag Lloyd, MyTravel and Corsair.

CabinVu enables the flight deck crew to view the area outside the flight deck door, assess any situation and identify personnel before allowing them access to the cockpit. This has become much more important following JAA, FAA and ICAO rulings on the fitting of intruder resistant flight deck doors and provides a solid basis for decision making in critical and life threatening situations.

This "entry level" system, consisting of video cameras located over the cockpit door and in the galleys linked to a monitor on the flight deck, is expandable to a full "FlightVu Witness" system, extending the camera coverage throughout the passenger cabin. The complete Witness system uses a FlightVu digital video recorder/server to record the images for future use in investigation, analysis and prosecution, and can also be seamlessly integrated with ground based security systems, using wireless "Gatelink" connections to the airport terminal.

AD aerospace

A Wider View

The other systems in the FlightVu range provide security in cargo or baggage holds and for parked aircraft or enhance safety with video smoke detection. FlightVu entertainment systems offer IFE (In Flight Entertainment) even on short haul flights with MPEG video servers giving destination information and external cameras mounted on the tail and fuselage providing everyone with "window seat" views.

Video for Accident Recorders

In conjunction with a major manufacturer of Air Accident Recorders AD Aerospace is working to satisfy the National Transportation Safety Board (NTSB) requirements for a new generation of accident recorder, which would cover video in the cockpit as well as the traditional audio and data recordings. In carrying out this work, the company is working with the European Organisation for Civil Aviation Equipment (EUROCAE) and is instrumental in driving the specifications of future systems.

AD Aerospace is a designer and manufacturer of video camera systems for commercial aerospace, is approved by EASA, and is an approved supplier to The Boeing Company.

AD Aerospace

Keeping an Eye on Fire

AD Group is pioneering advanced image-processing technology through SmokeVu. When fitted in an aircraft's cargo hold, using specialist software and high sensitivity monochrome video cameras, enhanced by infrared illuminators, SmokeVu can detect smoke faster and more reliably than conventional detectors, and automatically alert the flight deck. The speed and accuracy of the alarm means the aircraft crew is alerted sooner and is therefore better placed to make decisions affecting passenger and cargo safety, as well as having a smaller and more controllable fire to deal with.

Advanced Image Processing

AD Aerospace's SmokeVu is a Video Smoke Detection and Analysis system, which uses intelligent software to differentiate between smoke and false alarm triggers such as haze/humidity, even under the high vibration environment of a Freighter airliner. This software is installed on the state-of-the-art digital video processor, which can then alert the flight deck crew to the presence of smoke.

As the SmokeVu detection method does not rely on smoke particles travelling to the detector, detection can take place long before conventional smoke detectors that rely on detection of particle matter. SmokeVu "takes the detection to the smoke". This leads to better decision making, timelier and safer diversions to accessible airports than ever before.

The system uses high sensitivity monochrome video cameras and Infra-red floodlighting to view inaccessible areas of the aircraft where smoke could not normally be seen, such as cargo holds, avionics bays, above the ceiling panels in passenger aircraft, and far into the rear of combi-freighters. Following an alarm flight crew can verify visually if smoke is present using a monitor on the flight deck. SmokeVu is compatible with Electronic Flight Bag (EFB) technology, allowing the flight crew to have complete control of the systems and view both live and recorded video.

Smoke detection zones can be placed anywhere within the camera view, on or around specific items or areas to be protected. The ability to confirm visually the alarm condition from the front-end processor screen or CCTV surveillance monitor represents a powerful new tool in the very early detection of fire.

The cameras, and dedicated cockpit LCD monitor, can also be used to verify the situation should a conventional smoke alarm be triggered. Verifying an alarm as false can save thousands of dollars by avoiding a costly diversion.

aerospace

Combating False Alarms

The most serious threat to commercial aircraft safety is fire, but Airlines and Freight Carriers are plagued by costly false alarms from traditional smoke and fire alarm systems. SmokeVu provides a cutting edge visual form of smoke detection to be used in conjunction with conventional smoke and fire detectors. The system produces early, accurate detection as it uses video to identify smoke from a distance and allows for a visual confirmation of any alarms received.

The SmokeVu System is a world first in delivering early warning of fire, using cost effective tried and tested aerospace equipment combined with leading edge image processing technology.

AD Network Video

Bringing a Digital Dimension to CCTV on the Ground and on the Move

Picture: courtesy of Bristol Evening Post

AD Network Video is very much at the forefront of CCTV networked solutions and is responsible for the development of the pioneering NetVu range of advanced video network server products. It has also been responsible for bringing to market TransVu, a sophisticated mobile CCTV system, designed specifically to operate within the rigours of urban transit systems.

TransVu brings a new level of sophistication to mobile video operation. Previous generation systems were only capable of recording images from cameras. TransVu can handle system information from the vehicle, simultaneously recording vital system data like engine speed, operation of brakes / accelerator and indicators. GPS data can also be utilised, pin pointing the position and speed of the vehicle at all times, reporting if the vehicle is off-route, or providing logged information of the vehicle's journey.

Like all NetVu based products, TransVu has extensive networking capabilities. Large bus operators in the UK have utilised wireless networks at their depots to automatically download images and data from their vehicles. This has meant a huge saving in man-hours compared to non-networkable systems. Each TransVu on a network can be assigned its own unique passwords and the in-built firewall further protects the system's security.

TransVu has an in-built self diagnostic program, which can report system malfunctions, like camera failures, to a host network. It will also report intermittent failure of video, even if the cameras have been masked or defocused. For the first time an operator of a large fleet of vehicles can action pro-active maintenance as soon as trouble occurs.

All TransVu units are now fitted with an inertial sensing device, capable of measuring acceleration, braking and cornering forces. The read out is continually logged and excessive braking or turning can be used to generate video events for later perusal. This feature has been used extensively to ascertain the validity of claims in low speed impacts on public transport.

Dual channel audio recording is provided as a standard feature, along with a PPP interface allowing images to be transmitted over mobile telephone networks. TransVu can also report its status via SMS text messages, which combined with GPS data, can instantly transmit its location to a central control point, where the vehicle can be tracked using mapping software.

TransVu is fast, using dual CODECs to record either JPEG or MPEG4 images. TransVu is also flexible, the user can set recording in JPEG and transmission of images in MPEG4. Transcoding between formats is also supported.

From school buses in the US to trains in the Netherlands, the passenger transport environment places tremendous stresses on any electronic system so TransVu has to be extremely durable, with the sealed recorder unit suspended via aerospace grade mountings to eliminate heavy vibration.

network video

TransVu

The TransVu units, which apply AD Group's common software interface, 'NetVu Connected', can utilise either one or two internal hard disk drives for storage, although some operators may prefer a removable drive option allowing video evidence to be taken from a unit in the event of an incident.

Adding Value to Mobile Security

TransVu Media – the latest variant of the award-winning mobile digital CCTV recording system – delivers all important customer and vehicle security while opening up the potential for public transport operators to tap into lucrative revenue streams by displaying advertising messages without extra equipment.

When the TransVu Media unit is installed in a bus it is possible for it to feed, via additional video monitor outputs, on-board display screens with stored advertising messages together with travel information.

The Answer is Evidential

All individual images stored by the TransVu digital recorder – which can be archived to PC or mass storage devices – carry vital header information, including date and time and details of any alarms, and can be displayed with the image on playback. For evidential purposes TransVu supports watermarking where a unique finger print is assigned to a range of images. As a result, when evidence is submitted to the police – for example on CD – the watermark data can be issued as a watermark certificate. To verify the authenticity of the CD at a later stage a second certificate can be created from the images on the CD. If the two certificates match then the CD has not been tampered with. In some cases evidence provided by the TransVu unit may be able to assist transport operators by providing vital protection against fraudulent attack/injury claims.

ChipWrights

The Future of Digital Signal Processing

ChipWrights, Headquartered in Waltham, Massachusetts and with an office in Tokyo, Japan, is one of the most recent additions to AD Group, becoming a subsidiary in May 2005.

ChipWrights is a fabless semiconductor company that has designed and developed breakthrough video processing technology to reproduce lifelike imagery. It specializes in the design and development and marketing of a new class of digital signal processing-based devices called visual signal processors (ViSPs).

The ChipWrights programmable DSP/Vector processor engine architecture is targeted at the insatiable demand for increased performance, programmability and flexibility in emerging video and audio applications.

AD Group's decision to acquire ChipWrights was based on an appreciation of the advanced nature of the technology which ChipWrights provides and a belief that its future prospects are extremely bright.

The Group is committed to supporting the ChipWrights team, its current and future generation of products and sales channels and views the company as a great investment opportunity. ChipWrights ViSPs are now integrated into the latest AD Group products, including the latest generation Digital Sprite 2, network capable DVR, from Dedicated Micros.

Flexible, High Performance Video Processors

The ChipWrights ViSP product line adds a new dimension to mobile imaging with its high performance and flexible array of programmable DSPs. ChipWrights' innovative architecture combines a 32-bit RISC processor with an array of either 8 or 16 parallel processing engines designed for mobile imaging applications. Whether it is the latest video codec, a high dynamic range sensor, or de-warping a 360 degree image for security the architecture delivers.

The most recent addition to the ChipWrights product line is the CW5521 with 16 parallel processing engines.

Changing Solutions in a Changing World

ChipWrights appreciates that its customers have to operate in a constantly changing world. New developments drive new applications and markets. New standards appear and evolve. Keeping up with this dynamic environment can be daunting. Building products to keep pace can be nearly impossible unless the designers have the products and tools that can meet the challenge.

The ChipWrights product line of high performance, programmable products and world class tools enable these challenges to be addressed head on. Support from ChipWrights includes a complete software development tool suite and hardware reference designs.

CHIPWRIGHTS

Industry Leading Innovation

Mobile imaging systems which have the potential to utilise ChipWrights products include portable media players and recorders, digital cameras (both consumer and commercial), low vision systems and cell phones.

There is a great need for high performance, flexible, low power, and low cost solutions. Traditionally, meeting these demands has been difficult. Fixed function solutions provide low power and low cost. Programmable solutions deliver high performance and flexibility. The ChipWrights ViSP products offer the best of both worlds without the need to compromise, combining the low power and cost effectiveness of the fixed function solution with the high performance and flexibility of the programmable solutions.

The hardware and software design teams at ChipWrights are constantly striving to come up with new and innovative ways to achieve higher performance and lower power, with the next generation of ViSPs scheduled to be added to the ChipWrights product line later this year.

ChipWrights – the embedded technology of choice for leaders in their fields.

Dedicated Micros

Seeing the World through Your Eyes

Dedicated Micros (DM) is the world's leading provider of high quality Digital Video Recorders and distributed Network Video products, specially designed to meet the round the clock demands of CCTV surveillance applications. Fine-tuned by more than 20 years experience in the CCTV business, globally more than seven million images every second of every day are recorded and viewed using DM equipment, installed in some of the most prestigious and security conscious locations.

The technological developments pioneered by DM have formed many of the building blocks for the success of today's CCTV industry; the company's founder Mike Newton being credited with the invention of the first commercially viable CCTV video multiplexer. A catalogue of prestigious awards also recognizes DM's dedication to innovation and excellence.

Product portfolio

Today DM offers a diverse range of DVRs and Network Video products to meet customers' varied security needs; from the simplest entry level installation to professional mid range business needs, up to large scale multi-site integrated applications. DM's professional product portfolio shares the AD Group common NetVu Connected core technology and consistent design philosophy.

Data Integrity

Of the small number of CCTV images used during an investigation, even fewer ever find their way into a court of law as evidence in a prosecution. However, for those that do, their authenticity must be guaranteed. All DM recording devices employ sophisticated digital signature technology such that the recorded images, and the associated audio and meta-data information, cannot be tampered with without detection. This level of integrity, together with sound operational practices, has helped to secure numerous convictions in courts around the world.

Continuous Innovation

The history of DM, has been one of market leading advances in the world of CCTV, the CCTV multiplexer was only the start of a visionary digital video road map. Currently, areas of development include sophisticated video indexing and searching mechanisms and intelligent video analysis. Innovative **Multi***Mode* recording which optimises system performance, moves digital CCTV closer to a real time recording utopia where compromises no longer have to be made; reflected in the latest high performance DS2 and DV-IP product ranges.

Our continuing investment in new technology is not at the expense of our trademark ease of installation and use, which continue to remain very much at the heart of DM's commitment to meeting customer needs. With the entry level products, all that is required is to connect the cameras and switch on the power.

DEDICATED MICROS

Never Stop Recording

Of the billions of images captured by CCTV cameras every year, only a handful are reviewed during an investigation. The problem, however, is that criminal behaviour is rarely predictable, and it is impossible to know beforehand which images will prove to be crucial. For this reason, all DM recorders are designed to make 24 hour continuous recording their top priority and this key principle is reflected time and again throughout every product. For example, even when simultaneously viewing live images, streaming optimised network friendly video, searching for specific events and archiving data to an external CD-R or USB stick, recording of new images will continue unaffected. The internal architecture is based on a purpose designed, real-time, embedded operating system, rather than a modified PC, for maximum reliability and immunity from virus attack.

DM's DVRs and Multi-channel Network Servers contain local storage to ensure that the recording process can continue uninterrupted even in the event of a network failure. RAID options are also available to support the construction of fault tolerant systems and JBOD extended storage modules are available for longer term recording requirements.

NetVu Connected Deep Integration

NetVu Connected DVRs and Network Video products share the ability to deeply integrate with each other; which becomes more apparent in large scale distributed video applications. Any NetVu Connected device attached to the CCTV network, which could be a Network Video Server, IP Camera or IP Monitor will interoperate seamlessly allowing sophisticated image indexing techniques to be employed, enabling a mix of high and standard resolution images to be managed and viewed by the system with no loss of performance, functionality and integration. NetVu Connected deep integration solves the problems experienced when trying to integrate CCTV products from multiple vendors.

NetVu Connected technology allows CCTV systems to be managed from a single location, employing auto configuration and back up and restore capabilities, which improve system set up and ensure seamless system expansion at a later date.

Dedicated Micros

Putting the Focus on Sector Specific Solutions

DM's products can be found in security systems in commercial and community applications of all sizes across the globe. High profile installations include: New York's 911 building, Heathrow Airport in London, the Oman Bank, BP petrol stations in the UK, Manchester United's Old Trafford Football Ground, the French Postal Service (the PPT) and the US Government Agency.

Fraud Detection

The company's extensive product range is designed to reflect the real security challenges faced by potential users in key sectors. In the retail environment for instance, DM's Digital Video Recorders (DVRs) and Network video products, with text integration facilities shipped as standard, help to detect theft on both sides of the counter. Images can be recorded and associated with POS (Point of Sale) transaction data so simplifying fraud detection and with powerful data search and date/time GOTO facilities there is the potential for the rapid review of dubious transactions.

When it comes to banking Dedicated Micros is at the forefront of efforts to secure ATMs. Based on DM's award winning DVR technology, the 4 camera DV-IP ATM, provides rapid resolution of customer disputes and high quality video evidence in the fight to stamp out the fraudulent use of cash and credit cards. In operation, the unit records and associates ATM transaction data with the relevant CCTV video footage, allowing data to be interrogated via a sophisticated text search engine.

Improving the Odds

For the gaming sector, given the scale of the CCTV systems required in many of today's mega casinos operators are keen to embrace the very latest digital CCTV technology from DM, to maximise the responsiveness and flexibility of these business-critical surveillance solutions. By applying digital video recorders and servers, including the latest DV-IP systems from DM, casinos no longer have to face the prospect of running expensive coax cables from each camera back to a conventional VCR, changing hundreds of tapes every day or manually reviewing numerous tapes to locate recorded events.

Healthcare and Education

In the healthcare environment the latest IP surveillance products from DM have the potential to be tied-in to access control measures – e.g. magnetic tagging – helping to secure vulnerable drug storage areas and protect babies in maternity units from the ever threat of abduction. For schools and colleges sophisticated NetVu Connected CCTV technology from DM is being adopted to tackle senseless vandalism, including damaging arson attacks, and criminals' intent on stealing property out of hours.

DEDICATED MICROS

Safer Towns

Digital video recorders and servers are also fast becoming the favoured option for public sector building security. Systems from Dedicated Micros have been installed in a wide range of applications large and small tailored to satisfy the exacting demands of public sector security. DM has strong credentials when it comes to town centre CCTV surveillance solutions. Since its introduction, variants of the company's industry leading, high-end, BX2 multiplex digital video recorder, with impressive storage capacity, have been consistently specified to sit at the very heart of the action in town centre control rooms. The very latest model the BX2 CA comes with the industry leading innovation, 'hot swappable' mirrored drives supporting uninterrupted recording, an invaluable characteristic in this evidentially intensive environment.

Dedicated Micros

DM and Dennard – A New Beginning

The already impressive capability of AD Group and specifically Dedicated Micros has been further extended with the move to bring the Dennard range of dome cameras – including the advanced 2040 and 2060 – CCTV hardware products and ancillaries, under the DM banner.

DM certainly has ambitious plans, building on the long track record of innovation and quality which Dennard, its Hampshire (UK) based subsidiary, has already demonstrated.

Founded more than 40 years ago, Dennard has been one of CCTV's true pioneers from the very start, constantly pushing the boundaries whether in the early days with pan and tilt mechanisms, and the very first camera housings, to more recently with advanced dome cameras.

It is expected, as a result of this new development that the uptake of the re-branded Dennard product portfolio will grow dramatically, supported by the promotion of these industry leading solutions to DM customers across the globe and a simplified procurement process for customers.

Dennard was acquired by DM back in 2003 and since that time the skills, expertise and business systems of the two organisations – both market leaders in their own right – have been brought ever closer together. Latest developments include the rationalisation and modularisation of the range to simplify the specification and ordering process.

Driving Dome Camera Design

Looking at dome cameras in particular, Dennard has demonstrated a capacity to deliver effective solutions whatever the application. This is typified by the introduction of vandal and waterproof options, to make outdoor use a viable proposition. The robustness of the latest domes, which will in future be available through DM, is also evidenced by the widespread adoption of materials such as polycarbonate for the camera hemisphere. This makes them particularly attractive for exposed town centre environments where they have to face-up to potential attack from vandals.

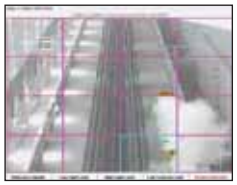
There is also the ability of dome cameras to be applied covertly, especially in the retail and leisure sectors where a less obtrusive form of surveillance is required. Time and again Dennard dome cameras have been able to prove that beauty is more than skin deep as they have been constantly refined to enhance positional accuracy through the use of die cast mechanisms, tracking with features such as an auto flip facility; deliver low light performance – via specialized day/night cameras – and offer long-term durability.

Beyond Domes

Other key Dennard products, under the DM banner, include: its full range of de facto standard brackets to support housings and/or camera combinations; telemetry controllers including keyboards and base units; an extensive range of stylish dome and camera housings; IR illuminators – offering a cost effective solution to night time CCTV surveillance – and all important pan and tilt heads for smooth camera movement.

D-Tec

In the Picture on Fire



D-Tec is acknowledged as the pioneer and world leader in Video Smoke Detection (VSD) innovation and D-Tec's products are specified by name worldwide. D-Tec's VSD has been developed to overcome many of the problems associated with smoke detection. VSD provides solutions for previously unsolvable fire detection scenarios, working externally as well as internally and represents a true technological breakthrough in fire prevention.

The early detection of smoke whether it be in lofty, voluminous areas; where high airflows are present or even in external locations has always posed a problem to fire safety professionals. Practically, it is just not possible to place detectors close enough to the area of risk to provide an effective level of fire detection. In a large voluminous area such as an aircraft hangar or warehouse there is a high reliance on the smoke overcoming distance, stratification and temperature layering before being detected.

By effectively detecting smoke at source, VSD does not rely on the proximity of smoke to a detector and therefore is unaffected by distance. Whether the camera is situated 10 metres or 100 metres from a risk area, VSD will detect smoke in the same amount of time.

Advanced Algorithms

Thankfully with the arrival of D-Tec's VSD technology the economical protection of these critical areas has now become a reality. VSD is based on the computer analysis of video images provided by standard CCTV cameras. Using advanced image-processing technology and extensive detection and known false alarm algorithms; D-Tec's VSD automatically identifies the particular motion pattern of smoke and alerts the system operator to its presence in the shortest time possible. This enables a fast response to a potential fire, saving valuable time even in voluminous areas or where a high airflow may be present.

VSD can process video information from all cameras simultaneously. The video hardware is designed to allow simultaneous real time digitising of all images, which means no information is lost or delayed. All alarm condition images are logged, time and date stamped, and stored within the system's memory.

In situations ranging from turbine halls to historic buildings, road tunnels, rail depots, warehouses, shopping malls, aircraft hangars and many others, D-Tec's camera-based fire detection system has established itself on the front line in the field of fire protection.

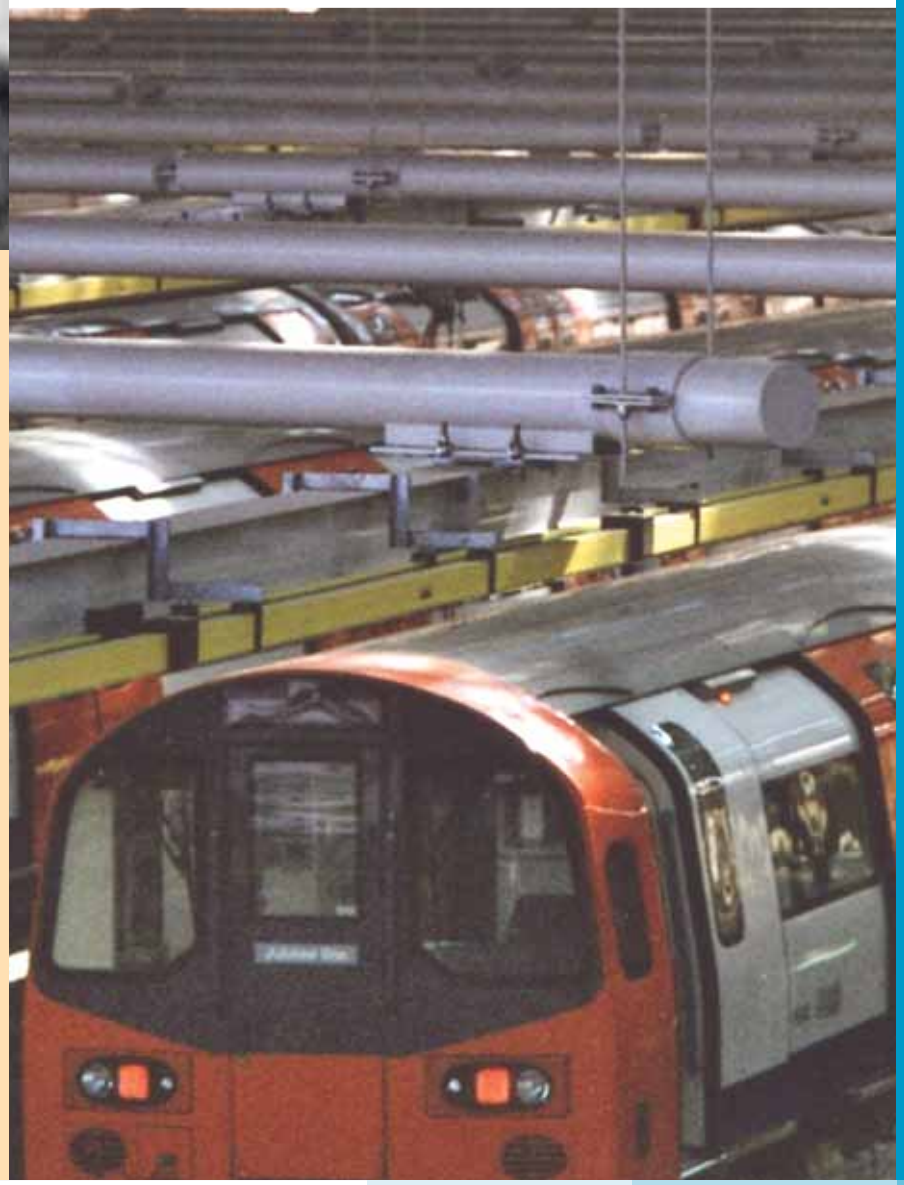
FireVu is NetVu Connected

D-Tec's latest FireVu IP (Internet Protocol) based system takes the company's conventional FM-approved Video Smoke Detection to the next level.

With FireVu 24-hour remote monitoring of incidents can be offered with the capability for alarm and associated video images to be distributed to an unlimited number of locations for review.

In addition, as all alarm events are recorded on the system's Digital Video Recorder (DVR) these can be readily accessed for pre and post-event analysis.

Testing and diagnosis can also be carried out remotely and FireVu – which shares a common NetVu Connected technology base with other AD Group systems – has the potential to be integrated with a broad range of security and facilities management measures.



On the Right Track for Fire Detection

London Underground's Stratford Market Maintenance Depot is a good example of the practical benefits of VSD. After experiencing a succession of false alarms with new fire detection system it became necessary to re-evaluate its design. The problem lay with high level beam detectors that mainly triggered through misalignment caused by building movements, sunlight, particulate contamination and even flying pigeons!

D-Tec was invited to look at a solution to this problem by replacing the high-level beam detectors with a VSD system. An exacting specification was put together for the replacement system. Over 80 smoke tests were carried out to prove the effectiveness of the VSD system under a range of operating conditions, including the deployment of steam cleaning machines used to clean the rolling stock and varying lighting conditions.

The installation of a 24-camera VSD system linked by fibre optic cable to the main operations' room as part of Stratford Market's overall fire strategy has ensured complete, effective and trouble-free protection. Since installation, there has only been one unwanted alarm and that was during the initial set-up period prior to handover.

NetVu CONNECTED

RemGuard

Setting the Standard for Remotely Monitored CCTV

RemGuard Visual Management has been at the forefront of remotely monitored CCTV in the UK for more than a decade now, continually improving and refining the service it offers.

The RemGuard 'intelligent' event-driven solution, with cameras and detectors carefully positioned around a site, linked to its Remote Video Response Centre, is increasingly finding favour with occupiers of commercial, public sector and domestic sites, all anxious to protect their property from harmful attack.

A Pioneering Approach

When RemGuard began monitoring its original customers' sites back in 1995 it was with DVST transmission equipment manufactured by Dedicated Micros. This was one of the first transmission systems available on the market which made remote monitoring of CCTV possible.

In 1998, RemGuard unveiled its powerful RemVu Aquila transmission unit, allowing it to offer additional services to customers that were not previously available. The latest variant of the RemVu Aquila is a fully networkable solution, for enhanced flexibility and is capable of replacing multiplexer, video recorder and conventional video transmission systems.

Standards Matter

RemGuard's commitment to quality is reflected in its active role in the creation of effective industry standards. It is a leading member of bodies such as the BSIA (British Security Industry Association), and played a pivotal role in the development of BS 8418, the code of practice, for detector activated CCTV.

Today's security solutions have to be able to stop crime before real damage is done, whether it is combating the headache of low level petty vandalism or hardened criminals stealing to order. Remotely monitored CCTV from RemGuard certainly scores highly in this regard, helping to keep insurers happy and premiums under control.

As events are confirmed visually; false activations are very much the exception rather than the rule. With solutions complying with the latest BS 8418 standard capable of delivering false alarm rates of less than 10% it is not surprising that the police are enthusiastic supporters of remotely monitored CCTV.

International Dimension

The application of RemGuard technology is not confined to the UK, with operations in Australia (from an RVRC in Sydney) and Portugal offering the benefits of this approach to CCTV to customers in their respective regions.

RemGuarD
VISUAL MANAGEMENT

Photographer Jan Chlebik

Customised Service

RemGuard understands that no two sites are ever going to be the same. Unlike many other providers of remotely monitored CCTV it actually produces its own RemVu transmission equipment and the sophisticated software that drives it. As a result when the equipment is installed on site it is uniquely configured to meet individual requirements.A good example of this is the ability to access images on-site during working hours or by managers at home around the clock.

Traffic Safety Systems

Traffic Law Enforcement & Surveillance Systems

Since its inception in 1973, TSS (Traffic Safety Systems) has firmly established itself as a major supplier of traffic law enforcement and mobile video security and surveillance technology, satisfying the growing demand of local authorities, police and emergency services both in the UK and overseas.

The solutions which TSS offers cover: roads policing, mobile traffic enforcement, community safety, driver training, roadside speed detection and enforcement for stationary and moving speed violations.

TSS's innovative product range includes: vehicle mounted CCTV systems, roadside safety enforcement cameras and hand held laser and radar speed meters, all designed to enhance road safety by the effective monitoring of driver performance. The strength of TSS's reputation in such a critical area is underlined by the fact that in the UK alone, all police authorities can be counted amongst its customers – making it very much the UK market leader. TSS is also a principal supplier to customers in Europe and around the world. Of course, TSS is much more than just an equipment supplier; its commitment to its customers is reflected in specialised knowledge, customised solutions, comprehensive vehicle installation service, operational and technical training and first class customer support.

Community Safety

Purpose-built mobile CCTV systems from TSS continue to make a major contribution in helping the Police and Local Authorities to conduct security operations and tackle street crime or anti social behaviour in communities across the UK and overseas, making them safer and more pleasant for everyone. TSS systems are specifically designed and developed for mobile operation providing the facility for CCTV on every street corner. Systems fitted to high conspicuity vehicles provide an overt visible deterrent to potential offenders but can equally be used covertly for discreet surveillance investigations. Where incidents do occur, evidence can be readily gathered by advanced CCTV cameras with high power zoom and low light capabilities, sometimes mounted on specialist masts providing enhanced surveillance functionality. By providing a permanent and digitally fingerprinted record of incidents, successful prosecution of offenders is greatly increased – something which is certainly commended by the police community.

Mobile Traffic Enforcement

Autovision Compact combines advanced digital CCTV video with high accuracy speed measurement equipment providing a very effective traffic enforcement system. The system integrates VASCAR or advanced radar devices to provide highly accurate static or moving speed enforcement data with high quality audio and video records of poor driver behaviour and evidence of speeding or traffic related incidents. The operational capabilities of such systems can be enhanced through an optional multi-camera facility, wireless connectivity solutions, Mobile Data Terminals and the integration of advanced Automatic Number Plate Recognition systems.

Roadside Speed Enforcement

In terms of roadside speed detection, TSS provides a wide range of flexible, high accuracy hand held and tripod mounted radar and laser speed meters, which have the ability to operate effectively at long range in all weather conditions. This provides police officers with the tools they need to combat speeding, particularly in built-up urban areas and known accident blackspots. In addition to hand held devices, TSS can also provide a comprehensive range of roadside enforcement cameras for both fixed and portable operation, which cannot be detected by anti speed measurement systems.

All TSS CCTV solutions are now able to take advantage of AD Group technologies such as the TransVu mobile CCTV digital video recorder and NetVu Connected common software technology. Incorporated into all TSS DVRs, this enables CCTV operators to easily access and distribute images from a wide range of sources through a common interface whether in a mobile, town centre or retail environment. For CCTV managers this technology offers significant benefits across their entire network.

AD Aviation

A Scheduled Flight or a Flight to Suit Your Schedule?

Private air charter, whether for business or pleasure, offers travellers the ultimate control over their schedules. The popularity of this time-saving and stress-free alternative to the hassles of conventional airline travel continues to soar, a fact reflected in the continued growth of AD Aviation.

AD Aviation, formed in 1998, is a small and extremely successful carrier flying to destinations across the UK and Europe. From the start AD Aviation has committed itself to increasing the number and diversity of business aircraft users in the North West of England, emphasising the practical, bottom-line benefits of this type of travel.

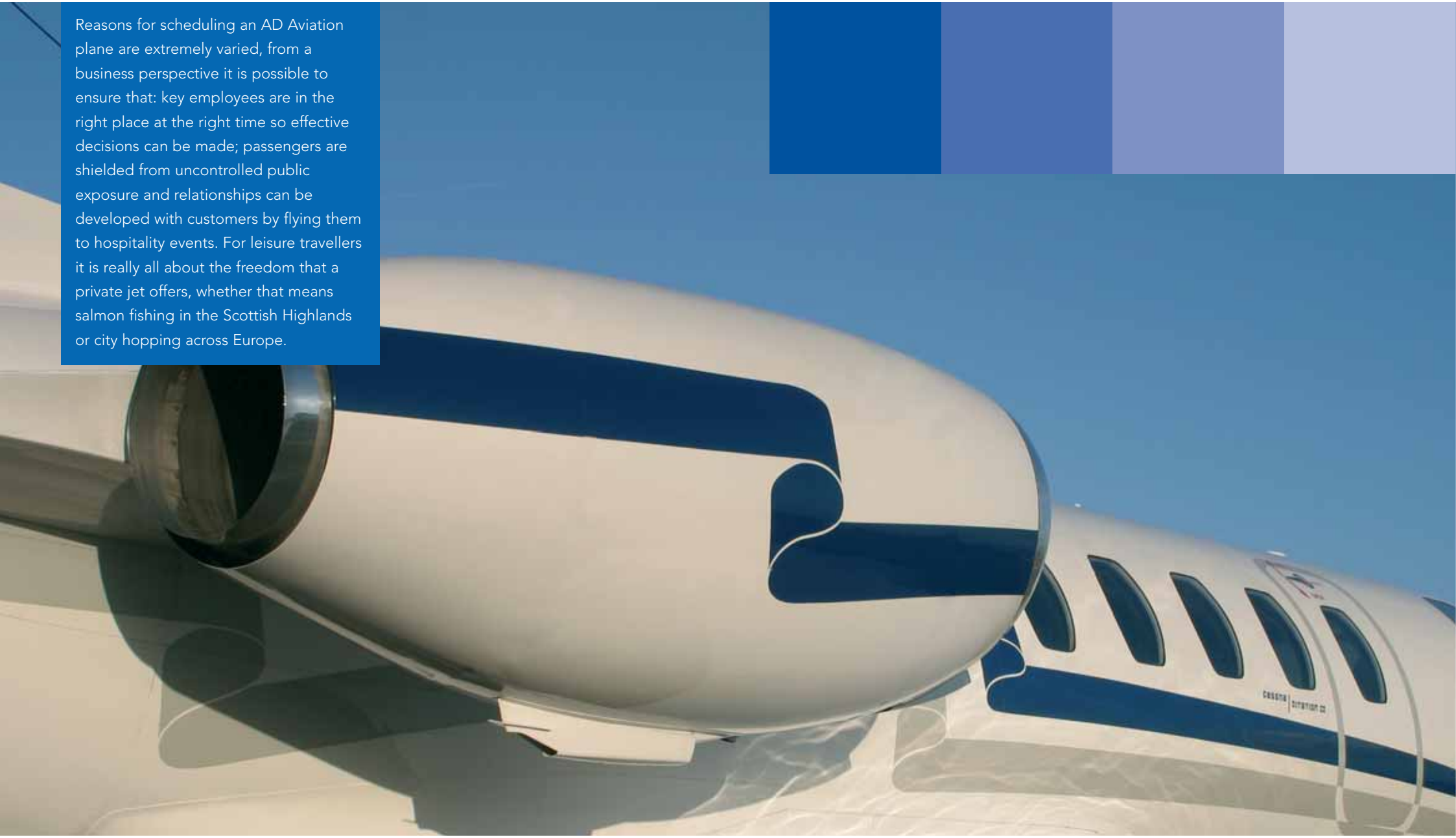
Based at Liverpool John Lennon Airport, the premium quality of its service has helped to win more and more converts, driven by features such as 24 hour operation and short notice call out. AD's continued success is reflected in the recent addition of another Cessna aircraft to its executive jet fleet.

A Timely Solution

Travellers choosing AD Aviation, can dramatically cut travel time by having a private jet at their disposal, avoiding queues at check-in, slow moving security screening and the headaches of flight delays and cancellations. For domestic travellers hold ups on scheduled flights are certainly frustrating, but it is in the commercial sector that their impact really hits home. The economic fallout from a missed meeting could at best result in a loss of confidence in the ability of that organisation to conduct its business; at worst valuable contracts could end up going to the competition.

AD Aviation prides itself in operating point-to-point flights to regional airports so customers can be flown literally minutes from their ultimate destination – it is even possible to fly to several appointments in the same day without the need for an overnight stay. With an executive jet there is also the reassurance of a comfortable, secure and private and stress-free environment – meetings can even be conducted in flight – added to this is the flexibility of an itinerary tailored to their needs rather than having to work around conventional airline schedules. If meetings overrun with private charter the aircraft does not leave without the customer. The carrier with its made-to-measure service is even able to organise all of the travel arrangements for its customers, including ground transportation.

Reasons for scheduling an AD Aviation plane are extremely varied, from a business perspective it is possible to ensure that: key employees are in the right place at the right time so effective decisions can be made; passengers are shielded from uncontrolled public exposure and relationships can be developed with customers by flying them to hospitality events. For leisure travellers it is really all about the freedom that a private jet offers, whether that means salmon fishing in the Scottish Highlands or city hopping across Europe.



In Pole Position

AD Group is a Major Supporter of Endurance Racing

Over the years AD Group and its subsidiaries have been enthusiastic supporters of motorsport, particularly endurance racing, with AD and associated brands appearing prominently on some of the most powerful sportscars around, as they compete at landmark events on the international motorsport calendar.

Highlights of AD's involvement in motorsport include:

- Daytona 24 Hours – 2006, 2005, 2004, 2003, 2002.
- Bathurst 24 Hours – 2003, 2002.
- Le Mans Series – 2006, 2005, 2004.
- Le Mans 24 Hours – 2005, 2004, 2003.
- FIA GT Championship – 2004, 2003.
- British GT Championship – 2002.

A major initial success for AD was in the 2002 British GT Championship where a Saleen S7-R, the racing evolution of the American supercar, co-driven by Tommy Erdos and Ian McKellar went on to take the title on the back of 8 wins and 3 second places in a 12-race season, Erdos also securing the Top Gun trophy for the most successful individual driver.

In the 2003 FIA GT Championship in an AD supported Saleen S7-R, Erdos and Group founder Michael Newton, came an impressive 6th in the overall standings and in the 2004 series were regular points scorers. The pair also shared the Michael Shank Racing Doran JE4-Lexus at the 2004 Daytona 24 hours with Kelly Collins and Cort Wagner, bringing the car home in a fine 4th in the DTP class despite some truly awful conditions.

During 2004, AD sponsored British racing team RML's high-powered MG Lola EX257 open prototype sportscar in the Le Mans 24 Hours race and the Le Mans Series.

Undoubtedly, the highlight of the season was the completion of over 20 hours of the Le Mans 24 Hours race to secure the MG Lola EX257 endurance record – factory run cars never got much further than the half way stage.

2005 proved to be an extremely successful season for AD. Ranking as the one of the most memorable results to date, the impressive victory at the famous Le Mans 24 Hours in the LMP2 class – the first for a British team – saw AD's CEO Mike Newton driving an MG Lola EX264 to success alongside Tommy Erdos and Warren Hughes in a race notable both for its highs and lows.

Later in November 2005 there was another dramatic victory, when AD's MG Lola EX264 took the LMP2 class win in the final round of the Le Mans Series at Istanbul, Turkey. This outstanding performance from drivers Tommy Erdos and Mike Newton in treacherous conditions also saw them clinch 2nd place in the LMP2 Championship.

For 2006 AD will once again be supporting an entry in the Le Mans Series.

Customer Care

AD's motorsport involvement has provided the Group with an invaluable platform to entertain its customers in key markets, with The Le Mans Series (6 hour) and Le Mans 24 Hours and other endurance events hospitality does not have to be restricted to narrow time slots. At each event AD's customers are given privileged access to hospitality areas right at the heart of the action, adjacent to the team's own hospitality tents. There are also VIP 'behind the scenes' visits to the garage/pit area to see cars being prepared for the race, invitations to team Q&As, driver autograph sessions and the highlight for many, pre-race grid walks moments before the start of a race.

The Future – Soaring Ahead

"The business thrives by being ahead of the competition and reacting to the market, that's what gives us the edge."

Mike Newton – Founder and CEO

Unquestionably, the prospects for AD Group are extremely bright, given the portfolio of companies which now come under its wing, all leading players in their own right, and the desire of the Group to constantly innovate.

AD's commitment to R&D and control over the development and manufacture of its products and the software which drives them – 'NetVu Connected' being a prime example – places it in a unique position to react rapidly whatever the future may bring. This investment in people and processes, taking CCTV systems from the drawing board to completion and beyond, means that the Group is well placed to provide solutions tailored to the needs of a disparate range of end users – whether that be an airline who wants to keep the cabin crew safe or security staff at a mega casino looking to maintain fair play at fast moving gaming tables.

On the Ground, in the Air and on the Move

To appreciate just how far the Group's reach extends in the world of CCTV we need to go on a hypothetical journey...

A business person leaves their office one evening, using a keypad they set their remotely monitored CCTV system provided by RemGuard linked to its control centre. They drive to the airport to catch a flight, passing a police officer monitoring vehicle speed using technology from Traffic Safety Systems (TSS). At the airport they park their car and take a bus to the airport terminal, the bus has been fitted with TransVu – a mobile CCTV recorder – keeping an eye on passenger/driver behaviour. In the airport itself the traveller's movements are picked-up by a series of Dennard dome cameras from Dedicated Micros and recorded locally by a DV-IP network video server which can distribute the images on demand across the airport's IT network. Needing some cash for the journey they find the nearest ATM, even here their transaction can be monitored by an AD system.

When out of service the passenger's plane was kept in an aircraft hangar protected by a video smoke detection system from D-Tec – ideal for the early detection of smoke in lofty internal spaces.

Once the passenger is on their plane, FlightVu solutions from AD Aerospace help to ensure their safety, watching the cabin area to allow the crew to deal with incidents from air rage to terrorism. The passenger can even, through external cameras connected to FlightVu, see the ground underneath their feet during take-off and landing.

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