Police Aviation News

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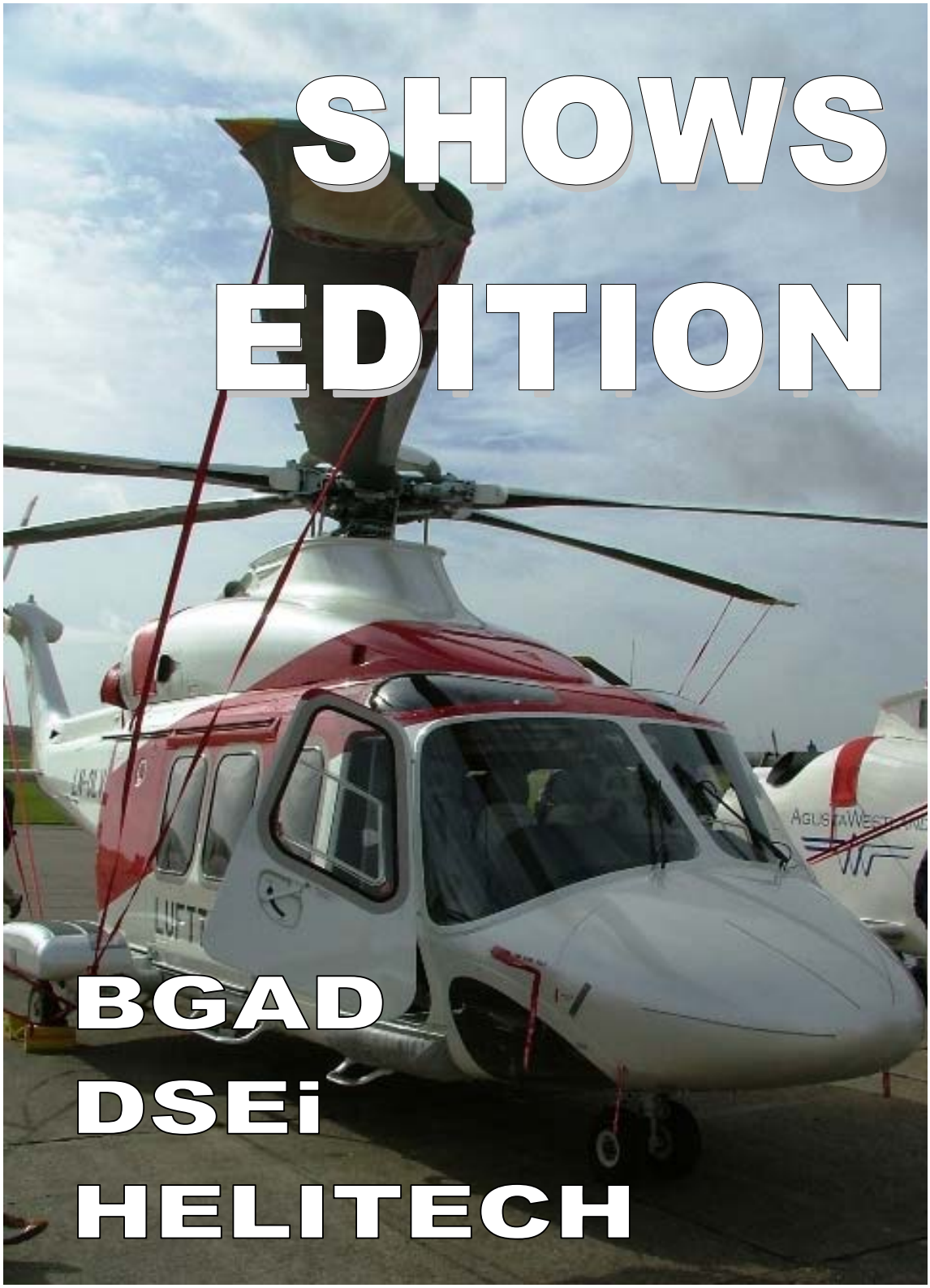

HELITECH UK 27-29th September

Bell 429 mock-up at Helitech 2005

Helitech Europe 2005 was again held at the Imperial War Museum Duxford, near Cambridge, UK. After various suggestions that ExCel might be a better location [Duxford is difficult to reach] plans are to retain the site for this showcase into the foreseeable future. The attractions of the ever expanding museum exhibits just a few metres away remain a solid draw.
Helitech is now a tightly scheduled 3-day exhibition which regularly attracts more that 250 exhibitors from around the world representing every tier of the supply chain. In 2003 over 6,500+ commercial and military trade visitors and private owners viewed the latest helicopters and newest systems and equipment on display. The initial take on this year's figures suggest more growth. Just over 7,600 an increase of 1,100. Demographics aren't available yet, but the organisers have noted an increase in visitors from mainland Europe – especially operators. This is in line with the styling of the 2005 show as Helitech Europe. www.helitech.co.uk

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Business and General Aviation Day – BGAD 05

The biannual Business and General Aviation Day was held in inclement weather on September 15.
The organisers of the event the publication **European Business Air News** [EBAN] and the engineering company **Marshall Aerospace** held this, the third BGAD at Cambridge Airport owned by Marshall's and the base for their defence and commercial aerospace enterprises.
BGAD 05 provided industry an opportunity to display the very best of business aviation, including many of the latest business jet, turboprop and private aircraft, as well as helicopters for business and leisure. Unfortunately the weather played a hand and the numbers of aircraft making up the external displays and potential customers flying in were inevitably affected.
The indoor exhibition in hangar space alongside the business aviation terminal at Cambridge was little affected however. As well as the external aircraft and the indoor display there were meetings hosted by BBGA throughout the day.
In spite of the unpredictable weather some 350 business aviation professionals from the UK and Europe attended and provided the 40 International exhibitors with good levels of interest. Fuller details can be found on the event web site at www.ebanmagazine/com/bgad05

THE DEFENCE EXHIBITION

Amid the now usual clamour by anti-war protesters the DSEi [Defence Systems and Equipment International] went ahead at the ExCel Exhibition Centre in the London Docklands area September 13-16. This year the police managed to ensure that the majority of protesters were safely set up across the far side of a vast dock – the deep cold waters not being too inviting for any intent on a peaceful invasion. As a result the main visitor access via the railway system was largely secure. Certainly the large number of police accompanying the rail travelers [more grounds for public complaint relating to the cost] seemed at times to be outnumbering those they were protecting.

Despite the ongoing security difficulties this year's DSEi attracted 1,201 exhibitors (a 24% increase on 2003) and occupied 29,892m2 net exhibit space (up 26% on 2003). It attracted an audience of 25,000 visitors - up 25% on 2003 included in which there were a sprinkling of police and other emergency services among the 84 overseas defence delegations from 52 countries.

DSEi was and remains a military exhibition; that stated within its portals you can sometimes glimpse the future. Hardware such as UAV's are rare visitors to commercial orientated shows but they abound at DSEi. It will not always be so of course and already there are reports of such craft being flown in law enforcement over the US borders. However, DSEi is a UK show and no-one is pretending that pilotless aircraft will be seen in commercial use in London airspace for some time to come. The place to watch is the Paris Air Show, if they get flying UAV's there as they predict, then there may be a chance of other shows following suit. Not at ExCel though, the site is directly under the flight path for London City Airport.
It is worth noting that comments are already surfacing from long standing military UAV users that tend to endorse the long held belief that there is a great deal to be said for continuing to stick human beings in aircraft. A cold calculating mind just 1,000 metres from the target often beats a remote controller observing a range of cold displays 1,000 km away. If nothing else the proximity has a tendency to focus the mind!

Military necessity [and a larger buying ability] promotes markets and products that later move into the commercial sphere.

Telutami Limited were presenting their Battlefield and Emergency Casualty Evacuation System [BCS] (and its civilian version - ECS) equipment designed for rapid first-response emergency evacuation of casualties in limited-space or difficult-to-reach areas.
As it is entirely fabric-based, it can safely be air-dropped without damage (as long as it doesn't hit someone on the head). It is roughly the same size and weight as a standard bag of sugar (2.2 lbs or 1kg) and designed to fit onto a soldiers webbing. Finding a hole for it in an emergency services vehicle – ground or air borne – would therefore present few problems.
It not designed to replace scoop-type stretchers or other rescue equipment that would be needed to keep a casualty rigid (in the case of a neck injury for example). There is a head support unit that clips on to the harness and the carry straps are looped so that poles can be used as makeshift carrying aids. In addition to these fittings it has additional features that set it

aside from 'just a length of cloth' in its thermal and water protection capabilities. The BCS/ECS can complement a scoop stretcher in wrapping the patient up against the elements.
The potential beauty of the ECS/BCS is the size and weight and the fact that it is so versatile. TELUTAMI design products for the defence, rescue and outdoors sectors from their base in Cheshire, call +44 845 456 3574 (office) +44 7905 267 345 (mobile)

Griffon Hovercraft Limited (GHL) a company covered in some detail in the last report from DSEi [in 2003] continues to lead the world in the design, manufacture, operation and sales of hovercraft.
Naturally the company was pushing its most recent sales to the military markets at the show. Aside from these though there were emergency services successes to tell about.
An order has been signed with the Polish Border Guard for two Griffon 2000TDs craft. These two-tonne payload craft will be used as patrol craft in the very shallow and icy areas of the Polish coast, rivers and estuaries. These two 2000TDs complete an almost total encircling of the Baltic Sea by Griffon 2000TD hovercraft - since the Swedish Coast Guard operates 3 x 2000TDs, the Finland Frontier Guard 3 x 2000TDs, the Estonian Border Guard 1 x 2000TD, and the Lithuanian Border Police & Klaipeda Rescue Authorities 2 x 2000TDs. The new Polish craft are equipped with the latest water (radiator) cooled Deutz BF6M1015CP 330 kW (440 hp) diesel engine which gives the craft an even better performance than the previous 2000TDs. This order was won by international tender.


8000TD


470TD

Having operated their first Griffon 8000TD for some 18 months, the Korean National Maritime Police Agency (KNMPA) recently ordered their second 8000TD. This craft has now arrived to join its sister craft for crash rescue duties at Incheon International Airport, South Korea. Inchon Airport is the brand new airport for Seoul, the capital of Korea. KNMPA's second 8000TD is virtually identical to its first craft.
Since Inchon Airport is very close to the North Korean border, the craft has a secondary role as a patrol boat and both hovercraft are equipped with a 7.62mm machine gun.
The Royal National Lifeboat Institution (RNLI), the voluntary organisation responsible for all sea rescues around the coasts of the British Isles, has just purchased its sixth Griffon 470TD hovercraft. The RNLI currently operates 307 conventional lifeboats from 224 lifeboat stations around the coasts of the UK and Ireland.
The 6 seat Griffon 470TD hovercraft is being used to rescue in areas where it is difficult for lifeboats to reach i.e. shallow water, mudflats, sandbars, rocks, ice and swamp.
The first five craft have already been involved in saving lives and the most high profile case was the rescue of Chinese people from the cockle beds off Morecombe. That incident saw the deaths of 21 of the Chinese and a court case has just started over it.

QinetiQ were exhibiting UPSTART a rapid rope climbing device at the show. Capable of lifting 400 lbs/182kg the 22 lb/10kg device provides a high performance means of ascending rapidly using a single hand control. A sort of winch operated by the passenger – assumed to be Special Forces or law enforcement SWAT trained. The lead customer is the Technical Support Working Group [TSWG] an agency of the US DoD.
Whether this technology would transfer to civil police use is debatable – and probable very dependent on how long it would take to fit to the individual hoping to ascend into the [patiently?] hovering helicopter. www.QinetiQ.com

Another big player is **BAE Systems**. Lots of big war sticks in their display but also some interesting developments in helmet technology, head pointing technology and overlays of images to undertake blind landings. This technology continues to be expensive but BAE are now offering modular designs which allow the customer to build up an economical system. For instance the helmet pointing for the Eurofighter Typhoon fighter [the version available to try at the show] allowed the pilot to look left, right, up and down and fire missiles on command.
In the commercial scenario a helicopter operator would probably just want to look straight ahead and get down on the ground safely using the impressive HUD overlays. A far cheaper proposition and one likely to make its way in the future. As suggested of this system some years ago, one to watch.

Seabird Aviation Jordan LLC has released details of a major programme of inward investment, restructuring and expansion following the sale of a significant portion of the equity held by the King Abdullah II Design and Development Bureau to the Dabin Group or Erbil, Iraq.
For further information please contact the manufacturers Seabird Aviation Jordan LLC. As well as representatives at Marka Airport, Amman, Jordan [+962 6 488 9199 Fax: 9699 www.seabirdaviationjordan.com] the company has representatives in Australia, Europe, South Africa and Greece.

Seabird Aviation was established in Jordan on 29th July 2003 as a Joint Venture Equity Company. The two shareholders were the King Abdullah II Design and Development Bureau (KADDB) and Seabird Aviation Australia Pty Ltd (SAA). The company is now majority controlled by KADDB with SAA acting as SAJ's 'technology partner of choice'.
The SEEKER is a cost effective and versatile manned platform optimised to provide aerial surveillance. Developed as a cost-effective alternative for many low-level observation tasks currently being carried out by helicopters for which vertical take off and landing is not mission essential, both the acquisition and running costs will typically be one-third that of a comparable twin-seat helicopter, thus permitting the conduct of missions which are 'Low, Slow and Often'.
Designed to operate on widely available 'Super-Unleaded' petrol (MOGAS 80-87), the type is an affordable and highly appropriate solution into a market for which there is no credible competition. In June 2004, it was selected by the Coalition Provisional Authority for operations with the Iraqi Air Force for border patrol, infrastructure and security missions. Two units were delivered with advanced camera systems in August 2004.

SAJ is also the regional distributor for the Australian designed 'JABIRU' range of products marketed under the 'Al-Yamamah' trademark. SAJ has also secured an agreement with Gippsland Aeronautics of Australia to market, assemble and supply the GA200C agricultural delivery aircraft. This platform is a class leader, able to deliver over 1,000 liters of liquid or solid material. www.seabirdaviationjordan.co

Not so long ago *PAN* reported [in June 2004] on a bright new gizmo being exhibited by **Ovation Systems** at the NEC in Birmingham. The solid state memory card.

The new and potentially exciting product was a new recording device that appeared to exhibit promise as a replacement for the still new digital tape recorders for aircraft use. As the report said the technology stood a good chance of sidelining the digital tape. That prediction proved very accurate, at least one supplier dropped plans to market a digital tape player – you can still get them but they can be seen as a fading option.

The Ovation unit was then being marketed to the covert market the product was a highly compact digital video recorder utilising broadcast standard MPEG-2 video compression to record high quality real-time video and audio to a PC / Compact Flash memory card.

Once a recording has been made, the flash device may be removed and played on a PC or laptop using a standard media player application.

The time is come. The unit is now being offered to the market housed in a small and rugged enclosure by UK based **Skyquest Aviation**. The recording is copied directly to a DVD disk which can then be viewed on a PC. The courts in the UK have accepted that the original file is an acceptable evidential medium.

Skyquest launched the system to the military market at DSEi and the civil market at Helitech and other examples of the technology were to be seen exhibited at Helitech.

HELITECH 05 continued

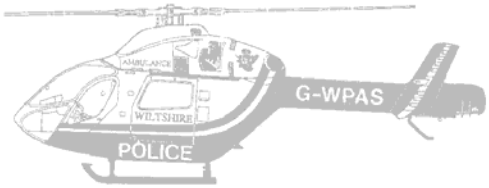
The Conference

The first-ever directly linked conference to be held during Helitech was a one-day programme focusing on COMR (commercially owned military registered) contracts, it brought together potential military customers and civil suppliers under one roof for the first time. There was a smattering of police input as well.

The event was mainly military in flavour, with senior military officers and the commander of the US Coast Guard's fleet of Agusta A109E Powers [the HITRON fleet].

The conference held at the Wellcome Trust centre – less than five minutes drive from Helitech's Duxford site – was well attended and was intended to include some useful police input. Unfortunately the hand of the Government somewhat spoiled the party.

The recently announced intention to alter the numbers and make-up of police in England and Wales clearly interfered with the intended presentation on 'the future' of procurement options in UK police aviation by Max Kenworthy the Home Office advisor. He did not attend and in his place a potted selection of his presentation was valiantly given by Mike Evans the UEO of the Wiltshire Police air unit. Given presentations for others at short notice rarely works.]



Mike was on home turf though with his own presentation on the worth of Private Finance Initiatives [PFI] and operations of what the first MD900 Explorer in UK police service. At the time Mike signed up **Wiltshire Police** to the ten-year PFI everyone in the UK industry thought he was mad. In the event the PFI has stood Wiltshire in good stead.

It is a complex tale but briefly in signing up to an agreement with Police Aviation Services [PAS] Wiltshire has been cushioned from the worst ravages of the disquieting serviceability rates enjoyed by MD900 operators. The PFI guarantees Wiltshire an aircraft and the provision of that facility has effectively be there for the taking even though on numerous occasions the prime MD900 G-WPAS has not been available. They may cost a little more than ownership but PFI's allow the police to budget for air support at a fixed rate little affected by day-to-day expenses. If an expensive item goes wrong that is down to the service provider to sort out at their cost. Many in industry assume that PAS have paid a very high price for what seemed a lucrative contract at the time it was set up – even with Wiltshire being relatively 'soft' in invoking the penalty charges.

To put numbers on it the aircraft has been required for service on 7,024 occasions, and PAS have been unable to provide that service 248 times – a situation that results in PAS being liable to pay penalties. Overall availability has been 96.46% compared with general MD900 figures often down around 80%. Furthermore this figure is better than it seems because most units do not count scheduled maintenance periods in the availability figures. Wiltshire's numbers are derived from a 365 day year. Pretty impressive stuff for a fit of madness!

It is worth stating that some suppliers of airframes do not accept the slavish acceptance that scheduled downtime 'does not count' towards availability rates. The tax paying customers have a right to expect 100% availability from their 3.5M investment, not a resource available 'except on notified days.' If you can do without the helicopter 10% of the time perhaps you could do without it more often than that? Dangerous territory when seeking funding.

Bond Air Services claim near 100% availability on their air ambulances because they place an engineer on site and, if the airframe does go down for any reason, they retain two spare aircraft on standby. A spare aircraft is just flight time from Staverton. That level of service is what the charity customer pays for - and gets.

This brings us to the question that was on many lips. *'What of MD?'*

The September and October editions of *PAN* outlined some of the details about a new leadership team of Robert W. René interim Chief Executive Officer and Randy Kesterson as Chief Operating Officer but no-one knew a great deal about the figure behind René.

Who are Patriarch Partners, LLC?

It was perhaps significant that René was not 'wheeled out' to give account for the company Patriarch Partners. It was Lynn Tilton, the founder and Chief Executive Officer of the investors Patriarch Partners, LLC who was there to give account for the company. Often quoted in the news over the many earlier financial forays undertaken by Patriarch it is said that it is rare for Lynn Tilton, a striking millionaires in her own right, to seek to meet the press.

So are Patriarch Partners an asset stripping organisation as many are suggesting? This danger was underscored when René was unable to place Frank Robinson in an earlier media interview. Only time will tell, but based on the latest flow of information it appears not. The lady 'endured' a number of interviews over Helitech and feedback from a variety of media hacks suggests that all were impressed by her breadth of knowledge, resolve to succeed and enthusiasm.

Notwithstanding a clear need to understand what she was buying into, Lynn Tilton had precious little time to soak up information on MD Helicopters but appears to know just about everything already on a subject that is alien to her prior business background and is in the front line fighting MD's corner to resolve those well known debts – hardly the attitude of someone set on making a quick buck.

A new team is forming around her to address sales, development and getting spares to the customers. Parlous spares delivery problems have been addressed by injecting money into removing the debts. Reducing the long standing failure to develop the product is being addressed by restarting meaningful R&D.

Among the debts repaid with Patriarch funds – and not the full figure of over $20M regularly quoted – are that of Kaman the former manufacturer of rotors and MD500 fuselages. The debts written off by Kaman included a number of items generated within the aerospace sector of the company including Seasprite funds so MD were able to settle for a figure under half of the whole write-off.

This brings us to whether Kaman will agree to resume MD production. At best, before the ink is dry, it might be said to be 'likely' although it appears that there is little chance it will be an identical agreement. Some parts will probably find a new production source.

Under normal circumstances industry would expect a 9-12 month recovery timescale for a company so severely damaged. Lynn Tilton will have nothing of that. Hands on she firmly believes that the company can be turned around in as little as 3-6 months.

MD are going ahead with seeking to win the military LUH contest against most of the Worlds manufacturers with Lockheed Martin as programme leaders. The opposition may be daunting, but MD is now an American company and that must count.

The subject of the advanced specification Dutch Police Explorer brought perhaps the most unexpected reaction. Some of the original airframes may well have been diverted to other customers in the meantime but the specification is being moved forward and – MD will again bid to secure the yet to be announced Dutch specification.

It was difficult to draw finite answers on if and when the former CEO Henck Schaeken might leave the company, but I guess some options remain open.

The **Alan Mann Group** based at Fairoaks continue to market their AIMS, Advanced Integrated Mission Seat to potential customers from the Police, Maritime patrol, Surveillance, Reconnaissance and Airborne Broadcasting world.
AIMS, claims to meet a need for a sophisticated and ergonomic management and display system capable of providing the operator with fingertip control over a large number of mission systems. Although the show was not able to exhibit any major advance in the enterprise the system is moving forward and it is expected that an announcement on sales will be made before the end of the year.

CAM GmbH based in the suburbs of Munich represent US based **Broadcast Microwave Systems** and exhibited a range of microwave downlink systems currently already operational with police helicopter units in Germany and the USA.

McAlpine Helicopters took examples of each Eurocopter helicopter with them to the show. As might be expected their product range in the static display attracted regular attention, but not more so than their show stand.
Although it has been somewhat toned down on the extravagances of earlier years - when all show attendees could almost expect a free meal there – the stand remains a central meeting point. Free coffee, cake, posters and mouse-mats to all comers ensured that the area was always crowded. The movie 'Brief Encounter' had meet me under the clock, Helitech is evolving to regularly have the McAlpine stand as that meeting place. There may be a downside of course; the impressive range of visitors all too comfortable with sitting there meant that real customers were hard pressed to find a space. Contrasted with the deserted stands that some far larger commercial companies were manning showed the McAlpine thinking to have merit. It can represent the difference between 'welcome' and 'go away.'

Powervamp took 36 sq. metres of space this year – by far the largest stand they have ever taken and it was crammed with a wide range of equipment they are now promoting on their own behalf and for associated foreign vendors. The stand was so crammed full of interesting goodies that there was no way that they could run a coffee bar.

Semia brought Vibration monitoring equipment, Calzoni Helipad lighting and of course Powervamp had many 'own label' battery packs and generators. The company launched a miniaturised two pack power supply/portable GPU. The outstanding versatility of this new unit will appeal to both the light single and twin turbine operators, 24/28 volt piston machines and even the much larger transport helicopters.

As well as Powervamp's well proven GPU range, the Company showed the PS80 and PS360 power supplies—the latter being extensively used at the Paris Air show. New for this year are compact heaters and air conditioners.

Powervamp have taken over the UK and Eire /Europe Distribution/spares and service business of the **Chopper Spotter** helicopter mover and was showing a models at Duxford ably demonstrated by its designer and originator Jack Knowles of J.B. Knowles, Inc. of Blue River, Wisconsin.

As fixed wing manufacturers the **B-N Group** might not be expected to display at Helitech. Following a lead by Piaggio a few years back they are entering the competitions lair and exhibiting fixed wing solutions in booth number 1811.
The company were exhibiting the Defender 4000 surveillance aircraft and their facility at Bembridge Airport, Isle of Wight on their stand. Outside a joint exhibit with **BAE SELEX Sensors and Airborne Systems** caused something of a stir in that a BN-2 Islander G-BJEC took a central position on the flight line throughout the show. When aerial images of the helicopter show are available there will be a fixed wing sitting centre stage.
The reason for the presence became clear on inspection. The Islander is but a trials aircraft for a Economic Zone patrol system that might fit on a range of suitable light twin helicopters as well as a range of fixed wing airborne systems. IMSS – the Integrated Mission Sensor System.
The very cramped confines of the displayed Islander hold all the equipment but some compromises have been made to meet certification and economy in the standard size airframe. The final craft, perhaps a Defender 4000, would offer the crew an easier workspace.

Islander interior and sensors

The primary sensors are fitted in modified examples of the existing wing-mounted fuel tanks [saving a certification issue or two!] and these are allied to a nose mounted SELEX Multi-Sensor Turret System weighing 45.34kg and a belly mounted Seaspray 7000E multi-mode surveillance radar. The sensor turret is the latest in a long line of mainly military camera systems dating back to the Marconi factory in Basildon. Basildon was the cradle of the technology over 20 years ago but numerous name changes have successfully hidden that. Commercial pressures – including a shrinking military market - are driving down the prices of these Titan turrets and there seems to be a desire to interest the emergency services industry in them.

Turbomeca announced at the show that Heliportugal have recently opted for the new Turbomeca flight-hour contract, the SBH® Mission.
The Portuguese helicopter operator has signed three contracts for the SBH® Mission Utility Prime for ten engines: four Arriel 1C, five Arriel 1D1 and one Arrius 2F. These engines will equip their AS365 Dauphin, AS350 Ecureuil and EC120 Colibri helicopters for various purposes such as transport, fire fighting and surveillance of electrical power lines.
Meanwhile the Spanish company, Helicsa, has extended its own SBH® contract to cover several new engines taking the total to 48 engines across a mission range including EMS, fire fighting and transport. The United States Coastguards (USCG) also signed up for a support-by-the-hour contract covering the Arriel 2C2 CG variant for their 95 Dauphin HH65. *www.turbomeca.com and www.safran-group.com*

TLC Handling, again appointed official ground-handler for skid-mounted helicopters at Helitech, were to be found in the static display area, helping to move helicopters and providing demonstrations, as well as on their own stand indoors.

Sikorsky Aircraft announced its selection of **Thales** to jointly develop a new cockpit for the S-76D helicopter planned for delivery at the end of 2008.
When delivered the new cockpit will represent the most technologically advanced solution available and is specifically designed for helicopter operations. The intuitive design features large-format displays that have been consolidated in an efficiently designed console for improved visibility and situational awareness. A full motion Level-D simulator will be available for pilot training at first aircraft delivery.
The launch of the S-76D was announced at the HAI show in the USA in February. The enhanced specification encompasses a series of engine, air vehicle, interior and avionics upgrades that will significantly enhance the performance, safety and reliability of the S-76 line.

There may be a Transatlantic argument about Governments injecting repayable loan money into European projects including the Airbus but there seems to be little stirring about US Government money going into developing X-craft proposed by Sikorsky.
Sikorsky has just been awarded two US government contracts to perform conceptual, preliminary design for two X2 Technology heavy-lift coaxial rotorcraft for the US military.
Sikorsky's efforts will focus on applying coaxial rotor X2 Technology to a super heavy-lift coaxial rotor crane that can cruise at 165 knots and a high-speed super heavy lift configuration capable of cruising at 245 knots.
X2 Technology refers to a suite of technologies Sikorsky will apply to achieve new levels of performance in coaxial helicopters. The X2 Technology Demonstrator is funded by Sikorsky Aircraft with development taking place in collaboration with its Schweizer Aircraft subsidiary.

L-3 Communications WESCAM were displaying at both the DSEi and Helitech. At both the main thrust was promoting the message that the 'Evolution Continues' with the addition of advanced performance features to the MX line of multi-spectral imaging turrets.
The MX models are now able to offer customers systems that are up to 25% lighter. By deleting a separate control box and integrating the control electronics in the top section of the gimbal system a host of weight savings become possible. Simply removing the connecting cables to and from the control box offers great weight savings. Wescam are talking in terms of 50 pound [25kg] savings. In types such as the UK EC135 with the Macpod role fit some 4 metres [12 feet] of cable can be deleted with attendant weight savings and a reduction in EMC difficulties in installation.
With the integration of the latest evolutionary performance features, customers will have access to lighter systems, 24/7 EO imaging, improvement in IR range and an expanded ease-of-use control suite.
Using the Charge Multiplied CCD Night Spotter Camera (CMCCD) and the Laser Illuminated Night Spotter operators are able to gain two to three times better resolution over IR technology at night. Long-range ID in low-light conditions is made possible by the Night Spotter Camera, whereas long-range ID in total darkness is made possible by the Laser Illuminated Night Spotter.

The Improved Digital IR Camera boasts superior imaging capability through increased resolution and uniformity. With a 20% increase in IR range magnification and resolution, missions unfolding at night or in less than ideal weather conditions will now result in a higher target ID success rate.
The MX-GEO Gen. 3 package includes a series of new technologies, GEO-Scan, Automated Video/GEO-Tracking, Integrated GEO-Tracking and Adaptive-GEO, each of which aid in delivering maximum target location accuracy. www.wescam.com

FLIR Systems were promoting the Ultra Media HDTV and other sensors at both DSEi and Helitech. The features and advantages of these new for 2005 sensors were covered in some detail in the Paris Air Show reporting [Page 13 July 2005 edition]. Back issues of PAN – approximately 2 years in archive - can be found on the www.policeaviationnews.com website.

SWE-DISH Satellite Systems increases the Suitcase power to enable higher bandwidth with improved link margin.
The pioneering Suitcase family, small sized satellite terminals, continues to successfully develop and improve new features and functionalities. The latest power upgrade makes the Suitcase an even more powerful satellite terminal, giving increased performance and efficiency during transmission.
The SWE-DISH Suitcase has been upgraded with a 35W amplifier from previous 25W. With the new amplifier, the user will benefit from 30% increased bandwidth enabling the Suitcase to close links to exceed 5 Mbps.
This is very positive since it will increase the number of possible applications demanding high bandwidth, e.g. live broadcast. It will also give the user even better link margins and therefore higher reliability in case of harsh environmental conditions.
This increased power has been achieved without increasing the Suitcase weight, size or prime power consumption. *www.swe-dish.com*

Skyquest Aviation, the UK design & manufacturer of specialist airborne mission equipment have just been appointed UK & France distributors of the Max-Viz EVS (enhanced vision system) (see www.max-viz.com). This system is gaining popularity in the USA with EMS & police helicopters as it gives an added safety benefit. Following a recent spate of EMS accidents in the USA the system may well be of interest to European helicopters operators – in particular anyone using the aircraft in demanding weather conditions. Several aircraft manufacturers will start offering EVS as a standard option but Skyquest are interested in the retrofit market. The first UK based helicopter (operated by a VIP) has just been fitted with Max-Viz and a 10.4" Skyquest display which he is using for multiple tasks (map, video, computer & Max-Viz imagery).
Skyquest were launching a new range of ultra high resolution aircraft mission displays to compliment the new technology stabilised cameras entering the surveillance market.
In addition, Skyquest have designed a unique video distribution system which takes the feed from the airborne camera systems in its highest resolution (including digital video and high definition video if available from the sensor) and routes this via a single cable to any number of on-board video displays and video recorders.
Skyquest claim that by using the system an airborne observer can call onto his display any number of video or computer inputs to give him total flexibility over the images he wants to view. Importantly the images will be displayed on his screen at their source resolution bringing new levels of information and detectability to the crew.

From an installers point of view the new system offers savings in complex video cable looms. A single cable is all that is required to be routed to each device. Once connected to the video distribution system the user has access to any signal feed going into the router. Feeds typically include multiple camera inputs, video playback, moving map, radar & video uplink.
To further enhance this new generation of video display Skyquest has integrated full remote control for two video recorders from the mission display. Confirmation lights on the display show the status of any attached video recorders and allow rewind and playback of mission video during flight.

Now there is a good idea – get an Editor to sit down and get his photograph taken and that is bound to be published! The Editor is taken through the capabilities of a Skyquest touch screen by John Herbert the company's Managing Director.

Skyquest were not the only exhibitor of solid state data recorders. **Specialist Electronics Services Ltd.**, based in Camberley, Surrey and Barrow-in-Furness, Cumbria, were offering their own range of equipment. The S3DR product family is a low cost, high performance, ruggedised data recording option accepting a range of storage devices. Products within the S3DR family cover the complete spectrum of size and performance that are required to address all sectors of this marketplace.

Pratt & Whitney Canada Customer Service Centre Europe GmbH (P&WC CSC Europe) has appointed PremiAir Aircraft Engineering Ltd. (PremiAir) as a Recognised Maintenance Facility (RMF) for the PT6A, PT6B and PW200 series of engines. PremiAir has also been selected by P&WC CSC Europe to install Altair Avionics Corporation's SmartCycle+, ADAS+ and Data Transmission Unit for helicopter and fixed wing operators.
Located in Blackbushe near London, PremiAir is a maintenance and engineering supplier for a wide range of helicopter and fixed wing aircraft in Europe. It also offers helicopter charter, police air support and advanced helicopter training.
PremiAir will offer increased levels of maintenance and commercial support to operators of Beechcraft King Air (PT6A) and AgustaWestland, Bell, Eurocopter and Sikorsky helicopters powered by PT6B and PW200 series engines.

Global Aerial Surveillance, a developer and manufacturer of unmanned aerial vehicles (UAV) for both commercial and military applications, announced plans to develop a fully autonomous amphibious UAV designed for surveillance and search and rescue missions.
The new design, named the 'Sea Wraith,' is a fallback on an old maritime surveillance vehicle that has been used for spotting submarines and ships in the past.

Landing helicopters safely in conditions currently considered too dangerous or impossible may soon be a regular occurrence as the result of new a helicopter landing aid sensor under development by **BAE Systems** in Australia.
The helicopter landing aid sensor will increase the operational envelope for landing in poor visibility conditions which cause aircrew to experience spatial disorientation such as brown-out, white-out and darkness – conditions in which it is usually not possible to land. The sensor should also be able to detect dangerous conditions in the landing zone such as rocks and ditches of a size which could potentially damage the aircraft.
A concept technology demonstrator will use 3D synthetic vision to add further capability to BAE Systems laser radar based Eagle-OWL obstacle warning sensor. Using existing pilot displays, the landing area will be presented on an intuitive display using 3D synthetic vision to maintain the pilot's orientation and situational awareness.
The development and evaluation of this combined system for military applications is anticipated to be completed in 2007.

Aerospace Filtration Systems, Inc. (AFS) is spreading the word about the value of inlet barrier filtration (IBF) systems for civil helicopters and the message is resonating with members of the air medical community.
Five operators flying 10 Bell 407s for EMS and SAR work now have installed AFS IBF systems on their helicopters, and additional orders are imminent.
AFS claim that operators who equip their helicopters with AFS filtration systems gain more useful load, more engine temperature margin, and a greater margin of safety when compared with particle separators. Other benefits include reduced operating and overhaul costs, and reduced engine operating temperatures for increased engine life.
The AFS Bell 407 system includes a single filter design optimised for hover and forward-flight conditions and providing improvements in engine performance over the entire airspeed envelope. An optional access door allows the filter to be removed and replaced quickly and easily, without the cumbersome job of removing the inlet fairing, which greatly improves the maintainability of the system. Contact Jay Foster Sales and Marketing Manager +1 636 300 5050

Lufttransport A/S, a Norwegian helicopter and fixed wing operator, took delivery of a new Agusta AB139 helicopter registered as LN-OLV at the show. The AB139 will be used for passenger shuttle service between the city of Bodø and the island of Værøy. This will became the northernmost helicopter route for the new machine.
[Lufttransport]

The *Police of Rheinland-Pfalz* in Koblenz are already operating the FlyMap system. Marketed by **Stauff Systec GmbH** of Viersen, Germany the PC based system is promoted as simple and intuitive in operation thanks to its touch screen technology. A Vector-Street navigation system provides house number level clarity based on Icao-Maps, Jeppesen-Maps, Approach charts. Updating of the system from a master system in the control room is undertaken using a variety of devices but a memory stick is the most common.

RFD Beaufort Ltd., has received an order from Bond Offshore to supply SAR liferafts to two new AS332L2 Super Puma helicopters assigned to BP's Jigsaw project.
RFD is developing a 14 person 'H' configuration of their SAR air-droppable liferaft for Jigsaw.

UK Company **Red Box International Ltd**., announced a major sale of its RBSC150 power units to the UK Ministry of Defence at the show. The light weight power supplies have an input level of 190v – 260v [110v units are available] single phase AC offering the maintenance of a stable voltage in extreme conditions. These supplies will provide reliable, high grade and stable 28v power for communication systems generl maintenance, air craft gear servicing, avionics work, crew and weapons training http://www.redboxpower.com/

Probably the biggest disappointment in the emergency services market in recent years has been sensor suppliers. It is clear that there is some customer dissatisfaction with the major players, but getting the upstarts to stay the course is often a disheartening process for the potential customer [and the reporter].
The number of times I have listened to the newcomers waxing lyrical about what they can do for the market only to see them fade away in weeks. To point fingers probably the worst offenders have been Israeli suppliers. They turn up [as often as not with the wrong product for the market] and then find the customers and their well established competition are not complete idiots before fading away apparently for less demanding areas of endeavour. I asked the last contenders whether they would be different and after claiming they would they still faded away rather than go back and bring the more appropriate sensor to the market. It may have been a security problem back home but the end result is the same. Often this failure to supply can be put down to a lack of market research.

But still they come! I approached one regular but only moderately successful exhibitor with a promising looking new multi-sensor gimbal at Duxford and they lazily pointed to their latest toy and turned away! Fair enough, so I will continue to present the products from others!

DRS Technologies of Palm Bay Florida were exhibiting the G-207 a sensor gimbal based on the dual use market demand for a compact and high performance gimbal, DRS Nytech Imaging Systems, Inc. has developed the G-207 (2 axis, 7 inch). The gimbal is based on the earlier G-210 model in that it has full head-tracked capability when integrated with a head tracker and can be applied as an aid in commercial driving, navigation and night pilotage applications. Although compact in size, the system can be configured to house multiple payload sensors. It may not be for mainstream law enforcement use in the UK market but there are a number of other potential customers who do not need 15 inch all-singing and dancing equipment. www.drs.com

Case in point is the offering on the latest blue and yellow helicopters to hit the skies of the UK, the **Schweizer** S333. At first glance the five strong 333 flight operated by **Total Air Management** (TAMS) of Rotherham might well be mistaken for police helicopters. The new machines apparently owe their colours to their work – utility line inspection to the National Grid and Transco – and a link between their owner and police pilotage in the past. TAMS was launched in 2001 by Managing Director John Tickner, and Training Director, Mike Crichton-Kane, both experienced South Yorkshire Police helicopter pilots.

TAMS helicopters will be doing pipeline patrol and for this the helicopter company, Schweizer, have sourced a capable but basic Canon daylight camera system as a factory fit to the new aircraft G-TAMA to G-TAMD. G-TAME is a pre-owned example bought in from France to get training underway.

The camera is a Canon NU700 BroadCast Camera – and turns out to be a re-worked 'street corner' security CC TV. The NU-700N combines a ¼ inch 3 CCD Canon video camera with a built-in 20X optical zoom lens and 5X digital function for a powerful 100X zoom range, all contained under a rugged outdoor housing. It offers pan, tilt, zoom, and focus.

The camera is a daylight only colour camera able to record the utility line with a view to updating the relationship with the properties it crosses to highlight hazards such as structure encroachment. The GPS encrypted information is downloaded onto tape and filed unless there are issues with route during the overflight.

Spectrolab were displaying their updated Nightsun II XP model which dispenses with the earlier gimbal to set aside a number of issues that were disquieting for customers. In producing a more robust and damp resistant design access to the full 360 degree capability has been dispensed with. Now the searchlight rotates just 343 degrees – with the missing few degrees hopefully coinciding with a skid upright or other blind-spot on the carrier airframe. Most importantly it will run dry.

SEI International were showing a remote load control system – a small, powered valve mounted on the Bambi Bucket® shell designed to drain off a portion of the bucket load allowing operators to manage loads precisely. The simple, on-demand electrical actuation requires a low power draw and can operate on the same 24 V circuit as the Bambi Bucket® dump button. Newer still was a Coverage Controller, a computerised digital control box designed to give operators the capability to accurately control ground coverage concentration. www.sei-ind.com

Patriot Aviation based at Cranfield Airport has been selected to represent Bell Helicopter in the UK and Northern Ireland.

Scandinavian Aerospace & Industry AB of Tyreso, Sweden, represent US based Falcon Systems of Maryland in promoting thermal identification beacons in the European market sector. The IRB-6 flashing thermal identification emits a flashing IR signature that is easy to detect. The unit has emitter assemblies on all four sides of the beacon enclosure and operates on DC power sources ranging from 9 to 30 volts.

IRB-6

Max-Viz EVS-1000

Potentially more important is a STC approved installation kit for US sourced Max-Viz EVS-1000 sensors. The camera system is designed for operators requiring an unobtrusive camera system – the world's smallest and lightest Enhanced Vision System. The EVS enables the pilots to see through conditions of poor visibility such as haze, smoke, snow, rain, and darkness.

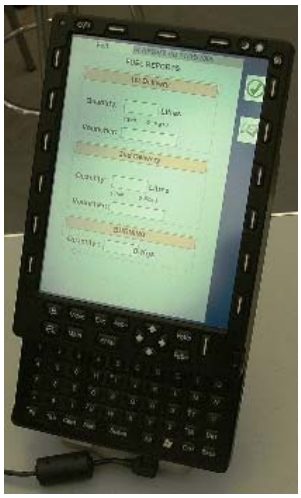
It is suitable for even the smallest business jet or helicopter, has flexible installation options: nose- or tail-mounted easy to install on all aircraft. The Max-Viz EVS-1000 system uses uncooled, long-wave infrared sensors to gather data about runways, terrain and any potential obstacles on the ground or in flight. These images are enhanced, relayed and displayed on any video-capable display system in the cockpit.

With occasional use in mind the EVS sensor mounting arm is installed on a skid-mounted bracket, installed inboard using existing holes on the landing tube in a position unlikely to interfere with aircraft boarding and the use of any searchlight system. The view is variable between level and 40 degrees 'look-down' but fixed at installation and almost fit and forget – both the camera and the cockpit mounted 6.4 inch display are operated by a simple on/off switch. Max-Viz are based in Oregon and one known installation in on the EC145 in service with Lee County in Florida.

With Skyquest now UK & France distributors of the Max-Viz EVS (see above) there may be some adjustment in how this equipment is promoted at the next Helitech!

A number of exhibitors were offering Electronic Flight Bags, items quickly forming a 'must have' status among flight crews. Canadian based **CMC Electronics** were promoting their Pilot View EFB.

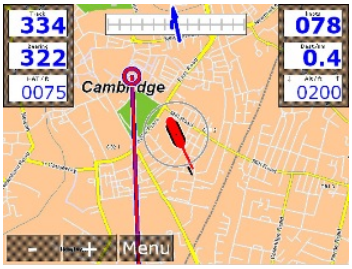
The Key features include that it fits full Jeppesen approach plates with its 8.4" AMLCD display, enables on-board performance calculations and display of real-time weather, intuitive pilot interface with a simplified menu structure is accessed by backlit FMS-style line select keys and/or a touch-sensitive screen. Pilot View also allows the user to quickly view video from surveillance systems with a one-touch video key that enables toggling between the current application and the video images.



AROUND THE HALLS

Alan Perrin [right], the new Sales and Marketing Manager at Skyforce

Helmets by Headset Services



Flymap

Feature Article

COFDM has become a defacto standard for surveillance video downlinks for fixed and rotary wing aircraft. By using this bandwidth efficient technology broadcast quality video is available to surveillance users with the robustness and ease of use required for this type of application.

Enterprise Control Systems Limited launched the first COFDM digital downlink system nearly 5 years ago. Designed and developed by the company, the digital downlink is now installed in 12 different airborne platforms including fixed wind, rotary wing & UAV's. Wiltshire Constabulary has been using the ECS COFDM downlink for nearly 2 years on their MD902 helicopter and has been more than impressed with the quality of the video pictures sent to their main control room at their headquarters in Devizes. ECS COFDM Downlink Video Systems have also been selected by Cambridge Constabulary for their new MD902 helicopter and by West Midlands Police as a mid life upgrade. Recently systems have been provided to McAlpine Helicopters Limited for the EC135 helicopter delivered to the Oslo Police and Kuwait Police. The Oslo Police machine also has a COFDM uplink supplied by ECS.

At Helitech 2005 ECS displayed a wide range of COFDM products and systems for both Police and Military surveillance. Companies such as SELEX Sensors and Airborne Systems and FLIR used ECS COFDM products to promote their own sensor products.

Colin Bullock, Managing Director of ECS said that the company was more than able to meet the requirements of the next generation of high definition cameras by using the latest generation COFDM techniques developed within the company.

ECS is the only manufacturer of COFDM digital equipment that has an integrated AES encryption system accredited by GCHQ (CESG).

PAN – POLICE AVIATION NEWS is published monthly by
INTERNATIONAL POLICE AVIATION RESEARCH
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LATE ALEA NEWS

Canadian Safety Seminar

The Seminar will be at the Toronto Marriott Airport Hotel on November 29, 30 and December 1, 2005. Registration cost will be CAN$350 per person which includes 3 breakfasts, 2 lunches and 1 dinner. The Marriott hotel has offered to provide rooms at government rate of CAN$139/night to all attendees.

The Programme includes presentations from: -

- Mr Gordon Graham, a 30 year veteran of California Law Enforcement and a leading professional speaker on Risk Management.
- Dr Tony Kern one of the world's leading authorities on human performance in aviation, author of five books including: redefining Airmanship, Flight Discipline, and Darker Shades of Blue: The Rogue Pilot.
- Mr Norbert Belliveau and Mr Lorne Amos. Mr Belliveau is a Transport Canada Civil Aviation Safety Inspector and Regional Safety Officer in Moncton, NB. Mr Amos is a retired Transport Canada Civil Aviation Inspector. They will be presenting their one day seminar Aircraft Maintenance Decision Making.
- Dr Randy Knipping Vice President, Aviation Medicine and Human Factors, CBAA. An international aviation medical examiner and consultant to airlines, corporate flight departments, government and non-government aviation organisations. Dr Knipping will present his lecture Fatigue: An Evidence-Based Approach.
- Mr Bryce Fischer Chief Safety Promotion and Education, Transport Canada. Developed the framework and program for the regulatory and safety oversight of Canadian air navigation service providers. His work focussed on making safety management systems, risk management and partnerships the cornerstones of Transport Canada's oversight approach.

Erratum [October Edition]
WEST MIDLANDS: … MD900 Explorer helicopter entered service in May 1989 and has … should read '1999' not 1989.