Two key acquisition programmes for the Indonesian air force are much to the fore here at the Indo Aerospace show. One is aimed at replacing the air force’s ageing Northrop F-5E/Fs that serve with 14 Squadron at the Iswahjudi Air Force Base in Madiun, East Java, while the other is for a more advanced aircraft being developed in co-operation with South Korea.

Indonesia’s F-5 replacement programme has been under evaluation for some time, and has drawn multi-role fighter proposals from several manufacturers. Now it appears that there are four serious contenders for the prize. Two of them are advanced versions of aircraft that currently form the backbone of the Indonesian air force, the Sukhoi Su-27/30 ‘Flanker’ and the Lockheed Martin F-16, while the other two come from Europe – the Eurofighter Typhoon and the Saab Gripen.

Sukhoi is proposing the Su-35, and earlier media reports suggested that it had received strong air force backing. However, there has been no order, and the three Western manufacturers remain confident that they have a chance to compete for the contract. Lockheed Martin is offering the F-16V, a development with the SABR “e-scan” radar. Saab is proposing the Gripen fighter for the requirement, suggesting it could deliver in a short timeframe, and is also offering a wider air defence package with the GlobalEye surveillance platform. Offset packages, technology transfer and a high degree of local participation are considered as important elements of any bid. Eurofighter suggested in April last year that it could establish an assembly line for the Typhoon in Indonesia.

In the meantime, PT DI and Korea Aerospace Industries continue on the development of the KF-X/IF-X 4.5 generation fighter that is intended to serve with both Indonesian and Korea air forces. Indonesia has taken a 20 per cent stake in the programme and companies from both countries are showcasing the programme here at the show.
By their nature, rotary-wing operations carry an inherently higher risk than those of fixed-wing aircraft, especially as most helicopters routinely operate at low level and in all weathers. Many also operate in difficult terrain and challenging environments away from well-equipped airfields.

Honeywell Aerospace (Hall A, Stand 073) is a leader in the field of aviation safety, and is committed to finding solutions to safety challenges across both the fixed- and rotary-wing worlds. In the helicopter sector, the company has devised many technologies to improve safety, having analysed accident data to identify the key areas of concern. Four of its solutions are being highlighted here at the show that mitigate the top four causes of helicopter accidents, which between them account for 53 per cent of all incidents.

Leading the list of causes are loss of control in flight and powerplant failure. Combining Honeywell’s Sky Connect Tracker III mission management system and its health and usage monitoring system (HUMS) mitigate those risks by providing the ability to record and track aircraft system health, as well as flight data. The HUMS technology monitors the health of engines and spinning parts. Through the Sky Connect Tracker, the system can provide real-time vehicle health tracking, in turn allowing trend monitoring and early warning of potential impending failures. Honeywell and its distributors have recently been authorised by Sikorsky to provide HUMS (with Sky Connect Tracker III to follow) directly to operators of the S-76C++ helicopter.

At third and fourth in the list of accident causes are controlled flight into terrain (CFIT) and low-altitude operation. Honeywell’s enhanced ground proximity warning system (EGPWS) and traffic collision avoidance system (TCAS) have obvious applications in reducing the accident rate in these scenarios. EGPWS provides both aural and visual warnings of potential CFIT, based on a comprehensive database that includes man-made obstacles, while TCAS provides situational awareness of other air traffic. Both EGPWS and TCAS use accurate data from Honeywell’s radio altimeters.

Over the next 20 years the Asia-Pacific region, excluding China, is expected to generate a demand for 750 new turboprop airliners. Around 600 new routes are forecast to be added to the air transport network over the same period. The requirement for new aircraft to satisfy this route expansion is expected to drive 27 per cent of the overall demand for new aircraft.

That’s the view of a market forecast released by turboprop manufacturer ATR in July. An equal partnership between Airbus and Leonardo, ATR offers the 50-seat ATR 42 and the larger ATR 72. Up to 78 passengers can be accommodated in the latest ATR 72-600 High Capacity version, which entered service with Cebu Pacific Air in the Philippines last month. ATR hopes to sell up to 120 of the smaller aircraft, and 630 ATR 72s, over 20 years.

Asia-Pacific is ATR’s best-performing market. Sixty airlines are flying 377 ATRs in the region, and the turboprop family has secured more than 90 per cent of the regional market share in southeast Asia since 2010. During that time, ATRs have permitted the establishment of around 200 new routes, typically serving smaller regional destinations and significantly adding to the expansion of business and tourism in developing areas.
Long range, positive ID

FLIR Systems’ (Hall A, Stand 071) new Star SAFIRE 380-HLDc is a high-definition, compact airborne electro-optical/infrared (EO/IR) targeting system. Featuring industry-leading size, weight, power and cost (SWAP-c) specifications, the Star SAFIRE 380-HLDc combines FLIR’s latest sensor technology with precision laser designation to give light combat helicopters and similar platforms true next-generation performance.

With high-definition, multispectral imaging and precision laser designation integrated into a single compact system, the Star SAFIRE 380-HLDc eliminates the need to choose between system size, weight and targeting performance. Its compact design, ideal for smaller aircraft with limited ground clearance, provides a superior solution for locating, identifying and laser marking targets at maximum range.

Leveraging FLIR-designed and produced thermal and laser technologies, the Star SAFIRE 380-HLDc delivers significantly longer range. Positive ID (PID) than previous systems of this size and weight, making it an invaluable surveillance and intelligence-gathering force multiplier. Incorporating a long-range laser designator for precision engagements, and advanced laser spot-tracking and decoding, the Star SAFIRE 380-HLDc is the latest innovation driven by FLIR’s commercially developed, military qualified (CDMQ) model.

FLIR Systems is a leader in the design and manufacture of sensor systems that enhance perception and awareness. Its components are used for a wide variety of thermal imaging, situational awareness and security applications, including airborne and ground-based surveillance, condition monitoring, navigation, recreation, R&D, manufacturing process control, search and rescue, drug interdiction, transportation safety, border and maritime patrol, environmental monitoring, and chemical, biological, radiological, nuclear and explosives (CBRNE) threat detection.
Underwater technology

Established in 1994, Singapore-based Sea and Land Technologies Pte Ltd (Hall A, Stand 235) is promoting the Applied Acoustics Engineering Easytrak Alpha and Alpha Portable range of USBL tracking systems, which are ideally suited for small subsea vehicle operations or basic diver tracking.

The Alpha system is centred on a desktop command console and can be deployed in minutes, even by an inexperienced user. Connection to the host PC running Easytrak Alpha software is direct from the console via a USB port. At the heart of the Alpha Portable system is the console, a yellow marine grade splashproof case containing all the electronics for the USBL system, including internal GPS, a full-size keyboard, a large LCD display and a built-in battery. Transponders and responders are supported through a number of pre-defined channels, with switchable interrogation. Both systems have a lightweight transducer that incorporates heading and tilt sensors and offers hemispherical tracking, making it ideal for shallow water applications such as diver and underwater vehicle tracking, survey and inspection, near-shore construction and salvage, and marine technology.

Among the many other products presented is the Teledyne SeaBotix vLBV950 compact vectored MiniROV (remotely operated vehicle) with an extended depth rating to 950m, dual vertical thrusters, an impressive power to weight ratio, and a bollard thrust of 18.1-22.5kgf forward. The open frame design allows a modular configuration and the flexibility of adding optional equipment, which can include a wide range of cameras, powerful lights mounted on a pan/tilt turret, sensors and tools. An integrated navigation and control console, scanning sonars, video enhancers, grabber attachments and a zoom camera are some of the other options that make the vLBV950 an ROV that finds applications in the most diverse uses. It uses a low drag tether that offers minimal impact on performance and comes with an intuitive control system that makes it easy to handle for the ROV operator.

Sea and Land Technologies is the exclusive sales and service partner for the UK’s Applied Acoustics Engineering Ltd and US company Teledyne SeaBotix in Southeast Asia.

Marine aids of many kinds

Visitors will be able to familiarise themselves with the large portfolio of marine-related products produced and marketed by national trading company PT Kemenangan (Hall B, Stand 010).

Founded in 1954, the Jakarta-based company has a 35,000m² facility at Cilenungsi, Bogor, where it manufactures KEMAN rubber fenders (including dockside, pneumatic and tug boat fenders), the Polyethylene Buoy (PE Buoy), the PE Float, the Steel Buoy, the Mooring Buoy, the KEMANFLEX PVC Hose and more.

As well as serving the local market, PT Kemenangan has successfully exported to countries including Canada, Singapore, Taiwan, Kuwait, Qatar and the United Arab Emirates.

Clients have included several major petrochemical, marine and engineering companies.

International quality is assured by certification to ISO 9001 and membership of IALA (International Association of Marine Aids to Navigation and Lighthouse Authorities), PIANC (Permanent International Association of Navigation Congresses), and local organisations.

PT Kemenangan is also involved in construction, dredging, marine personnel transfer, scour protection, and weather monitoring systems.
Organised by

BY RICHARD SCOTT

The training and assessment of Indonesian seafarers applying for seagoing certification is being supported by a new suite of bridge simulators supplied by Kongsberg Maritime (Hall A, Stand 025) to the Ministry of Transportation’s Maritime Training Centre in Jakarta.

Kongsberg’s K-Sim Polaris simulator was selected as the basis for the Indonesian Certificate of Competency assessment through a competitive tender. The company’s full scope of supply includes a DNV GL A Compliant full mission bridge simulator with a 240° field of view, and 10-part task simulators.

The new simulators are intended to significantly reduce the time taken, and the tools required, to assess Indonesian seafarers. This is especially important in today’s context, as assessments for the certifications have become more stringent. Contemporary seafarer assessment includes customised criteria pre-defined by the assessor and a stronger focus on the human factor in maritime operations.

The Ministry of Transportation is also using its new simulator suite for re-certification of local seafarers to address the high demand for maritime competency in the region, due to the increasing number of vessels being built for transporting goods around the archipelagic state of Indonesia.

Future migration to Kongsberg’s new generation K-Sim Navigation bridge simulator technology platform is accommodated in the contract as part of a five-year Long Term Simulator Support Programme. Kongsberg Maritime is also developing new simulator models and exercise areas as part of its scope of delivery.

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Sistem Alpha dipasang di kendali utama dan bisa dinyalakan dalam hitungan menit, walaupun oleh user yang tidak berpengalaman. Koneksi ke PC utama yang memuat software EASYTRAK Alpha dapat dikontrol dengan USB port. Di tengah-tengah Alpha Portable ada kontrol pengendali, kotak anti air yang berisi USBL, termasuk GPS internal, keyboard, LCD monitor, dan baterai. Transponder dan Responder dapat dipindah-pindahkan dengan menekan beberapa tombol yang telah disediakan. Kedua sistem tersebut terdapat transducer ringan yang memberikan lacakan belahan bumi, dan membuat aplikasi ini sangat ideal untuk perairan dangkal seperti penyelam, kendaraan pelacak bawah laut, survei dan inspeksi, konstruksi tepi laut dan teknologi laut lainnya.

Selain itu, beberapa produk yang dipersembahkan adalah, Teledyne SeaBotix vLBV950 MiniROV (remotely operated vehicle) dengan ekspansi kedalaman sampai 950m, dual vertical thrusters, bollard seberat lebih dari 18.1-22.5kg. Desain terbuka dapat memuat konfigurasi modular dengan fleksibilitas penambahan alat lainnya, termasuk bermacam-macam kamera, lampu turret, sensor dan perangkat sensor. Integrasi kontrol pengendali dan navigasi, sonar scan, video enhancer, kamera zoom merupakan beberapa opsi yang membuat ROV vLBV950 sangat bervariasi dalam penggunaannya. Tali pengikat yang dipakai sangat aman, meminimalisir resiko benturan dan dilengkapi dengan sistem pengontrol untuk kemudahan ROV operator dalam mengoperasikannya.

Sea and Land Technologies merupakan penjual utama dan partner UK’s Applied Acoustics Engineering Ltd dan perusahaan Amerika, Teledyne SeaBotix yang beroperasi di Asia Tenggara.

Fasilitas pertolongan di laut yang bervariasi

Pengunjung dapat melihat produk-produk yang bersangkutan dengan kapal berskala besar yang diproduksi dan dipromosikan oleh PT Kemenangan (Hall B, Stand 010).

Didirikan di tahun 1954, perusahaan yang berbasis di Jakarta ini memiliki fasilitas sebesar 35,000m2 di Cileungsi, Bogor untuk produksi KEMAN bumper karet (termasuk; bumper dermaga, pneumatik dan bumper tugboat), Polyethylene Buoy (PE Buoy), PE Float, Steel BUOY, Mooring Buoy, KEMANFLEX PVC Hose dan masih banyak lagi.

Selain melayani kebutuhan pasokan pasar lokal, PT Kemenangan telah berhasil mengekspor ke berbagai negara seperti, Kanada, Singapura, Taiwan, Kuwait, Qatar, dan Uni Emirat Arab.

Klien-kliennya merangkup beberapa pemain besar di petrokimia, armada lautan dan perusahaan-perusahaan teknik lainnya.

Sertifikasi Internasional telah disahkan oleh ISO 9001 dan merupakan member IALA (International Association of Marine Aids to Navigation and Lighthouse Authorities), PIANC (Permanent International Association of Navigation Congresses), dan organisasi lokal.

PT Kemenangan juga terlibat di konstruksi, penggerukan, perlindungan, pentransferan staff armada laut, pemeriksaan dan pengamatan cuaca.
Organised by Tahun ini, Honeywell Aerospace (Hall A, Stand 073) merayakan hari ulang tahun mesin TPE 331 turboprop ke 50 yang memperdayakan pesawat single-engine di seluruh dunia.

Didesain oleh Garret AiResearch dan diproduksi oleh Honeywell sejak tahun 1999, mesin ini sebenarnya diperuntukkan hanya bagi keperluan militer, akan tetapi dikembangkan juga untuk berbagai keperluan militer lainnya, pesawat regional, pertanian dan pesawat umum.

Setelah versi komersial pertama mendapat sertifikasi pada tahun 1965 oleh Federal Aviation Administration, rangkaian ini telah diproduksi dalam 18 model dan 106 konfigurasi.

Hingga saat ini, telah dikirim lebih dari 13.500 mesin TPE331, memenuhi lebih dari 122 juta jam waktu penerbangan, juga terdapat beberapa program pengganti untuk mempersingkat waktu take-off, mempercepat kenaikan, menambah kecepatan peluncuran dan jarak, memperbaiki efisiensi bensin, menekan biaya operasional.

Dengan kekuatan hingga 1.650 tenaga kuda, TPE331 dikatakan sebagai mesin yang hemat biaya dan berkekuatan besar di kategorinya dengan harga terendah. Desain single-shaft yang simpel memberikan katup penutup instan dan performa terbaik. Tidak diragukan lagi TPE331 merupakan mesin turboprop yang paling dapat diandalkan dan terpecaya.

Tahun lalu, Honeywell Aerospace terpilih oleh PT Dirgantara Indonesia (Persero) untuk menyuplai mesin TPE331 untuk pesawat turboprop NC212 dengan transaksi senilai 7 juta USD. Mesin akan dipasang di pesawat NC212-400 dan NC212i milik PT Dirgantara Indonesia. NC212-400 merupakan pesawat serba guna yang didesain untuk dioperasikan di kondisi panas dan beraltitude tinggi tanpa mengurangi efisiensinya, sedangkan versi upgrade NC212i yang diproduksi di Bandung dan telah menggantikan model -400 dengan tujuan untuk menyuplai aneka misi transportasi ringan. Mesin TPE331 memenuhi kebutuhan kedua pesawat tersebut dengan memberikan katup penutup cepat dan efisiensi bensin untuk performa terbaik.

Honeywell terus bekerjasama dengan perusahaan-perusahaan pesawat udara di industri penerbangan untuk memastikan bahwa mesin TPE331 dapat memenuhi kebutuhan pabrik pesawat di 50 tahun kedepan.

Global Aviation Spares (GAS. Hall F, Stand 222) yang merupakan sebuah firma dari Australia beserta partner-partner dari Indonesia, telah melayani militer Indonesia dan MoD selama 7 tahun dalam mensuplai partikel-partikel pesawat yang berkualitas.

Berbagai kemampuan yang ditunjukkan berkisar dari bisnis pesawat Cessna ke jet tempur seperti Lockheed Martin F-16 dan Sukhoi Su27/30 hingga transportasi Lockheed C130 Hercules dan Boeing C-17.

GAS merupakan distributor tunggal di Asia Tenggara untuk produk Seginus, pengusaha pabrik PMA untuk bantalan peluru yang telah disetujui FAA; Eagle Tugs, pengusaha pabrik truk derek pesawat, dan BOSA SA yang memproduksi peluncur misil dan peralatan pendukung lainnya.

Keberadaan perusahaan yang sudah mapan dari Lithuania, Helisota (Hall D, Stand 226) yang juga merupakan salah satu member Avia Solutions Group, mencerminkan peningkatan kebutuhan helikopter buatan Russia di Asia Pacific. Saat ini ada kurang lebih 1.400 mesin, termasuk Mil Mi-8P, PS dan T, Mi-8MT (Mi-17), Mi-8MTV-1 (Mi-17-1V) dan Mi-8AMT (Mi-171). Semua ini termasuk Robinson R-44 yang dibuat oleh Amerika Serikat, dan sejak Maret 2016 beberapa model Airbus Helicopters termasuk H120, H135 dan H145 dibuat oleh Helisota.

Pemerintah data spesial, misi pelacakan dan penyelamatan, transportasi untuk VIP dan penumpang, juga bisa untuk paket IFR.

Di baris terdepan

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Pemerintah data spesial, misi pelacakan dan penyelamatan, transportasi untuk VIP dan penumpang, juga bisa untuk paket IFR.
This year, Honeywell Aerospace (Hall A, Stand 073) marks the 50th anniversary of the TPE331 turboprop engine, which powers single-engine aircraft around the world.

Designed originally by Garrett AiResearch and produced by Honeywell since 1999, the engine was first intended for the military, but was developed for multiple applications across military, regional airline, agricultural and general aviation aircraft. Since the first commercial version received its type certification from the Federal Aviation Administration in 1965, the series has been produced in 18 models and 106 configurations.

More than 13,500 TPE331 engines have been delivered to date, logging more than 122 million hours of flight time. Several conversion programmes are available to provide shorter take-offs, faster climbs, increased cruising speed and range, improved fuel efficiency, and lower operating costs.

With up to 1,650 shaft horsepower, the TPE331 is said to be the most cost-effective and powerful engine in its class – with the lowest cost of ownership. In addition, its simple single-shaft design provides an instant throttle response and best-in-class hot-and-high performance. There is no doubt that it is one of the most reliable and proven turboprop engines.

Last year, Honeywell Aerospace was selected by PT Dirgantara Indonesia (Persero) to supply 11 TPE331 engines for its NC212 turboprop aircraft, in a deal worth US$7 million. The engines will be fitted to the company’s NC212-400 and NC212i aircraft. The NC212-400 is a multipurpose aircraft designed to operate in hot and high-altitude conditions without compromising performance efficiency, while the upgraded NC212i, which is being produced at Bandung and has replaced the -400 model, is aimed at multi-mission requirements in the light transport segment. The TPE331 will address the needs of both aircraft, offering swift throttle response and increased fuel efficiency for maximum performance.

Honeywell continues to work with aircraft manufacturers across the aerospace industry to ensure the TPE331 will meet the needs of the aviation community for the next 50 years.

First in line

The presence here of long-established Lithuanian company Helisota (Hall D, Stand 226), a member of the Avia Solutions Group, reflects the increasing use of Russian helicopters in the Asia Pacific. These currently number at least 1,400 machines, including the Mil Mi-8P, PS and T, Mi-8MT (Mi-17), Mi-8MTV-1 (Mi-17-1V), and Mi-8AMT (Mi-171). All these, as well the US-built Robinson R-44 and, since March 2016, several Airbus Helicopters models including the H120, H135 and H145, are served by Helisota.

The company provides a fully integrated, authorised maintenance, repair and overhaul (MRO) operation, supporting government, military and private rotorcraft operators from 25 countries worldwide. Up to 20 helicopters per year are serviced at its main MRO base at Kaunas.

Helisota, an EASA Part 145, Part 147 and ISO 9001:2008 certified organisation, also provides spare parts supply, component support, non-destructive testing, helicopter sales, technical training, 24/7 AOG support services, and engineering support and consulting.

Conversions and modernisations may include upgrades for special missions, search and rescue, VIP and passenger transport and general IFR packages.

Parts to go

Australian firm Global Aviation Spares (GAS, Hall F, Stand 222) has been servicing the Indonesian forces and MoD for seven years through the supply of quality aircraft parts in association with its Indonesian partners.

Its wide range of capabilities range from Cessna business aircraft to fighter jets such as the Lockheed Martin F-16 and Sukhoi Su-27/30, to the Lockheed C-130 Hercules and Boeing C-17 transports.

GAS is the Southeast Asia distributor of products from Seginus, an FAA-approved PMA manufacturer of bearings and starter generator brushes; Eagle Tugs, a manufacturer of aircraft towing trucks; and Bosa SA, which produces rocket launchers and ground support equipment.