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MILITARY SYSTEMS & Technology

The Defence Suppliers Directory Magazine

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ISSUE 31 | MARCH | 2017

MAKING THE WORLD A SAFER PLACE

SURPLUS AND OBSOLETE SMALL ARMS AMMUNITION DESTRUCTION

In the new global economy many Armed Forces are downsizing to reflect the budgetary constraints of their respective countries. This brings with it surplus items which, because of the reduction in the number of personnel, are put into storage until a suitable method of disposal is found. High on the priority list is ammunition of all types and nature. Small Arms Ammunition (SAA) accounts for a large percentage of any military organisation's arsenal. It also contributes significantly to the stockpile of surplus, obsolete and shelf life expired ammunition.

EOD Solutions Ltd in conjunction with CALDO engineering have developed the Transportable Ammunition Destruction System (TRADS) to destroy SAA in an environmentally responsible manner. There are two systems available, the TRADS 40 and the TRADS 20, both of which employ ceramic filtration backed up with a catalytic filter to ensure complete cleaning of the gases. Recent improvements have allowed the system to clean the gases even more efficiently to comply with EC Emissions Directive 2007 and the USA Environment Protection Agency guidelines - one of the most stringent in the world.

Both systems are constructed in ISO 20 foot container frames to allow sea and air freight delivery and vehicle transportation. The frames also allow for ease of maintenance and observation during ammunition processing. The TRADS 20 system shown here is designed to undertake medium and small-scale destruction of SAA where the ammunition is dispersed in different locations.

TRADS 20 will destroy a minimum of one and a half tonnes of ammunition per day. The system destroys all SAA and their secondary effect components except high explosive rounds and is completely enclosed to make it safe for the end user.



TRADS 20 utilises a furnace that allows small quantities of ammunition to be destroyed and then emptied into a bin for further processing such as Free from Explosives Inspection. It can then be filled again with the next batch of ammunition. Because this system is enclosed it means that the destruction process and the emptying is a continual cycle, automatic and completely safe for the operators.

EOD Solutions Ltd has recently manufactured the TRADS 20 and 40 for a client to operate in Afghanistan. The TRADS has proven itself in the most arduous of conditions over a two-year period during which time the system destroyed all types of SAA up to and including 14.5 mm ammunition.

It requires no infrastructure as electrical power and compressed air are built into the system. It can be positioned on site and can be working within 36 hours requiring only diesel fuel to begin operations. TRADS 20 is the ideal system for disposing of disbursed stockpiled SAA at an affordable cost.

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Welcome to this
edition of the
**Military Systems
& Technology Magazine.**

As an established web portal for the International Defence & Aerospace Industry, we strive to provide a comprehensive and detailed listing of Military Equipment Suppliers, Products and Services. This newsletter is designed to keep you up-to-date with latest news and events within the Defence Industry's Governing Bodies, Organisations and Companies.

The Defence Industry Web Portal

For more information, technical guidance or the latest subscription packages available for Military Systems, Naval Systems and Security Systems, please contact us where one of our team will be more than happy to advise you.

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Quality, Precision & Innovation

Established over 50 years ago, AEI Systems is a UK BSI quality approved Company supplying weapon systems and military aircraft spares to customers around the world.

Aircraft Weapons Systems

Design Excellence

We specialise in the design, manufacture, test and support of a wide range of small to medium calibre military weapon systems for air, sea, land and dismounted soldier applications.

Reputation

Renowned for our aircraft cannon knowledge and expertise, AEI Systems is the Design Authority and 'Original Equipment Manufacturer' to BAE for the ADEN 30mm Gun system as installed in the Hawk advanced trainer aircraft.

Weapon Mount Systems

Through Life Support

Obsolescence management and continual product

improvement has given rise to a new 'high rate of fire' revolver cannon. The ASPEN 30, with blast suppression, improved recoil systems and gas regulation catapults this ADEN 30 variant into the 21st century.

Numerous other aircraft weapon types are supported; M39, M134, MO32 and DEFA to name just a few.

Cost Effective Solutions

AEI's manually operated 20mm HS804 naval weapon systems offer cost effective gun solutions, while delivering an impressive punch.

In addition to the reliable AE20-NM naval weapon mount, we now produce belt-fed variants for prolonged target engagements. These mounts are in service around the world and are suitable for vessels of all size from RIB's to Frigates.

Innovative

For military vehicle applications; AEI has developed a lightweight all Aluminium cradle AE20-VM with spring assist yoke for the HS804 belt-feed weapon system. Mounting is adaptable to suit individual slewing ring or pedestal interfaces, with an in-house designed flexi-chute feed linked to the vehicle ammunition tank location.

New Markets

For the dismounted soldier; AEI is in the process of design and manufacture of a complete range of 7.62 millimetre bolt action and 12.7 millimetre semi-automatic tactical weapons. A 20 by 110 millimetre variant will be available within 12 months with a 30 x 113 millimetre variant will follow shortly after. These weapons bring new and innovative features to the market and are designed and built to military aircraft standards of quality and precision.

Barrel Production

Expand in Capabilities

AEI has expanded its manufacturing capability to include in-house barrel manufacture up to a maximum of 105mm, both constant and progressive pitch. This gives us the flexibility to rapidly develop weapon variants of our existing designs to fire the 20 by 102 and 25 by 137 millimetre rounds for naval and land vehicle applications in response to customer demands.





leading manufacturer of precision crystal oscillators

A leading U.S. manufacturer of precision crystal oscillators for over 50 years, Greenray OCXOs, TCXOs, and related signal source products meet and exceed the demands of military, defense, communications, and security customers for applications from 1Hz to 1GHz.

Precision Crystal Oscillators

Our commitment is to provide products that set the standard for low phase noise, tight stability and overall performance and reliability under the adverse conditions



regularly found in aerospace, avionics, munitions, missile guidance, mobile and hand-held applications. Vibration, Shock and Acceleration Sensitivity

Our decades-long relationships with leading defense contractors are testament to Greenray's leadership in those performance criteria that matter most: Vibration, Shock and Acceleration Sensitivity; signal source integrity, as a function of Low Phase Noise and Tight Stability.

Vibration - Shock and Acceleration Sensitivity

Building on engineering and manufacturing expertise for military and defense partners, our markets include Instrumentation, including hand-held and mobile applications, as well as Satellite Communications, Wired and Wireless Communications, and Global Navigation Satellite Systems, like GPS.

Greenray is QMS (Quality Management System) certified to the AS9100 standard, and ITAR compliant.

We are unique in our ability to draw on the expertise of two sister companies, Statek Corporation and Advanced Technical Ceramics Company(Adtech), which can provide state-of-the-art, high performance, miniature crystals and innovative, leading-edge packaging solutions, respectively.



High Performance Miniature Crystals

Our packages feature SMT options and/or ruggedized, high-reliability features throughout multiple product lines.

Greenray Specialized MIL Capabilities

- Testing & Processes per MIL-PRF-55310
- Screening per MIL-PRF-55310
- MIL parts established reliability construction
- IPC-A-610 & J-STD-001 trained operators
- In-house qualification testing
- Reliability calculations per MIL-HBK-217
- Phase Noise vs. Vibration Testing for Random & Sine Vibration
- Shock & Vibration to >50gs RMS
- In-house qualification testing



Greenray Qualified Programs

- Patriot & PAC3
- Hellfire
- Apache
- Falcon II & III
- NLOS
- DAGR
- F-16
- ERGM
- Harrier
- SDBIII
- Raptor
- JTRS

Contact a Greenray engineer today to discuss your particular Custom Frequency Reference requirements. Our recent engineering and compensation innovations can provide g-Sensitivity of $<5 \times 10^{-11}/g$ in miniature, ruggedized, cost-efficient packages - truly remarkable performance, and further evidence of our commitment to re-Define frequency control solutions.

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Chemical and biological detection systems

Chemical & Biological Detection at its best

Proengin has developed biological and chemical warfare agents field detectors using flame spectrophotometry. The well-known and world widely used AP2C has proven the capacity of that technology to be the most reliable on the field with the lowest false alarm rate and the simplest ease of use.

Chemical Detection

The New Extended Range Field Handheld Chemical Detector AP4C

New developments such as the AP4C have extended the capacity of that technology to include chemical warfare agents and toxic industrial material in a simultaneous mode. There is no limitation in number of gas detected by the AP4C. All nerve agents, all blister agents and all

blood agents can be detected by AP4C within the requirements of response time and sensitivity of NATO recommendations.

AP4C-Extended Range Field Handheld Chemical Detector
The AP4C has extended the range of chemicals that can be detected by Proengin chemical detectors. All dangerous compounds containing Sulfur, Phosphorous, Arsenic and/or HNO chemical bond can be detected in a simultaneous way. Of course, as for the AP2C, the AP4C has the capacity to work in very severe environmental conditions (explosive areas) and the measurements are unaffected by high humidity levels or by the presence of other organic chemical compounds such as paint.

The AP4C technology allows the simultaneous detection of an unlimited number of gas and the identification of



the chemical elements that constitute these chemicals. It is therefore possible to detect impure agents or chemicals manufactured by terrorists that would not fit into traditional libraries of other detectors.

Moreover AP4C will detect without upgrade new agents that will be developed in the future, as well as still not precisely known agents like Novichok agents (or Non Traditional agents).

The response time is among the shortest on the market, but what makes the AP4C unique is the recovery time after a positive detection.

The AP4C is therefore the chemical detector that has the highest level of availability of the field.

Grateful to its remarkable performances, AP4C has been derived on other detectors, dedicated to the following uses:

- use on reconnaissance vehicles and battle tanks
- use aboard naval ships
- use for critical buildings and areas protection

AP4C-V For use on Reconnaissance Vehicles and Battle Tanks

Based on the same detection technology and the same internal design, air entrance has been designed to face high wind: AP4C-V is able to take in representative sample of the outside air, even with a direct cumulated wind and speed of 100 km/h. Data are shown on easy to understand control box or directly on the control computer of the vehicle.

Sensitivity, short time to answer, low false alarm rate and short recovery time are the same as for AP4C, making AP4C-V the perfect detector for all kinds of reconnaissance missions and battle field exploration.

AP4C-F For use Aboard Naval Ships

At sea, ANEP-57 recommendations stipulate the availability of both fixed and mobile means of chemical

detection. As AP4C is the perfect mobile chemical detector for contamination control, the use of AP4C-F provides the naval ships with reliable and efficient chemical detection. This ruggedized detector shows the same detection performances as the AP4C, with 2 supplementary features. It produces its consumable gas by electrolysis, thus lightening daily maintenance, and more than an alarm, is able to trigger the ventilation of the vessels, thus protecting the citadel from the chemical danger. The AP4C-F is able to be operated on open deck, with the same performances.

AP4C-F For Critical Buildings and Areas Protection

National palaces, courts and parliaments are more and more equipped with fixed chemical detectors. AP4C-F, being able to be operated on naval citadels, is of course able to provide the same detection and protection on terra firma, for this kind of critical buildings.

BIOLOGICAL DETECTION

The MAB, A New Generation of Biological Field Detector

MAB has the unique capacity of detecting and categorizing biological particles with a proven extremely low false alarm rate and the unique capacity to discriminate dangerous or suspicious biological particles such as Anthrax spores from natural background.

The very liable MAB has been designed to be mounted on track vehicles. It is insensitive to diesel exhausts.

As all Proengin products and thanks to the flame spectrophotometry technology, MAB is running in very severe outside conditions, shows the lowest false alarm rates (negative and positive) and requires reduced maintenance. It shows such a high level of availability.

BIOLOGICAL AND CHEMICAL DETECTION TOGETHER

AP4C-FB For Critical Buildings and Areas Protection

Government premises, courts and parliaments are also more and more equipped with fixed chemical and biological detectors. AP4C-FB combines both chemical detection as for the AP4C-F, and biological alarm as for the MAB. This detector may be associated with a radiological probe, featuring the all in one full CBRN detector.

AP4C-VB

PROENGIN has recently launched AP4C-VB, the first low-side chemical and biological alarm system for mobile platform.



Thermal Imaging Technology

Low weight, low power consumption and high image resolution from ULIS



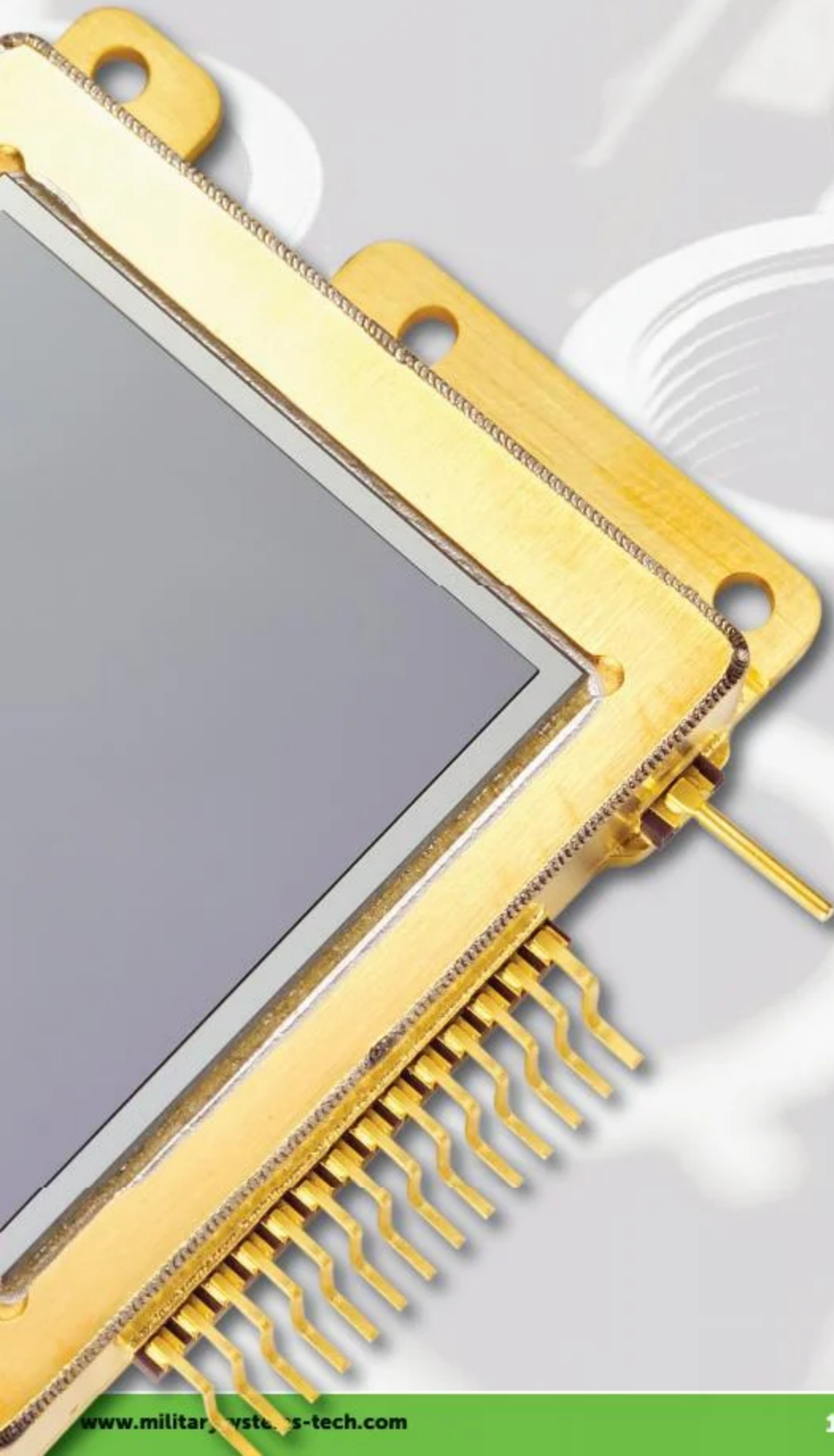
ULIS' thermal imaging technology brings distinct advantages such as low weight, low power consumption and high image resolution to military gear, including handheld goggles, thermal weapon sights, and thermal cameras used in ground vehicle situation awareness. The company currently supplies its thermal image sensors to the French army's FELIN program and Infantry Fighting Vehicles (IFV), in particular the Nexter. ULIS is also participating in two European anti-surface missile programs.

ULIS' thermal imaging sensors rely on amorphous silicon microbolometer technology to convert infrared (IR) radiation into visible images. This enables targets to be identified during the day and night, in adverse weather conditions and over distances of several kilometers, depending on the optics in the thermal camera.

Easy to use high-resolution thermal imaging products that solve SWaP-C (Size, Weight, Power and Cost) reductions mark the qualities of the ULIS brand. European Leader in Thermal Image Sensors for Military Applications

A subsidiary of Sofradir, ULIS specializes in the design and manufacture of high quality thermal image sensors for both commercial and military applications. It is the second largest producer of thermal image sensors (microbolometers). ULIS offers a targeted range of microbolometers that are the key component of many top name thermal imaging equipment sold across Europe, Asia and North America.

The high spatial uniformity of ULIS' microbolometer technology, a key parameter for high-resolution imaging,



makes its IR imaging sensors particularly effective for military applications, allowing soldiers to locate and identify targets faster and more accurately during the day and night, and through fog and smoke.

By relying on amorphous silicon, a robust and reliable semiconductor material proven for its industrial production capacity, ULIS achieves large-scale manufacturing, which is one of its differentiators in the market. This large-scale production capacity is enabling it to meet the growing demand from commercial and defense markets for IR equipment that consumes little power, lightweight and affordable.

Integration of Thermal Imaging Sensors into Military Equipment

ULIS is active in security and surveillance, energy management and in the thermography, defense and automotive markets. Hundreds of thousands of its products are used to detect threats and thereby protect property, industrial sites, national borders and commuter systems as well as military personnel in combat zones.

Size, weight, low power consumption and lower cost reductions drive ULIS innovations enabling the company to address new trends in energy efficiency for building automation and advanced driving assistance systems for vehicles.

Military Infrared Imaging Sensors - Microbolometer Technology

Thermal image sensors are made up of pixels that absorb thermal radiation. Each pixel acts like a thermometer. Each one will then increase in temperature, whereupon the temperature difference can be measured.

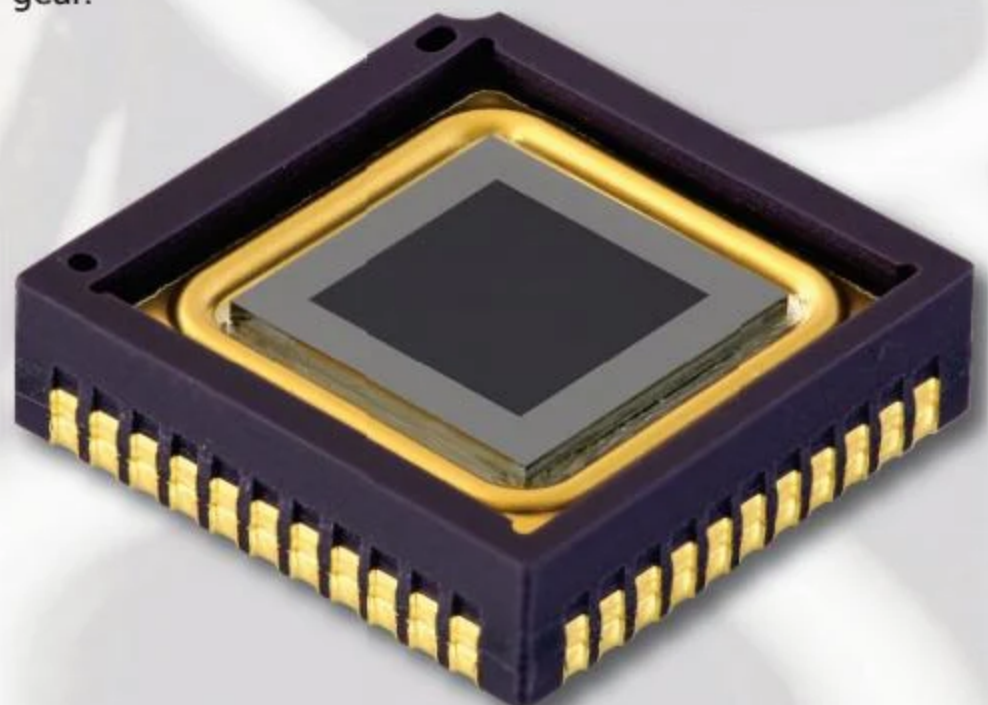
ULIS' microbolometer technology is based on this temperature variation measurement. This method of measuring temperature variation means that the sensors using ULIS' microbolometer technology do not need cooling, unlike other technologies used to produce high sensitivity IR detectors, such as Indium Antimonide. These other IR technologies require cooling to maintain the IR chip at a low temperature to counter dark current, which keeps the IR detector working efficiently. Foregoing the necessity of a cooling system makes ULIS' MEMS-based (microelectromechanical systems) sensors more affordable and highly suitable for large-volume applications. These include thermographic cameras used in building inspection and preventive maintenance, surveillance cameras, enhanced night vision driving and military applications, including handheld goggles.

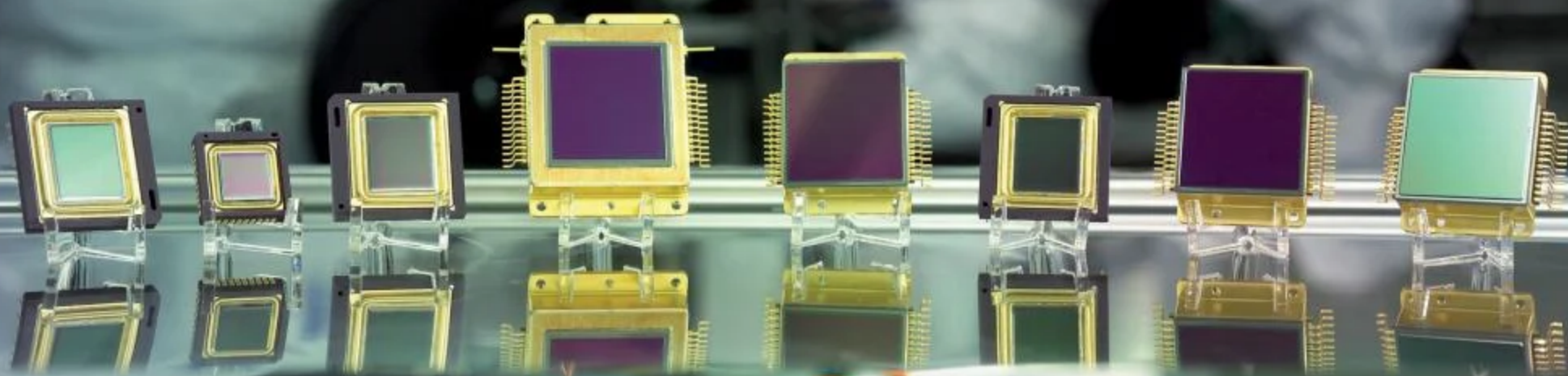


Growth and Development

ULIS was founded in 2002. It is a spin-off from CEA-Leti, a leading European micro- and nanotechnologies R&D institution and Sofradir, the global leader in cooled IR detectors. ULIS began operations with a legacy of more than 40 years of infrared technology know-how and a long-established silicon manufacturing infrastructure. Located in Veurey-Voroize, France (close to major hi-tech center Grenoble), ULIS employs 160 staff and has access to close to 500 scientists and engineers from the CEA-Leti with which it continues to have a strong R&D partnership.

ULIS is a firm on the rise. It has more than 500,000 products deployed in the field. It has experienced double-digit compound growth since its founding. The company was among one of the first to deploy its thermal image sensors in cameras used to conduct health monitoring at Asian airports during the 2003 SARS outbreak. More recently, infrared cameras using ULIS products have been used to detect high body temperatures of passengers at airport terminals who might have contracted Ebola. Today, its product lines include military-grade IR sensors that are used in handheld goggles, thermal cameras for ground vehicle situation awareness and other military gear.





ULIS' Large Format XGA Thermal Image Sensors Offer Higher Resolution and More Cost Savings

Similar to all manufacturers, the pressure to lower costs is unrelenting. Reducing the pixel pitch size while improving gains in performance has been ULIS' main thrust. It has accomplished a steady reduction in the pixel pitch size of its IR imaging sensors from 35 micron to 25 micron and then to 17-micron. ULIS was the first to introduce a 17-micron 1024 x 768 IR imaging sensors to the market. This megapixel product remains one of the largest thermal image sensor formats available. It doubled the number pixels in the array over earlier models. With smaller pixel pitch sizes come two major advantages:

- **Improved image resolution, as one can squeeze more pixels onto an IR imaging sensor.**
- **Smaller IR imaging sensors, which benefit system integrators by freeing up design space and bring cost-savings to the overall IR system.**

New Pico Gen2 brand products

ULIS Pico Gen2 products bring extra performance to military gear and professional security and surveillance cameras. The brand offers important SWaP-enhanced advantages to military equipment needing extended infrared detection range, fast target detection and tracking, while keeping power consumption low. Several

Pico products are already deployed in European and North American airborne and land vehicle applications, as well as in anti-surface missile programs.

The Pico brand also makes higher thermal image resolution simpler and faster to install in professional cameras. This is due to its use of standardized communication protocols that are compatible with commercial camera systems.

Cost-saving measures

ULIS has pioneered technologies to enable customers to have price-competitive end-products. Early on, ULIS switched from metallic to ceramic IR sensor packaging that brought significant cost-savings. In conjunction with the CEA-Leti, ULIS has developed PLP (Pixel Level Packaging), a new wafer-based vacuum packaging. With this disruptive technology, ULIS can manufacture its pixels using the same semiconductor process step as the packaging. This makes the whole production cycle more efficient. The new packaging technique is expected to bring an additional 30% in cost-savings for end-customers.

All of these advances progressively make ULIS' IR products more affordable and accessible to a wide-range of industry applications and attractive to procurers of military equipment increasingly turning to products that have their roots in the commercial world.

For more information, visit: <http://www.ulis-ir.com>

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Unit 8-11 New Forest Enterprise Centre, Chapel Lane, Totton
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HESCO® barriers to be manufactured in the UAE

Hesco Group recently entered into the Tawazun Economic Agreement/UAE Offset programme and later this year will open their first manufacturing facility within the UAE and, as part of their long-term commitment to the region, will be providing employment opportunities to UAE military veterans.

Hesco Group announced at IDEX 2017 the opening of the UAE manufacturing facility, sharing 25 years of design, technology and experience in force protection solutions to supply the immediate demands of the UAE Military and the GCC.

The new Hesco factory will be built on the Al Ain industrial area, adding a viable contribution to the surrounding commercial sector and sourcing a locally based skilled workforce to join the Hesco team, creating jobs in both factory and operations with particular interest in providing employment opportunities to UAE military veterans.

Hamish Russell, Global Business Development Manager for Hesco Group:

"We have had a fantastic relationship with the UAE Land Forces for the past 13 years and the opening of this manufacturing base demonstrates not only our long-term commitment to the region but also the ability to

supply locally manufactured products, proving our commitment to respond quickly to our clients' needs.

"The new venture as part of the Tawazun Economic Agreement will also create business opportunities throughout the region and we are all excited to see what the future brings for Hesco in the UAE."

The facility based in Al Ain will not only manufacture Hesco product aligned for military use, such as defensive barriers, elevated watchtowers and safe haven bunkers, but Hesco will also use this as an opportunity to further develop their growing reputation for providing high security products, which includes the patented surface-mounted HVM barrier; TERRABLOCK™ XT.

About Hesco

Hesco (www.hesco.com) is a world leader and innovator in defense, perimeter protection and security systems, including defensive barriers, flood barriers, rapid deployment systems, safe haven bunkers and ballistic resistant body armor.

Hesco is synonymous with force protection and is recognized across its industry for its commitment to saving lives, property and the environment, whenever and wherever it is needed.

More about TERRABLOCK XT

TERRABLOCK XT is a patented, rigid faced, anti-climb security fence with surface-mounted technology proven to stop a 15,000lb hostile vehicle travelling at 50mph to ASTM specifications.

The aesthetic appearance of XT is one of its key advantages that will allow it to integrate unobtrusively into natural and built environments and, completely modular, it can create barriers of limitless length.



L3 WESCAM to Open Authorized Service Center in Saudi Arabia

L3 WESCAM announced today that it will sign a long-term Service Center Agreement with Taqnia Defense and Security Technology Co. (DST) to open a WESCAM Authorized Service Center (WASC) in Riyadh, Kingdom of Saudi Arabia. The contract is scheduled to be signed tomorrow at the International Defence Exhibition and Conference (IDEX 2017) being held February 19–23 in Abu Dhabi, United Arab Emirates. The actual signing will take place in the L3 Technologies stand, 01-C16, at 12:00 p.m. local time.

DST is wholly owned by Saudi Development and Investment Technology Company (Taqnia), which is 100 percent owned by the Saudi Arabian Public Investment Fund (PIF). DST's objectives are to establish, develop, produce, and transfer defense and security technologies in cooperation with strategic international and national partners. This further enhances capabilities on a commercial suitability basis in supporting sustainable growth of the Kingdom of Saudi Arabia's GDP and in turn diversifies the economy and creates high-quality jobs.

"The addition of DST as an authorized service center is a testament to our commitment to further expanding our in-service support infrastructure on a global scale," said Mike Greenley, President of L3 WESCAM. "Together with DST's in-country experience and dedication to customer satisfaction, we will provide regional customers with an unmatched support capability across the Kingdom of Saudi Arabia."

"The Service Center Agreement between L3 WESCAM and DST is an important first step toward a growing collaboration that includes future co-production and systems development activities. It also showcases continuing efforts by the Kingdom of Saudi Arabia toward meeting

the national 2030 vision for greater industrial diversification," said Dr. Hamad Al-Yousefi, CEO of DST. "We look forward to maintaining L3 WESCAM's portfolio of products while providing exceptional service to its regional customers."

The DST WASC will provide customers in Saudi Arabia and the region with an advanced in-country maintenance

and repair capability for MXTM-Series electro-optical and infrared (EO/IR) systems designed for airborne, land and maritime domains. The DST facility will be equipped with a thermal chamber, laser test room, collimator for optical alignment, and all other equipment necessary to ensure MX repairs can be performed in-country.

As its installed base of EO/IR systems and integrated solutions continues to grow, L3 WESCAM is expanding its global service footprint. To date, L3 WESCAM has opened 14 WASCs worldwide, with additional sites planned for the near future.





...Now in Colours!

New Peli™ Air Cases in Yellow, Orange and Grey. Up To 40% Lighter.

After the successful launch of the innovative Peli Air range, the lightest protective cases on the market today, Peli Products – the global leader since 1976 in the design and manufacture of high-performance protective cases and advanced lighting solutions – expands the product line to offer colour models aimed at diverse industries ranging from fire & rescue, safety and aerospace to OEM, industrial, photography and entertainment.

The new Peli Air colour versions in yellow, orange and grey are available in five long- form, travel-ready sizes. With the busy traveller in mind, the 1535 Peli Air case (Wheeled Carry On) complies with current airline size regulations*. Other models in colour are the medium-sized 1485, 1525 and 1555, and the large-sized 1605 cases.

What is behind Peli Air's lightness?

The Peli Air cases have been engineered to maintain the same standard of durability as the Peli classic or Peli Storm lines, but reducing the weight of each case by up to 40 percent. Peli's engineering team faced the challenge of building lightness into every facet of the design without compromising Peli's renowned durability.

By working with a team of materials scientists, Peli built the lightest protective cases on the market today, constructed of premium lightweight HPX2 resin, the next generation of Peli's proprietary formula that rebounds to stress without breaking. Each case passes the same rigorous performance tests (impact, drop, submersion, high and low temperature) that Peli has proven during more than 40 years.

The new models in colours are available empty or with Pick N Pluck™ foam inside, a manually customizable cubed foam, and are backed by the Peli's legendary lifetime guarantee (where applicable by law). For more information: <http://peli.com/>



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DESTROY SHADOWS

IWA 2017 - Hall 9 / Stand 9-530



PELI™ 7100
695 lumens
Ultra-Compact
Battery Indicator



PELI™ 7600
944 lumens
3 LED: White/Red/Green
Battery Indicator



PELI™ 7607
HOLSTER & WAND KIT
Nylon holster & Wand
Accessory Kit

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19-23 FEBRUARY 2017
ABU DHABI NATIONAL EXHIBITION CENTRE - ADNEC
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**SAKER
FUSED**



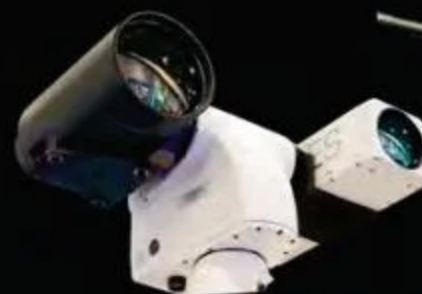
KITE IN LINE



DRAGON-C 640



DRAGON-S



HADES
Medium Wave
Infrared Continuous
Zoom Camera



PANTHIR
Long Wave
Continuous Zoom
Thermal Camera



SAKER Fused



KITE IN LINE Night Vision



DRAGON Thermal

FROM CWS TO FTS - SUPPLYING THE BRITISH ARMY FOR OVER FOUR DECADES

DESIGN | DELIVER | SUPPORT

IMAGE INTENSIFIED | THERMAL | FUSED - SIGHTING SOLUTIONS

- Supplying the British Army for over four decades
- Over 100,000 sights supplied to over 56 countries worldwide
- Fully ruggedized equipment utilising the latest technology

DRAGON • Uncooled Thermal Imagers



C S MULTI SR MR LR

MERLIN • Image Intensifiers



C SR MR LR

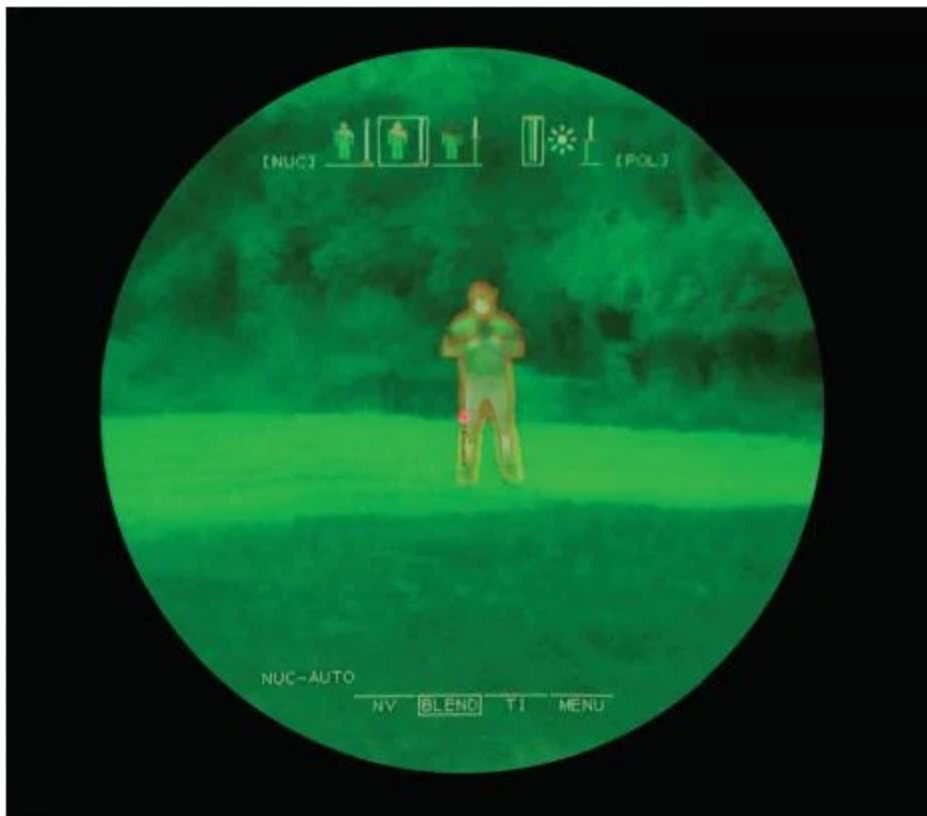
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TeamArmy
GOLD MEMBERSHIP

Qioptiq wins £82 Million contract from UK MOD

At the IDEX trade show in Abu Dhabi this week, UK Minister Harriett Baldwin has announced the award of an innovative £82 million contract to Excelitas Technologies' wholly owned subsidiary Qioptiq. The award will see Qioptiq in St Asaph, North Wales provide support for surveillance and targeting equipment to the UK Armed Forces over the next six years. This will ensure vital equipment is available to UK personnel around the globe.





Excelitas' Qioptiq is a world leader in the development and supply of image intensified, thermal and fused sighting and surveillance systems, with over 100000 sights supplied to over 56 countries. Work under the new Surveillance Target and Acquisition Support (STAS) contract will merge 20 individual support contracts into one saving the MoD £47 million over the next six years.

Secretary of State for Wales Alun Cairns said: ***"This massive contract for Qioptiq underlines Wales' reputation as a world leader in the defence technology sector."***

Welsh Government will continue to play a pivotal role in supporting the growth and expansion of Qioptiq in St. Asaph, North Wales by investing £2.5m in a new purpose designed facility for the company, Economy Secretary Ken Skates announced today. Skates said: ***"Winning this major contract is hugely significant for Qioptiq and for North Wales. Qioptiq is one of our key Anchor companies working in a priority sector and is one of the most dynamic and innovative companies in Wales."***

Peter White, Managing Director at Qioptiq said ***"we are delighted that we have received this major contract from UK MOD to support equipment vital to the safety of our soldiers in front line operations. The support from Welsh Government and the hard work, capability and commitment of our employees were the key factors in our success. We look forward to continuing the successful relationship we have with UK MoD and supporting our troops with this important contract."***

Doug Benner, Excelitas Executive Vice President Defence and Aerospace said ***"it is an honour to be selected for the STAS contract. We appreciate the confidence the UK MoD has placed in us. This selection will allow us to continue the mission of ensuring STA equipment is available to the End User when needed. Whether serving defence ministries around the world or meeting the critical requirements of the world's***

largest defence prime contractors, Excelitas' Defence and Aerospace mission is "Keeping our Troops Safe" with the best technology/products/services."

The contract covers equipment used right across the UK Armed Forces delivering capability to all three front line commands. Chief Executive Officer of the MoD's Defence Equipment and Support organisation, Tony Douglas said: ***"Crucially, the STAS contract, will deliver improved support to Her Majesty's Armed Forces."***

Excelitas' Qioptiq is a recognised, first-tier supplier to many of the defence and aerospace sector's leading companies with a product range that includes some of the most sophisticated advanced optical technologies ranging from Night Vision Sights... to Head Up Display Optical modules... through to Space Components. Excelitas Technologies is a US corporation with locations throughout Europe, Asia and North America employing more than 6000 people. It employs over 550 people in North Wales on two sites at St Asaph and Bodelwyddan.

IDEX is a biannual international defence exhibition and conference held in Abu Dhabi, the capital of the United Arab Emirates. The United Kingdom has supported IDEX since its inception.





Aircraft shelters fly into action at RAF Coningsby Typhoon trial ‘BUZZARD’S NEST’

Rubb Military aircraft shelters played a pivotal role in the environmental trial of Typhoon aircraft at RAF Coningsby, UK.

The trial was a success and advantageous to all parties, with the Typhoon Force proving the viability and benefits of utilising small aircraft shelters in military operations. It also provided 5001 Squadron with an invaluable opportunity to train new personnel in TWE construction on a Fast Jet operating base, while still being within easy reach of home base.

5001 Squadron has supported many UK military operations around the world. The squadron's core capability, to rapidly construct aircraft hangars and other items of Technical Working Environments (TWE) at austere locations, has been a key enabler for deployed forces and continues to be in high demand. The TWE installations included a large number of Rubb Expeditionary Forces Aircraft Shelter System (EFASS) structures. 5001 Squadron constructed four 20.4m span structures for the 'BUZZARD'S NEST' trial at RAF Coningsby.

MoD figures from the 'BUZZARD'S NEST' trial revealed that the Rubb shelters help deliver a tangible increase in available sorties (by more than 10%) and a decrease in aborted sorties. The trial reaffirms the belief that TWE substantially decreases the maintenance cost of aircraft and also increases the amount of hours aircraft can fly due to less maintenance downtime.

Rubb Managing Director Ian Hindmoor said: "Once again we are extremely proud that our Rubb Military aircraft shelters have played a key role in supporting UK defence operations. This trial proves that use of TWE is helping to decrease

aircraft maintenance costs and maintenance downtime. We will continue to improve our hangars and services to ensure the best value and product life-time cost savings for our clients."

Rubb's Expeditionary Forces Aircraft Shelter System (EFASS) is designed to be rapidly deployed, providing reliable, durable and field maintainable fabric engineered structures for difficult terrain and harsh climatic conditions. Demountable, relocatable and reusable, EFASS aircraft hangars, sunshades, shelters and warehouses are available in three spans with multiple door options. Rubb Military fabric buildings can be equipped with gantry crane technology. Structures pack into 20ft ISO containers for transport.

The Rubb Military team will be highlighting all the latest product developments and project news at Stand 06-A31, UK Pavilion, IDEX 2017, ADNEC, Abu Dhabi, from February 19 until February 23. For more information please visit www.rubbmilitary.com

Rubb Sales Manager Andy Knox said: "There is significant interest in our hangar systems in the defence sector in the Middle East, with a growing emphasis on expeditionary and surveillance operations. We have noted growth in procurement activity for fast jets and rotorcraft, and in turn we have seen regarding our rapid deployment hangars grow in areas such as the UAE, Saudi Arabia, Iraq, Oman, Kuwait and Qatar. We are interested in exploring these opportunities further and meeting potential new clients, as well as some familiar faces at IDEX."

Rubb shares construction expertise with Royal Air Force squadron

Members of an RAF Air Combat Support Unit took part in a training course, which was delivered by Rubb Military staff.

5001 Squadron is responsible for the rapid construction of Temporary Working Environment (TWE) and the installation of Portable Aircraft Arrestor Gear (PAAG). TWE provides environmentally controlled facilities, including Rubb military structures, for fast jet or rotary assets and has been supporting deployed exercises and operations in the Middle East, Afghanistan, Europe and the Falkland Islands.

5001 personnel regularly attend training sessions at Rubb Buildings' Gateshead factory on all aspects of installing Rubb Military buildings and accessories at bases and in theatre. 5001 Squadron members recently learned all about Heli-Door and crane technology for the Expeditionary Forces Aircraft Shelter System range.

The formal training plan included the dismantling, construction, testing and maintenance of the EFASS Heli-Door system fitted to the 25m span EFASS structure. Course instructor David Cromarty directed the crew regarding dismantling and erection procedures along with the corrective and preventative maintenance tasks associated with the Heli-Door.

Rubb provided installation and maintenance technical publications for the duration of the training course, however the course content was hands-on and practical, with attendees carrying out relevant tasks and procedures throughout the programme of the course.

The five-day course also covered tasks relating to the internal crane system. 5001 members carried out the re-fit, pre-test maintenance and load test procedures on the crane.

Lee Clayton, from the Operational Infrastructure Programme (OIP) / Technical Working Environment Support (TWE) at Defence Equipment and Support (DE&S), said: "We came here for some hands-on training and support. 5001 have been learning to deconstruct and construct the Heli-Door

and carry out maintenance. It is a bit of a learning curve but they are learning from the expert – Davy has years of experience with these structures that we can benefit from."

Rubb can provide specific courses to suit all clients' needs. Sessions can also include building framework, construction and fabric installation, with sessions providing a high level of expertise and more than 40 years' experience in the field. Advisers are also available to work alongside teams at requested locations overseas.

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RUBB
Military Buildings

DESIGNED TO DEFEND

Strong durable rapid construct aircraft hangars

Rubb's Expeditionary Forces Aircraft Shelter System is uniquely suitable for the military and aviation services, designed to be rapidly deployed and erected anywhere in the world. With unmatched relocatable buildings in action across the globe, Rubb has the ideal solution for storage and maintenance requirements.

Span sizes

Multiple hangar spans: 11.1m (36ft), 20.4m (67ft) and 25m (82ft)



Packing

Complete EFASS range of military buildings packs into 20ft ISO shipping containers.



Construction

Structures can be quickly built without additional mechanical plant



Strength

Withstands wind and snow loads to UK Defence Standards



Usage

Fully demountable for future storage, relocation and construction cycles





Fabric

Double skin insulated PVC fabric cladding is fire retardant and can be easily repaired.



Handling

Components can be unpacked, constructed, dismantled and repacked by military personnel



Access

State-of-the-art hangar doors available including Heli-Door, Trident and Roller Shutter options



Framework

The EFASS hangar aluminium framework has been designed to maximise strength, minimise weight and still be robust enough to withstand multiple construction procedures in challenging environments.



Military Buildings

excellence in engineering



Timoney to supply further modular driveline systems for Yugoimport Lazar 8 x 8s

Yugoimport-SDPR is building a further batch of Lazar 3s, which will be fitted with the Timoney designed T900™ modular driveline systems. The new drivelines will be delivered during the middle of 2017 and the actual vehicles soon afterwards.

The Lazar is designed to operate where high mobility and tight turning circles are a key part of the vehicle's requirement, such as in urban operations, medium level armed conflicts, anti-terrorist and peacekeeping operations. "The supply chain for the T900™ demonstrates our technology transfer model. Having designed and proven the T900™, we will be working with our key production partner, Texelis of France, to supply the units to YugoImports," said Shane O'Neill, Chief Executive Officer of Timoney.

"It is this method of operating which has put us in a very sound position as we celebrate this year 50 years of supporting AFV manufacturers around the world," added Mr O'Neill.

The T900™ is designed for vehicles requiring a 9000kg

weight load on each axle and includes the Timoney double wishbone suspension system to provide a high mobility capability to the vehicle. The modular T900 can be matched with Timoney's transfer cases, or those from other suppliers, and steering systems or be part of a complete under the hull mobility solution designed by the company.



Celebrating 50 Years of Automotive Engineering Excellence



Timoney Technology, IDA Technology Park, Johnstown, Navan, Co. Meath, Ireland
timoneygroup.com



NIMR launches latest armoured logistics vehicle at IDEX 2017, showcases high mobility water resupply application with WEW

NIMR Automotive, a subsidiary of the Emirates Defence Industries Company (EDIC), unveiled its latest vehicle platform, the HAFEET 620A at the International Defense Exhibition and Conference 2017 in Abu Dhabi. A WEW 2.3m³ water tank with its own pumping and UV radiation module has been mounted to the armoured 6x6 utility and logistics vehicle.

The collaboration between NIMR and WEW/Thielmann demonstrates a highly mobile and flexible means of providing water for patrols operating in remote areas.

Dr. Fahad Saif Harhara, CEO of NIMR Automotive, said: ***"Today's threat environment no longer affords the ability to have soft-skin logistic support vehicles behind the front-lines due to multiple attack fronts. The NIMR HAFEET 620A ensures critical front-line support is maintained whilst ensuring the safety of logistic personnel. Equally, the collaboration with WEW is a prime example of how we can customise our vehicles to address a wide range of operational requirements."***

The HAFEET 620A is a highly mobile 6x6 protected vehicle which provides the essential combination of payload, mobility,

and protection. It features a two-man cabin and a large cargo bed, designed to optimise payload capacity for the integration of various systems, such as the WEW 2.3m³ water tank.

The stainless steel WEW tank can be fitted with a variety of pumping, preservation and chiller systems to provide cool water whenever required. The WEW tank on display was a 10ft BiCon configuration utilising international standard locking bolts. Similar systems are available for the transport of fuels allowing for resupply during extended operations.

The HAFEET 6x6 is a multipurpose 15,000kg gross weight platform which can be configured in a variety of roles from utility to a fully protected patrol vehicle. In the utility role it has a payload of up to 5,000kg. Common to all variants is a universal 6x6 chassis for a common logistic footprint to minimise the training, maintenance and spare parts inventory. All variants in the HAFEET Class can be supplied in both protected and unprotected versions, with the protected range fully certified to international standards.



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