

M

MILITARY SYSTEMS & Technology

www.militarysystems-tech.com

The Defence Suppliers Directory Magazine

IDEX 2019

INTERNATIONAL DEFENCE
EXHIBITION & CONFERENCE

ABU DHABI, UAE

25
ANNIVERSARY
لإحياء الذكرى



**IDEX 2019 SPECIAL
FEATURING...**

**HORSTMAN
QIOPTIQ
PELI
PYSER**

CRITICAL SOLUTIONS

SCHROTH

FAUN TRACKWAY

SOLIFOS

3M

**...& MUCH
MORE**

25
ANNIVERSARY
الخمسة والعشرون



IDEX 2019

INTERNATIONAL DEFENCE
EXHIBITION & CONFERENCE

ABU DHABI, UAE

DEFENCE TECHNOLOGY FOR THE FUTURE

The Middle East and North Africa's largest defence and security exhibition returns to Abu Dhabi in February 2019.

VISITORS REGISTRATION IS NOW OPEN!

The global defence industry will continue to meet influential VIP's, decision makers, military personnel and key investors at IDEX 2019. Attracting more than 1,235 exhibitors and 105,000 local, regional and international trade visitors and officials from government industry and armed forces.

For detailed information about IDEX 2019, please visit www.idexuae.ae

To book an exhibition stand or outdoor space, please email:

shahla.karim@adnec.ae or
rashed.alkaabi@adnec.ae

17-21 FEBRUARY

idexuae.ae

Strategic Partner



Principal Partner



Organised By



Host Venue



In association with



Platinum Partner



Gold Partner



Official Healthcare Provider





Welcome to this
special **IDEX 2019**
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.

T +44 (0) 1398 351606

E sales@militarysystems-tech.com

W www.militarysystems-tech.com

CONTENTS

- 4 IDEX 2019** - International Defence Exhibition & Conference
- 14 Horstman** - Engineering Integrity
- 18 Qioptiq** - Enhanced Identification ranges to support 24hr sharpshooter and sniper engagements
- 20 3M** - The Need for Integrated Communications in CBRNe Operating Environments
- 24 Peli** - Pelican-Hardigg presents its repeat-use transport solutions for Defence at IDEX
- 34 Pyser** - Pyser Optics introduce the 'must have' optical device for Marksmen - 'Quick Zero'
- 52 Critical Solutions** - Single Purpose vs Multi Purpose - Replacing Conventional Explosives
- 64 SCHROTH** - SCHROTH Mine Blast & Utility Seat Systems
- 68 Faun Trackway** - Improving mobility in the world's harshest terrains
- 72 Solifos** - SOLIFOS AG is Switzerland's leading cable producer

Plus contributions from...

TEXELIS
MARSHALL
HGH INFRARED SYSTEMS
COBHAM
POLYAMP
HESCO
WEW
WILL-BURT
GUARTEL
ELECTRO OPTIC SYSTEMS
PEARSON ENGINEERING
CUMMINS
FIRST TACTICAL
RUBB
WARTSILA
ADVENTURE TACTICAL
BCB INTERNATIONAL
JFD



معرض و مؤتمر الدفاع الدولي INTERNATIONAL DEFENCE EXHIBITION & CONFERENCE 17-21 FEBRUARY 2019 فبراير 17-21

ABU DHABI NATIONAL EXHIBITION CENTRE (ADNEC), UNITED ARAB EMIRATES - الامارات العربية المتحدة - مركز أبوظبي الوطني للمعارض (ادنيك)



IDEX 2019

INTERNATIONAL DEFENCE
EXHIBITION & CONFERENCE

ABU DHABI, UAE

INDEX 2019

DEFENCE TECHNOLOGY FOR THE FUTURE

In 2019, the attention of the world's defence and security industry will be on Abu Dhabi, as it stages the 14th edition of the International Defence Exhibition and Conference (IDEX).

IDEX 2019 has the prestigious honour to be held under the patronage of His Highness Sheikh Khalifa Bin Zayed Al Nahyan, President of the UAE, and is organised by IDEX LLC (an ADNEC Group Company), in association with the UAE Armed Forces GHQ.

IDEX 2019 will feature the 5th edition of NAVDEX, the maritime security show that was first launched during IDEX 2011, and quickly evolved to become the largest naval defence and maritime security exhibition in the region.

IDEX and NAVDEX demonstrate the latest technology across land, sea and air sectors of defence. It is a unique platform to establish and strengthen relationships with government departments, businesses and armed forces and in 2017 attracted 1,235 exhibiting companies and over 100,000 attendees.

IDEX is a very, very important show and exhibition for us. It is actually a reflection of our industrial defence capabilities. This growth has been immense, but you know what - if we hadn't had a platform like IDEX to bring all those technologies together in the beginning and showcase our capabilities, we wouldn't be here today to talk about being the biggest defence industry company in the Middle East and we want to show it here in IDEX.

HOMAI AL SHEMMARI

Chief Executive Officer,
Mubadala Aerospace & Engineering Services
and Chairman of the Board,
Emirates Defense Industries Company (EDIC)

IDEX 2017

IN FIGURES



1235
INTERNATIONAL
EXHIBITORS



133,000 M²
EXHIBITION &
DISPLAY AREA



57
COUNTRIES
PARTICIPATING



33
NATIONAL
PAVILIONS



+172
OFFICIAL
DELEGATIONS



+100,000
ATTENDEES



800
LOCAL &
INTERNATIONAL
MEDIA



STRATEGIC
PARTNER:
EDIC



HIGHLIGHTS OF IDEX 2017



OPENING CEREMONY

Under the patronage of His Highness Sheikh Khalifa bin Zayed al-Nahyan, President of United Arab Emirates officially launched IDEX. The opening ceremony took place on the grand stand and witnessed the presence of VIPs and international delegations from more than 150 countries.

HIGH PROFILE AUDIENCE

IDEX 2017 attracted over 100,000 attendees from across the world with a concentrated number of visitors from the surrounding regions of the Middle East, Africa and the Asian subcontinent.

OFFICIAL DELEGATIONS

Hosted by the UAE Armed Forces, the official delegations represented more than 172 countries from around the world, and include individuals and representation from **Defence Ministers, Chiefs of Staff** and **Army, Navy and Airforce Chiefs**.

LAND, AIR & WATER DEMONSTRATIONS

Covering an area of 32,000 sqm, live demonstrations at IDEX and NAVDEX provide the opportunity to demonstrate products on land and sea in front of a relevant audience.

IDEX DEFENCE CONFERENCE

With over 500 senior defence executives including Ministers, Chiefs of Staff, land forces and naval commanders from around the world, the event is the most important defence conference in the region.

CO-LOCATED WITH NAVDEX

NAVDEX, the premier naval defence and maritime security exhibition for the Middle East and North Africa region takes place at ADNEC, at the same time as IDEX. Located on the waterfront at the ADNEC Marina, the event showcases the latest in naval, maritime and coastal security technology, equipment and crafts.



ADNEC

IDEX 2019 VENUE

IDEX is one of the most important exhibitions in the world. There are plenty of delegations, and opportunities and for us it provides a fantastic opportunity.

ALBERTO GUTIERREZ
Eurofighter

IDEX takes place at the Abu Dhabi National Exhibition Centre (ADNEC), which is centrally located in Abu Dhabi, the capital of the UAE. The state-of-the-art exhibition centre is the largest centre of its kind in the Middle East, and includes:

- **12 INDOOR HALLS**
- **CENTRAL CONCOURSE**
- **ATRIUM AREA**
- **OUTDOOR CAPITAL PLAZA**
- **HOSPITALITY SUITES**
- **STATE-OF-THE-ART MEDIA CENTRE**
- **OPENING CEREMONY STAGE**
- **LIVE DEMONSTRATIONS MOBILITY TRACK**
- **NAVDEX EXHIBITION HALLS**
- **ON-WATER BERTHS**
- **FOOD & BEVERAGE OUTLETS**

The IDEX exhibition utilizes 100% of the exhibition centre utilising 133,000 sqm of event space, including:

- 12 indoor air-conditioned halls, the concourse and atrium spaces
- The central outside area, Capital Plaza with outside displays and exhibition stands/pavilions
- A purpose-built demonstration track located in front of the ADNEC Grandstand
- 35,000 sqm of event space at the ADNEC Marina with a 500 m quay wall and berthing pontoon for smaller craft
- Dock-edge area featuring: NAVDEX exhibition halls, ships berthed at the Marina, crafts and vessels berthed on temporary pontoons and on-water live demonstrations

EXHIBITION OPPORTUNITIES

IDEX continues to attract a growing number of international decision makers from within the defence industry, from governments, armed forces and senior military personnel. Strong representation from GCC and the wider international community make IDEX the prime platform to reach such an important audience.

WHY EXHIBIT?

IDEX is the ideal platform for us to look for new partners in order to grow and develop a product that can be sold abroad and locally.

ALI AL YAFEI
CEO, ADASI

- POSITION YOUR COMPANY AS A LEADER IN DEFENCE TECHNOLOGIES AND SOLUTIONS TAKE A LEADERSHIP ROLE IN THE DEFENCE AND SECURITY MARKET
- GAIN ACCESS TO GLOBAL LEADERS, POLICY AND DECISION MAKERS
- PROMOTE YOUR TECHNOLOGIES AND PROJECTS TO A RELEVANT AUDIENCE
- REACH THOUSANDS OF PRIME CONTRACTORS, 2nd TIER SUPPLIERS AND INTERNATIONAL DELEGATIONS AND BENEFIT FROM GLOBAL MEDIA COVERAGE



EXHIBITING OPTIONS



INDOOR SPACE ONLY

Will comprise of an indoor area for larger stands and offers the maximum opportunities for creativity and exhibition for stand design and branding.



HOSPITALITY SPACE CAPITAL SUITES

Perfect for private meetings, presentations or corporate hospitality. The indoor Capital Suites are located around the Concourse (1st floor).



INDOOR SHELL SPACE

A minimum 9 m2 shell scheme stand comprises the space, carpet, walls, spot lights, electricity sockets, name board and furniture.



OUTDOOR SPACE

The space will comprise of an outdoor area and offers great stand visibility and a flexible display area for your products.

TAKE ADVANTAGE OF THE UNIQUE SPONSORSHIP OPPORTUNITIES:

- Diamond Sponsor
- Platinum sponsor
- Gold Sponsor
- Delegation Lounge sponsor
- Exhibitor Gala Event
- IDEX Conference Sponsor
- Media Centre
- Media Pack
- IDEX E-Newsletter
- Wayfinding Digital Screens
- Event Wi-Fi
- Internet and Mobile Charger Kiosks Sponsors
- Information Booths Sponsors
- Mobile App Sponsor
- Visitor Carrier Bag Sponsor
- Exhibitor Welcome Pack
- Water Branding
- Exhibitor, VIP & Media Car Park Passes

UAE VISION. GLOBAL HORIZONS





Horstman

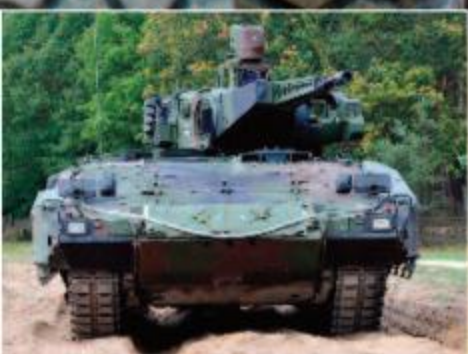
Engineering Integrity





Horstman

With a time tested pedigree in design, development, project management and high quality manufacture, Horstman is the pre-eminent mobility solution provider in the global heavy armoured and tracked vehicle suspension market.





Horstman design, develop, deliver and support high-performance military vehicle suspension systems worldwide for the life of the vehicle.

Horstman is a British company with a global focus - specializing in design and manufacturing with an unrivalled domain experience in heavy armoured vehicle suspension. Boasting a time-tested pedigree in innovation, product development and defence management, Horstman are world leaders in the heavy armoured and tracked independent vehicle suspension systems.

With 140 employees in the UK, US and Canada, we are a high value added, innovative engineering business with a global footprint in both customer base and supply chain that provides a quality, technically excellent offering to solve customers' problems, throughout the product lifecycle.

The defence heavy armour business has arduous development and testing cycles to ensure that the serving soldier has the best combination of armour, firepower and mobility that they deserve; Horstman provides this balance to our customers - having built our talent base over decades from a combination of industry experts, service veterans and continuous investment in apprenticeships, graduates and training.

Recognised by armoured vehicle designers worldwide as the benchmark for excellence in the field, Horstman works with more than 18 blue chip prime contractors and government R&D centres alike and our systems are in service in more than 28 countries worldwide. Horstman provides a strong systems engineering and design capability in hydropneumatic suspension, electronic and electro-hydraulic active vehicle ride management systems and has a strong supporting capability in safety critical high integrity manufacture (military thermal management, aerospace, and titanium components for sub-sea systems).



Horstman

UK: Bath, England

US: Sterling Heights, Michigan

Canada: Toronto, Ontario

T: +44 1225 423111

E: information@horstmangroup.com

www.horstmangroup.com

Horstman business strength lies in its foundation, its capabilities and the synergy of the multiple sectors and countries that our products are active in. Some of our products and capabilities include:

- **Hydropneumatic systems**
- **Hydraulic rotary dampers**
- **Conventional spring/damper systems**
- **Vibration isolation (seating, equipment)**
- **Gearbox and ancillaries**
- **Military Grade Air Conditioning Units**
- **Auxiliary Power Units (APU's)**
- **Air-hydraulic pumps**
- **Gas charging booster systems**
- **RPV landing gear**
- **Support equipment such as test rigs and associated equipment; track tensioners and hydraulic rams**
- **Torpedo hull & structures**
- **Non-magnetic actuators**
- **Instrumentation**
- **Commercial security and mining vehicles**
- **Globally deployed**

Horstman Suspension Evolution



Horstman proudly boasts the world's widest range of Hydrostruts® with retraction, lockout, ride height and semi/active systems



IDEX2019INTERNATIONAL DEFENCE
EXHIBITION & CONFERENCE

UK Pavilion: 05-C26

Enhanced Identification ranges to support 24hr sharpshooter and sniper engagements.

In-line Weapon Sight for sharpshooter and sniper applications.

Clip on systems for Sharpshooter and Sniper weapon platforms are increasing in demand as armed forces push to achieve greater target identification ranges during night-time and adverse weather conditions. With weapon systems and operators capable of engaging targets at extended ranges during the day, the aim is to match that capability at night.

As a principal designer and manufacturer of infra-red, image intensified and fused night vision equipment supplying the worlds militaries – with more than 100,000 individual night sights in service with over 58 different countries. Qioptiq has recognised the recent shifting trend to the In-Line configuration. This gives the User the ability to retain his conventional optical day sight, rather than replace it, and therefore retain the zero and other MMI settings that the User is familiar with.

The **DRAGON-S12** is the new In-line Thermal Sight designed specifically for sharpshooter and sniper Applications. Part of the latest development in thermal imaging technology from Qioptiq the sight provides snipers with 24hr surveillance and target engagement capability - utilising a state of the art 640x480 format 12µm, 60Hz uncooled thermal sensor coupled with a near silent shutter, delivering

class leading sensitivity and uniformity and delivers world leading performance and reliability.

DRAGON-S12 attaches to Picatinny and NATO accessory rails in front of the day sight via a quick release throw lever, providing 24hr capability without the need to remove or re-zero the day sight.

We deliver a range of world leading weapon sights for a wide variety of platforms including individual assault weapons, light support weapons, crew-served weapons, anti-tank/anti-materiel weapons, and specialised sniper applications, using image intensifying, thermal and Fused imaging technology. Looking at Image Intensified sights for sniper



EXCELITAS

TECHNOLOGIES®

QIOPTIQ
Photonics for Innovation
An Excelitas Technologies Company

applications we move to the **MERLIN-LR** (Long Range). This is a lightweight night vision adaptor for military and law enforcement operators who want to retain the use of their existing day scopes.

MERLIN-LR is part of the MERLIN family of Night Vision Products from Qioptiq utilising the latest optical technologies to deliver world leading performance and reliability and can be fitted with a wide range of standard and autogating image intensifier tube variants from US and European manufacturers.

This is a high resolution collimated night sight for use in front of an existing day sight, providing the user

with a 24 hr capability and can be installed and removed without the need for re-zeroing.

MERLIN-LR ensures a high night time first round hit probability and attaches via a quick release mount onto either a primary or secondary picatinny rail attached to the weapon (other mounting options are available).

Whatever the requirement, Qioptiq stands ready to support our armed forces with the latest mission critical equipment.

www.qioptiq.com



Communicating under Pressure

The Need for Integrated
Communications
in CBRNe Operating
Environments



David Crouch is Global Subject Matter Expert for Military and Civil Defence for science-based technology company, 3M and is a professional chemist, with more than 25 years' experience in the fields of materials science and CBRN protection. He is visiting professor at the Defence Academy of the United Kingdom (Cranfield University-Defence & Security) and is also the chairman of CBRN-UK (www.cbrn-uk.com), the UK industry's specialist CBRN interest group.



Dealing with Improvised Explosive Devices (IEDs) that contain Chemical, Biological, Radiological or Nuclear (CBRN) agents is a growing threat to most developed nations.

For example, the Organisation for the Prohibition of Chemical Weapons (OPCW) found that chlorine had been "released from cylinders by improvised devices" in the town of Saraqeb in northern Syria in February of this year [1]. Although not strictly classified as a chemical weapon any longer under the chemical weapons convention, the use of chlorine IEDs in Syria has not been an isolated case and further instances have been documented in other countries such as Iraq [2] and Indonesia [3]. While improvised in nature, handling these deadly weapons is no simple matter. It entails detection, analysis and precise identification of these improvised threats, defusing and separating the explosive from the CBRN elements and, finally, safely disposing the components. According to the European Defence Agency [4], dealing with threats, where a CBRN material is delivered via an improved explosive device (CBRNe), requires a range of enablers, namely

1) Detection, identification and monitoring capabilities to forewarn personnel of hazardous agent concentrations and provide additional information on the type and nature of the hazard, as well as continuously monitoring the hazard over time;

2) Warning and reporting capabilities for the rapid collection, evaluation and dissemination of data about CBRN incidents, including prediction of hazard areas;

Individual and collective protection, e.g. Respiratory Protective Equipment (RPE) or Bomb Suits, etc., which enable personnel to survive incidents and to continue operating in a IED/ CBRN environment.

The extensive telecommunications networks and CBRN detection systems utilised by most western nations ensures that enablers 1 and 2 can be swiftly determined for any CBRNe event. Combined with urgency and a need for quick action should such an event take place, the importance of effective communication during such an event, including identification of challenges and possible pitfalls before crises occur, goes without saying.

Any CBRNe event would not only require cooperation between governments, counter-terrorism officials and counter-proliferation agencies through effective communication, it would also necessitate changes in the requirements for, and capabilities of, CBRNe Personal Protective Equipment (PPE) as the CBRNe threat changes. As while enabler 3 above, e.g. the PPE ensemble, is there to save life and prevent injury, it must also enable the first responder to carry on and do their job in a contaminated or hostile environment. If the chosen PPE ensemble cannot allow enablers 1 and 2 to be delivered in a timely and effective manner, then lives could potentially be put at risk - through a delay in dealing with an IED on a timer circuit, for example. Therefore, when considering PPE choices for a CBRNe event, we must always consider the holistic approach. Do the first responders' bomb suits integrate effectively with their CBRN RPE or communications system requirements and vice versa? If the answer is 'no' then the essential time taken to respond effectively to changing situations increases.

First responders face unique risks in aiding those with unknown contagions. Their protective ensemble normally reflects a very high level of protection, including state-of-the-art CBRN respiratory protection. The modern 3M First Responder Respirator (FRR) from 3M, is able to cover a wide range of Concept of Operations (CONOPS) and threat scenarios, providing both positive and negative pressure capabilities within the single respirator face piece, and can be worn with advanced ballistic protection in the form of bomb suits designed to mitigate blast effects from any IED device (Figure 1).



Figure: 1 Typical EOD Operator PPE.

However, the high levels of protection necessary to protect the first responder can, potentially, result in a combined PPE ensemble that actually inhibits the operators' interactions and communications with the outside world. For example, full facepiece respirators can interfere with visual cues when speaking and listening. It thus becomes more difficult not only to recognise what is said, but also who is saying it. Distance and intelligibility are interrelated; longer distances between communicating individuals can result in less intelligibility. This latter facet is significant when one considers the size of operational safe distances utilised by government agencies around any CBRNe incident site, with cordons of up to 300-500 metres being typical.

Unless designed correctly, an operator's PPE ensemble may inhibit communications, and this needs to be considered when dealing with the potential explosive part of the incident and before carrying out CBRN hazard management activities. Special communication equipment is now available from various manufacturers and some respirators now have

speech diaphragms, or are made of materials that enhance speech transmission. For example, the speech diaphragm incorporated within the UK's General Service Respirator – GSR (Figure 2a) is situated directly in front of the wearer's mouth and is designed to minimise speech attenuation. Through its unique design, the communication system on a modern respirator such as the GSR or FRR can be augmented via a Voice Projection Unit (Figure 2b), which simply clips onto the respirator's internal speech diaphragm and amplifies the speaker's voice, enabling it to be heard at distance more clearly. Whilst integration into a secure radio-communications network can be achieved through the addition of dynamic or electret microphone and "Push to Talk" or radio array, as depicted in Figure 3, with connection to a Peltor-based communications headset from 3M.



Figure 2: Communications System in a Modern CBRN Respirator;- a) Speech Diaphragm in the General Service Respirator; b) Voice Projection Unit

Dedicated communications systems such as the PELTOR COMTAC Tactical Communication Headsets from 3M have the added advantage of an environmental listening feature (level dependent functionality) for auditory situational awareness and face-to-face communications. As described previously clear communications over distance are extremely important during any CBRNe recovery operation, especially when the operators are using RPE. Environmental Listening is a means of allowing low level sounds to bypass the individual hearing protection while still protecting against the harmful peak sound pressure levels likely to be encountered by first responders. Whilst sound amplification allows the user to hear low-level sounds, including range commands and conversation. Further demonstrating how important holistic PPE selection is when considering Counter-CBRNe operations.



Figure 3: Fully Integrated Respirator Communications System.

As although the above respirators were originally intended to meet the exacting threats generated by the Cold War, the 21st Century first responder is now faced with an ever-shifting CBRNe threat spectrum. Modern respirators such as the FRR have evolved accordingly and are now capable of not only delivering their primary life-saving function, but also act as a platform with which to integrate other mission-critical infrastructure, such as communications systems and other PPE.

3M, Peltor and Comtac are trademarks of 3M Company.

Footnote

[1] (Reference: <https://www.opcw.org/news/article/opcw-fact-finding-mission-confirms-likely-use-of-chlorine-in-saraqib-syria/>)

[2] (Reference: <https://www.bbc.com/news/world-middle-east-31847427>)

[3] (Reference: <https://www.theguardian.com/world/2015/mar/25/indonesian-police-blame-jihadis-returning-from-syria-for-chlorine-bomb>)

[4] (EDA, CBRN Exercise Firm Foundation-8th December 2008 –See https://www.eda.europa.eu/docs/documents/EDA_CBRN_Exercise_-_Firm_Foundation_2008_2)

About 3M

At 3M, we apply science in collaborative ways to improve lives daily. With \$32 billion in sales, our 91,000 employees connect with customers all around the world.

The UK and Ireland is home to one of the largest 3M subsidiaries outside the USA, employing 2,900 people across 18 locations, including nine manufacturing sites.

Products manufactured in the UK include coated abrasives, personal safety equipment, adhesive tapes, industrial microbiology products and drug delivery systems.

Learn more about 3M's creative solutions to the world's problems at www.3M.co.uk or follow @3M_UK on Twitter.

3M

Pelican-Hardigg presents its repeat-use transport solutions for Defence at IDEX



54% of wood pallets are discarded after the first shipment. To avoid this waste, Pelican offers reusable packaging solutions that eliminates the cost of short-term shipping materials

Pelican-Hardigg™ is the largest manufacturer of aerospace and military approved reusable, recyclable, plastic ATA 300 CAT 1, LRU, AGE, WSTAGE, logistic containers and cases. For over half a century, Pelican-Hardigg™ engineers have developed custom solutions for the transport and packaging needs of the defence sector. At IDEX Show (AUSA PAVILION - Stand 03-A0) the company will showcase a selection of their latest transportation solutions.

Pelican-Hardigg innovative products enable sensitive equipment to travel through hostile environments and arrive operational. Many of their models have been tested in the field as well as in combat situations. By developing custom solutions, testing new materials and continuously improving designs based on user feedback, Pelican-Hardigg has been able to build a reusable, more ecological robust line of cases that proudly live up to the harsh demands of military. After all, in the field, top-notch performance matters most.

The solution to the increasing level of waste generated by transportation wooden crates and pallets

In a world in motion where trade occupies a major place in the economy, product shipping materials contribute a significant portion of packaging waste globally each year. The wooden pallets account for 95% of logistic tools market. For this reason, they are at the heart of an environmental problem. Only in the European Union there are more than three billion wood pallets in circulation according to the European Federation of Wooden Pallet and Packaging Manufacturers (FEFPEB). Despite the effort of landfill to recycle them, 54% of wood pallets are stored, burned or disposed after their first shipment. In 2016, 25.39 million wooden pallets continued to be landfilled in MSW (Municipal Solid Waste) and C&D (Construction and Demolition waste) landfills. According to a survey managed by Palletentreprise.com, 76% of landfills report that the total number of pallets unloaded remained the same.

Moreover, wooden pallets can be dangerous for people handling pallets or working with them. For example, there have been cases where splinters from dirty pallets have caused blood infections. In addition, the mould of wooden pallets can be quickly spread to the entire storage building causing health issues.

Pelican-Hardigg offers the solution, by providing companies with Repeat Use Packaging – a more effective shipping solution, recyclable and with less impact on the environment. These packaging solutions allow saving



money while protecting better the merchandise and are reusable for a nearly endless number of trips. They eliminate the cost associated with replacing short-term shipping materials. Companies not only save money by not having to replace expendable packaging, but also reduce labor costs, as there is no longer a need to set up and break down packaging.

On top of reusable, the highest level of confidence in the field

Pelican-Hardigg Mobile Military Cases keep your sensitive and vital equipment safe from moisture, dust, sand salt and even impact. Safe inside, your gear is protected against drop damage while the rib maximizes stacking and stability en route. When you open a Pelican-Hardigg Military case, be assured you'll find what you packed inside arrives fully operational.



Mobile Medical

Pelican-Hardigg Mobile Medical Cases are rotomoulded, watertight, airtight and impact resistant cases that feature battle-tested endurance with the perfect combination of customisable inserts and options to organise and protect lifesaving medical gear. From administrative to in-the-field portable units, each case is designed to exact performance standards with the input of military medical professionals in tandem with the expert engineers of Pelican-Hardigg.

Mobile IT

Pelican-Hardigg's Mobile IT cases incorporate state-of-the-art features into the best lightweight, durable containers to shield portable computers, printers and fax machines from adverse conditions in the field, during travel and even under battle conditions. Each IT case is outfitted with a specifically designed optimal cushioning system that will provide the best protection for your equipment.

Mobile Office

When there is an onslaught of paperwork, procurement professionals know the Pelican-Hardigg Mobile Office is there with organization. Soldiers, in minutes, can set up a field office using lightweight, watertight, chemical-resistant and durable Field Desks, Admin Desks, and Bookshelves. And for personal gear storage, nothing beats a secure Footlocker and Trunklocker.

Mobile Master

Sensitive equipment and crucial supplies arrive ready to deploy in Mobile Master 463L pallet-ready cases. Non-slip ribs stack all four sizes firmly together to get through to the supplies. Chemical resistance makes international delivery a breeze and lightweight materials let you pack more goods per shipment. By sea, air or truck – nothing ships more efficiently than Mobile Master.

Pelican-Hardigg Advanced Case Solutions

Advances case solutions are the embodiment of Pelican-Hardigg proficiencies across materials science, packaging engineering, project management and manufacturing. As the inventors of the industry standard cushioning curve formula, innovators in case design and experts in protecting high-tech military equipment – few challenges are beyond their capabilities. Their products have protected the most sensitive technologies deployed around the globe under the most exacting conditions by military, private sector and industrial customers.

For more information on the Pelican reusable mobile military solutions, visit:

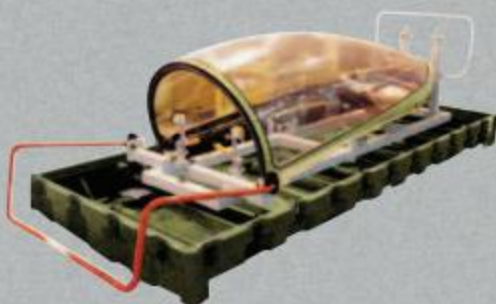
<https://www.peli.com/eu/en/products/mobile-military-cases>



ENGINEERED CASES FOR AEROSPACE & DEFENCE



IDEX: AUSA Pavilion • Stand 3-A



WE THINK INSIDE THE BOX FOR YOU PELI-HARDIGG™ ENGINEERED CASES

Customised / Watertight / Extremely Resistant

World's Major Aerospace Primes rely on Peli-Hardigg Engineered Cases, because we offer the world's largest range of Aerospace and Defence approved shipping and storage containers, CAT1, AGE, WSTAGE, ATA 300, 19" rack mounted Test Equipment, engine module and Tool Containers. Nothing protects like Peli-Hardigg.

- 40 years of customisation experience
- More than 500 sizes



EMEA HEADQUARTERS: Peli Products, S.L.U.

C/ Provença, 388 Planta 7 • 08025, Barcelona • Spain • Tel +34 93 467 4999

All trademarks are registered and/or unregistered trademarks of Pelican Products, Inc., its affiliates and/or subsidiaries.

Follow us on: 

SEE PELI.COM/WARRANTY FOR FULL DETAILS.

PELI.COM

360° Advanced Situational Awareness System for Day & Night

DRIVER
DAY & NIGHT
PERISCOPE



WÄRTSILÄ CONNECTS THE DOTS

Wärtsilä has developed a new Advanced Situational Awareness System (ASAS) platform for Degraded Visual Environments (DVE). This innovative modular vision system can be integrated in various versions of Main Battle Tank(s), Armored Personnel Carrier(s) (APC) and other special purpose vehicles. A number of different advanced cameras and configurations are available. Various embedded processing units can be connected and operate in a cluster.

**360° HFOV /
UP TO 270° VFOV**

**CAMERAS OPERATE
FROM -40° TO +85°C**

**LOWEST LATENCY FROM
GLASS TO GLASS**

**ROTATABLE & TILT
CAMERA UNIT**

**EXTENDED DRI
RANGE**

**IMAGE STICHING
AND FUSION**

**CUSTOMIZED
SENSOR
CONFIGURATION**

**ZOOM, PAN, PICTURE
IN PICTURE OR
FUSION MODE**



Single & dual camera driver day & night
periscope version with EPU



Wide FOV dual channel
camera housing


WÄRTSILÄ

WE ARE. DEFENCE

Rapid Construct Military 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





ایڈکس IDEX

2019

Stand 05-C05
UK Pavilion



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

IDEX2019

INTERNATIONAL DEFENCE
EXHIBITION & CONFERENCE

Hall 07: stand B56

TEXELIS

POWER TRANSMISSION

Texelis management board acquires majority stake in company

- **Support from institutional investors Siparex, Bpifrance and Carvest**
- **Phillippe Frantz and Groupe Réel stay involved to provide continuity**
- **2018 revenues of €110 million**

The Texelis management team, led by Charles-Antoine de Barbuat, has acquired the majority shareholding of the Group with the support of institutional investors Siparex, Bpifrance and Carvest.

Phillippe Frantz, who has been the majority shareholder since 2009 when the company separated from Renault Trucks continues as a shareholder, to provide continuity as the company continues on its growth path.

Based in Limoges, Texelis specialises in developing and producing drivetrains, including axles, and power transmission systems for heavy vehicles including metros, trams, armoured vehicles and heavy trucks. Over the last few years the company strategy has focused on developing innovative mobility solutions whilst diversifying its customer base with major global manufacturers such as Siemens, Bombardier, Volvo and Nexter. Amongst recent successes, the Group is supplying mobility systems for the Siemens Neoval people

mover, the Serval 4x4 armoured vehicle for the French Direction Générale de l'Armement and the renovation of the Mexico Metro.

The Texelis Group employs 350 people with a wide range of design, production and programme management skills on its 35,000 m² production site. In addition to production it has an extensive refurbishment business especially in the rail market, for axle systems. It will report revenues of 110 million Euros in 2018, a threefold increase since 2015, when the new strategy was adopted.

"We are committed to following the strategy that has proved to be so successful for Texelis. By maintaining our independence and the continuity of the management team and workforce, we are able to demonstrate our commitment to our clients and to our joint projects. The support of Siparex, Bpifrance and Carvest provides us with the opportunity to expand our development in France, as well as internationally. I welcome the

continued presence of Philippe Frantz amongst our shareholders as he provides valuable stability for the business," said Charles-Antoine de Barbuat, President of Texelis.

Guillaume Rebaudet, Director of Siparex commented, *"We are very impressed by the Texelis Management Team's motivation and ambition and we are delighted to support Charles-Antoine de Barbuat and the team in this acquisition."*

"This investment is in line with the strategy of our Siparex ETI 4 fund, whose objective is to support medium sized enterprises," added Mr Rebaudet.

Siparex is investing via Siparex 'ETI 4', its fund focussed on medium sized companies, and the 'Transatlantique' fund to support the Texelis Group structure and its development projects in Canada, where it sees significant opportunities. Bpifrance, which is investing via the 'Croissance Rail' fund, will support the Group's development via Bpi's integration in the rail sector and the 'Accélérateur ETI Nouvelle-Aquitaine' innovation project which Texelis joined this year. Finally, Carvest, will expand the opportunities available to the Group as well as providing access to the best possible financing options to develop new projects.



FIRST
T A C T I C A L[®]

**SLEEK, EFFICIENT,
FEATURE RICH
& COMPACT**

FIRSTTACTICAL.CO.UK


 The logo for Pyser Optics, featuring the word 'pyser' in a large, bold, white sans-serif font, with 'optics' in a smaller, white sans-serif font below it. The logo is set against a green rectangular background.


 The word 'defence' written vertically in a white, sans-serif font, positioned to the right of the Pyser Optics logo.

Pyser Optics introduce the 'must have' optical device for Marksmen – 'Quick Zero'

The Pyser Optics Small Arms Collimator (SAC) series represents one of the simplest but most effective optical devices available today to meet the demands of modern combat.

The SAC is a unique, high precision optical device that allows users to quickly conduct an initial zeroing of any weapons and optics platform, to an unrivalled level of accuracy, without the use of any laser and ammunition. The weapon zero can also be quickly confirmed, in any location and operating environment prior to deployment to instil total user confidence.

Confirming zero or re-zeroing a weapon is a fundamental marksmanship principle, whether in combat or on the firing range. Arduous operating environments can easily impact on weapon systems, mounts and optics, resulting in a potential loss of operational accuracy.

There is also a spend a save benefit; the SAC can save both valuable time and ammunition with weapon zeroing, plus increase the first shot effectiveness of the user and their overall marksmanship performance.

Until now, numerous versions of the fragile laser boresight devices have been the only means of confirming or re-zeroing weapons. Such laser-based systems are not robust and as reliable as a mechanical factory set accuracy device such as the Pyser Optics SAC, which can be produced for any weapon and optics platform. Single and dual spigots variants are also available to suit all rifles, carbines, submachine guns, machine guns, sniper systems, and grenade launchers, plus a comprehensive range of irons sights, optical sights, day scopes, night vision and thermal imaging optics.

The Small Arms Collimator continues to be specified and utilised by the British military, US Marine Corp and other elite fighting forces around the world. It requires minimal training and no laser source or safe area is required to enable a zero to be confirmed or established. It does also not emit light, so it can be used on a covert basis if required. The rugged and robust mechanical design with no moving parts provides a long service life. The SAC is factory set to ensure operational accuracy, requiring no assembly or input from the user to commence weapon zeroing.

Why use the SAC?

In combat, the difference between an enemy that is down and out of the fight versus one who is able to continue to send rounds in your direction is often measured in inches. For this reason, we should constantly strive to improve combat marksmanship. The SAC is a very powerful tool for this purpose.



Our weapon platforms and sight options typically provide a significant advantage over enemy weapons in terms of accuracy and engagement speed. Most of that advantage is lost, though, if our weapons aren't properly zeroed. The SAC helps avoid this problem by allowing shooters to confirm zero any time: after the rifle is bumped, after taking the sight off for cleaning, during pre-combat checks, etc. We need to do everything we can, within reason, to capture every bit of the accuracy our weapons are capable of in order to ensure that we maintain the edge over our enemies. Using the SAC consistently is an important step in that direction.

Effective combat marksmanship requires more than just good equipment- it also requires training. The SAC can help you make the most of limited training time and resources. Using it saves a significant amount of time and ammunition on the zero range, each of which can be reallocated to drills on the flat range or other training. It helps to quickly identify problem weapons before those weapons create problem shooters. It also helps shooters understand the importance of consistently applying marksmanship fundamentals.

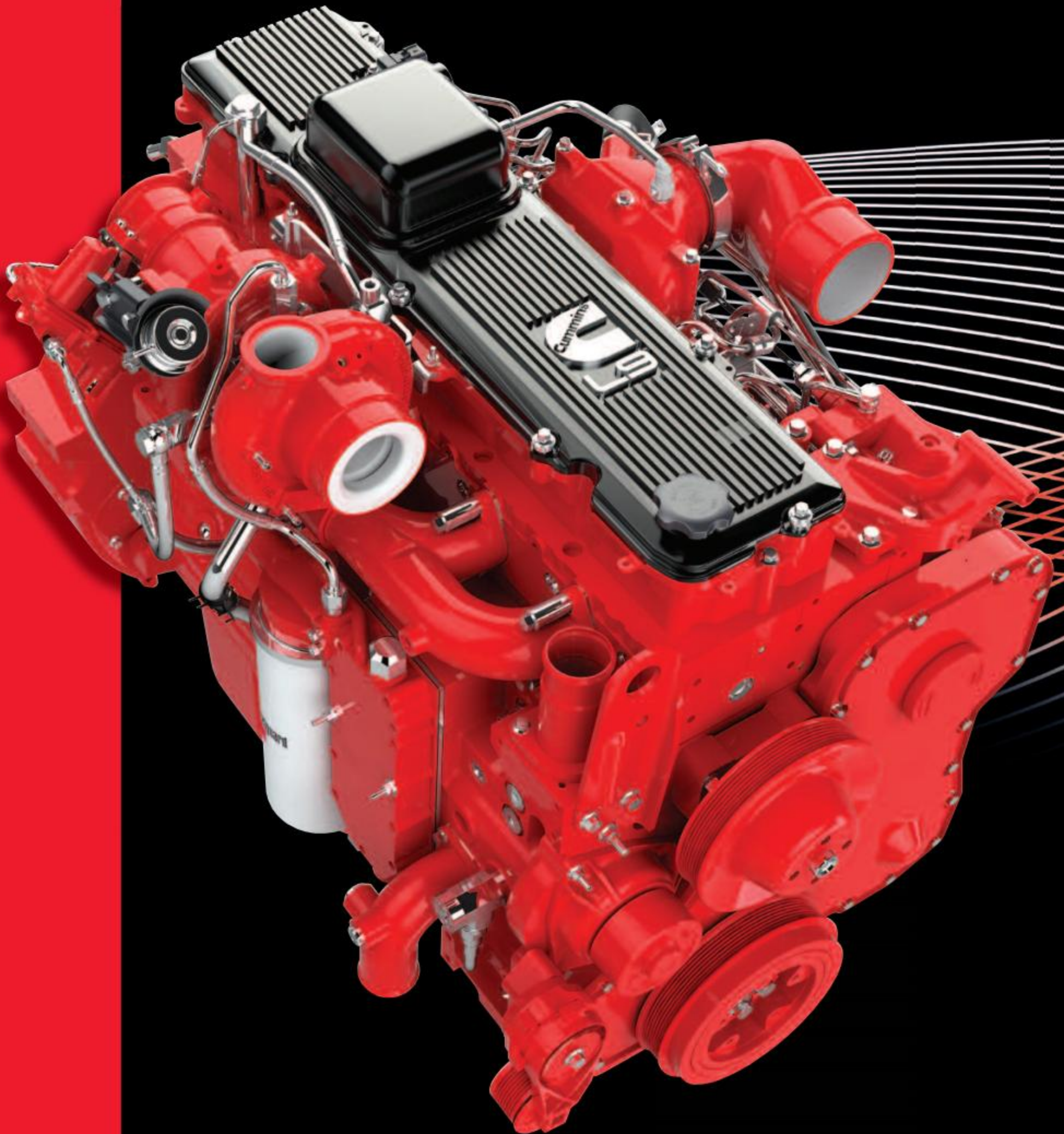
The Pyser Optics range of collimators can be found here: <https://www.pyseroptics.com/product/sac/>

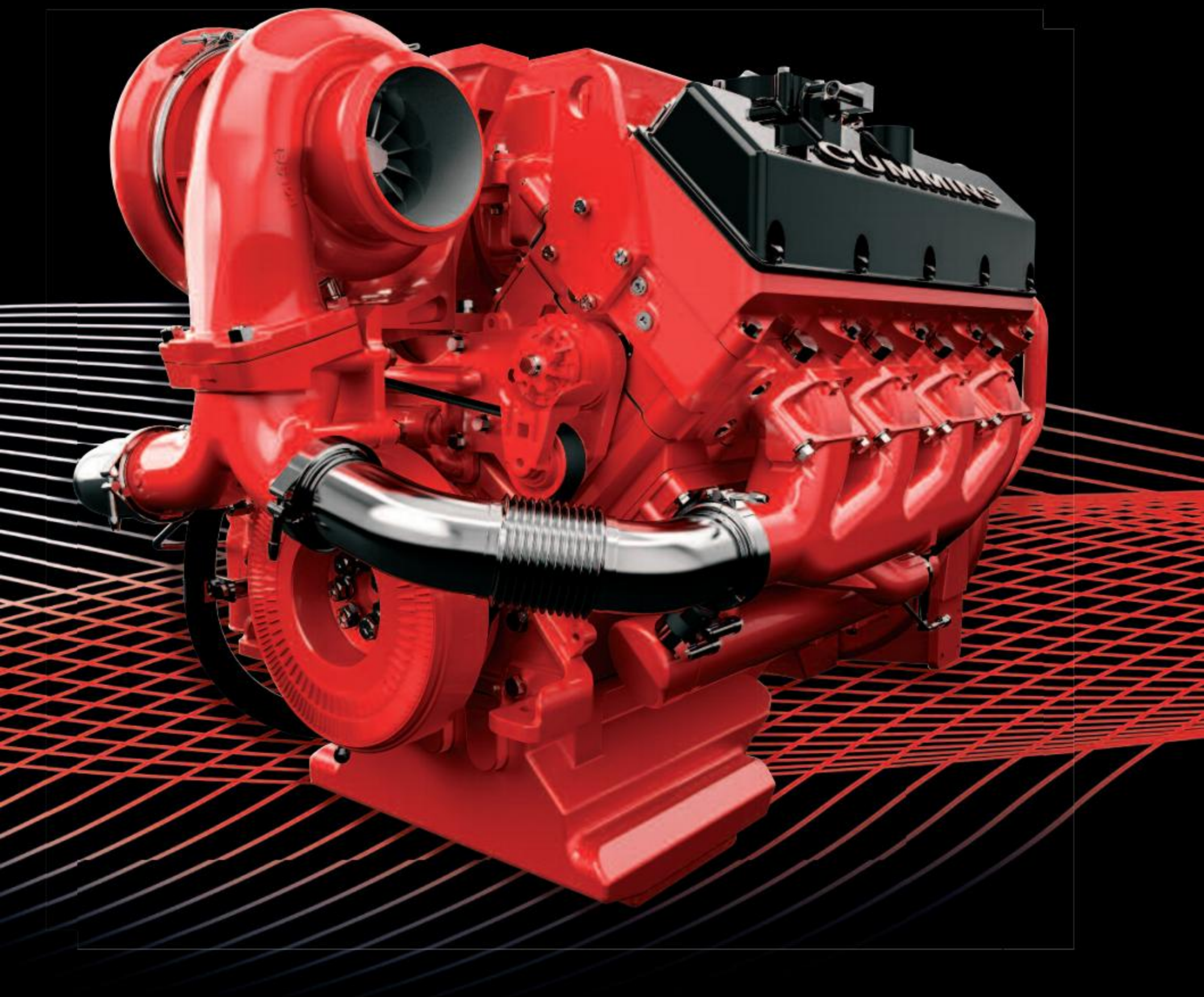
Or to view a video on how this technology works, search 'Pyser SAC' on YouTube.

www.pyseroptics.com



Technology that Transforms





Cummins has the power to transform your equipment.

As the World's largest independent engine manufacturer Cummins expertise is demonstrated across the engine product line and critical engine components including turbochargers, filters, fuel systems, electronics and aftertreatment systems. Cummins design and manufacture these technologies, enabling a unique position to provide industry leading technologies and systems that meet ever higher demands for efficiency, durability and optimised performance.

To learn more visit cumminsengines.com/Defense



@CumminsEngines



/CumminsEngines



+44 1325 554829

©2017 Cummins Ltd., Yarm Road, Darlington, DL1 4PW, UK



GEROH
A WILL-BURT COMPANY

1918

WILL-BURT

100 YEARS

WILL-BURT

Delivering the M Mobile Elevation So



**Offering a full range of standard
and customized towers, masts
and mobile elevation platforms**



www.willburt.com

UNITED STATES

169 S. Main St.,
Orrville, Ohio USA 44667
Telephone: 330.682.7015
Mast Customer Service: 330.684.4000
Fax: 330.684.1190
Email: contact_us@willburt.com

GEROH

Fischergasse 25
91344 Waischenfeld, Germany
Telephone: +49-9202-18-0
Fax: +49-9202-18-11
Email: info@geroh.com

3[®] 2018
YEARS
BURT

MAD
A WILL-BURT COMPANY

Most Innovative Solutions to the World



GEROH
STAND 08-C01

**Pneumatic and Mechanical / Man-portable /
Lattice Towers / Pan and Tilt Positioners /
Integrated Elevation Platforms**



will-burt.com

UNITED KINGDOM

Unit 5b, Station Approach
Four Marks, Alton Hampshire,
GU34 5HN, United Kingdom
Telephone: +44 (0) 1403 265532
Fax: +44 (0) 1403 259072

SINGAPORE

1 Fullerton Road,
#02-01 One Fullerton,
Singapore 049213
Telephone: +65 6832 5689
Fax: +65 6722 0664

Marshall Signs 14-Year Contract to Support Royal Netherlands Air Force C-130H

- **Most economically advantageous tender**
- **Builds on 22 year relationship with Royal Netherlands Air Force**
- **Turn-key solution covering aircraft and engine maintenance and supply chain management**



Alistair McPhee, Chief Executive of Marshall Aerospace and Defence Group shaking hands with Air Cdre Richard Laurijssen, Director of Sustainment and Logistics & Commander Logistics Centre Woensdrecht, following the signing of contract with the Royal Netherlands Air Force to sustain its C-130H fleet through to its out of service date.



Marshall

Marshall Aerospace and Defence Group has secured a contract with the Royal Netherlands Air Force to sustain its C-130H fleet through to its out of service date.

The contract was signed this morning (Thursday 20th) during a ceremony at the Eindhoven Air Base in the presence of senior officials from the Defence Materiel Organisation (DMO) and the Royal Netherlands Air Force.

Marshall's bid was confirmed as the most economically advantageous tender following careful and thorough verification and evaluation of the international tenders submitted for the sustainment of the C-130H fleet.

Commenting at the contract signing ceremony, Alistair McPhee, Chief Executive Officer Marshall Aerospace and Defence Group said, "This is a very important contract for the company and further builds on the 22-year history that Marshall has in supporting the Royal Netherlands Air Force. The relationships between Marshall and the Netherlands are extremely strong and we look

forward to providing a world class service to the C-130H fleet as we sustain the aircraft through to the end of their operational service."

"We wish to thank the Royal Netherlands Ministry of Defence for the trust they have shown in Marshall to be their long-term partner for both this C-130 sustainment project and also the recently signed DVOW contract," added Mr McPhee.

Representing the Royal Netherlands Air Force at the signing ceremony in Eindhoven, Air Cdre Richard Laurijssen, Director of Sustainment and Logistics & Commander Logistics Centre Woensdrecht said, "This contract is a further step into modern sustainment and logistics for our C-130 fleet. Our job is about availability and affordability for the RNLAF and this modern approach is needed for that.

"The new contract comprises a lot more than previous separate contracts and defines a future collaboration where more will be achieved by combining our collective knowledge and skills. It will help to fulfil my ambition to build a joint capability for more predictive maintenance and

logistics. A contract like this can only rest on a strong strategic partnership and that is what I value in particular. I am looking forward to extend the successful and inspiring cooperation with Marshall."

The multi-year total sustainment contract for the C-130H fleet will see Marshall deliver a turn-key solution to the Royal Netherlands Air Force covering aircraft maintenance, engine maintenance and supply chain management. Marshall has already carried out a major Cockpit Upgrade Programme on the fleet and currently holds the Engineering Support contract. In the delivery of this contract Marshall will again be working with the local defence industry in the Netherlands.

At the beginning of December Marshall also signed a contract worth in excess of £100 million to supply the next generation of containers to the Dutch Armed Forces under the Defensiebrede Vervanging Operationele Wielvoertuigen, or DVOW programme.

Marshall wins contract to provide the next generation of deployable container systems to the Armed Forces of the Netherlands

- **Over £100 Million Contract awarded by Dutch Ministry of Defence**
- **Over 1400 container systems to be supplied**
- **Full availability-based support package included**

The next generation of containers for the Dutch Armed Forces is to be supplied by Marshall Aerospace and Defence Group following the award of contract worth in excess of £100 million by the Dutch Defence Materiel Organisation (DMO). The acquisition of the container systems is part of Defensiebrede Vervanging Operationele Wielvoertuigen, or DVOW, which is a major programme to update the Dutch Armed Forces with new vehicles, containers and support equipment.

Marshall will be providing more than 1400 container systems over the next five years. These include command and control shelters, workshops, controlled atmosphere and basic stores units, together with a 14 year fully integrated availability support package. As part of the design work Marshall is providing a new expandable container which uses lighter materials but maintains the strength of its in-service Matrix Expandable products.

"Winning this contract is a major milestone in the strategic

development of our Land Systems business and emphasises our capability to manage major programmes which benefits not only Marshall but local suppliers," said Alistair McPhee, Chief Executive of Marshall Aerospace and Defence Group.

"During both the implementation and support phases of this contract we will be working closely with Dutch industry not only as part of the supply chain but also as part of the development of our business



across Europe,” added Mr McPhee.

Marshall will be working with a range of suppliers during all stages of the contract and its subsidiary company, Marshall Aerospace Netherlands BV based in Leiden, which will be providing engineering and supply chain management and acting as a focus for the contract.

The contract comprises two main elements, the production of the various containers and a full support programme. The latter

encompasses a full availability-based fleet management package, ensuring that the units are maintained to the latest standards, together with a significant training commitment.

Marshall has had a presence in the Netherlands since 1995 when

it provided command and control shelters. Subsequently it has supported the country’s C-130 fleet, provided ambulances, flat racks, fitted out the Boxer AFV ambulances and, most recently, been contracted to provide an advanced Medevac pallet, which is currently in final development.

Marshall

CAPABILITY DELIVERED

In the contemporary operating land environment, military commanders require more than ever the ability to freely manoeuvre around the battlefield in order to have decisive effect on conflict.

Adversaries are aware of this and will look to employ complex counter manoeuvre tactics and techniques in order to shape the battlefield to their own advantage. For this reason, the military commander must have readily available and easily deployable mobility and counter mobility capability.

These demands place increased emphasis on the need for armoured vehicles to be 'modular' in function and be able to adapt their capabilities as missions evolve. Pearson Engineering has a world-proven ability to deliver against the most complex defence and security challenges. With products provided as interchangeable vehicle attachments, commanders are able to optimise vehicle capability based on the mission.

Creative engineering and market expertise ensures that Pearson Engineering provide future focused capability to counter modern threats.

Pearson Engineering's range of Combat Engineering equipment and MineWolf products provide tactical flexibility.



***Assured Mobility
for the toughest
of missions***

**Visit us on
stand 05-C18**

www.pearson-eng.com



Pearson Engineering's MineWolf platforms are purpose-built used for the safe and effective clearance of explosive devices including land-mines, IEDs and cluster munitions



Fight against the UAV threat with 360° Thermal sensor **SPYNEL-X V-LRF** by HGH Infrared Systems

Terrorism by unmanned aircraft is a growing threat. While many countries are using drones in combat, the UAV technology is getting easier and easier to acquire by the general public and ill-intentioned groups. Most of current security systems are not sufficient to guarantee an appropriate level of protection.

To confront this situation, **HGH Infrared Systems** developed its most powerful 360° Thermal imaging sensors **SPYNEL-X** and **SPYNEL-S**, integrating a Visible Channel and a Laser Rangefinder to the thermal cameras. The new **V-LRF** option aims to facilitate the tracking and the identification of a detected threat, thanks to the Full HD visible cameras' x30 optical zoom. The exact distance of the threat is provided by the Laser Rangefinder in real time, an option particularly adapted to the detection, tracking and recognition of small targets, even the smallest drones.

An innovation it is, as all other systems on the market must use separate sensors to get similar functions: one sensor for detection, a radar for instance, and another sensor for identification, such as a PanTiltZoom camera. Cyril

Marchebout, Sales Manager at HGH Infrared Systems explains: *"With separate systems, it is hardly possible to ensure a real 360° coverage for detection and identification because of blind sectors created by the mechanical supports. Moreover, separate sensors must be integrated and calibrated to properly operate together. SPYNEL & its V-LRF option ensure no blind sector for a real 360° coverage in all surveillance phases: detection & identification."* In addition, most of the time, UAVs' small size and low electromagnetic signature go unregistered by traditional detection measures. With Spynel's thermal imaging technology, it is impossible for a drone to go unnoticed: any object, hot or cold will be detected by the 360° thermal sensor, day and night.

SPYNEL V-LRF and its automatic

detection & tracking software **CYCLOPE** are fast to deploy and to use, and the system is easily interfaceable for multi-sensor protection of critical infrastructure. Data is easily merged with other sensors' data like radars, AIS, fence vibration sensors, etc., and displayed on the same interface, unlike separate sensors which must be integrated and calibrated to operate properly together.

The **V-LRF** option was awarded Best Anti-drone system at the latest edition of the Milipol Paris Tradeshow!

Meet HGH Infrared Systems at IDEX, booth 07B25



Detect, Identify & Track UAVs with SPYNEL-X **V-LRF**



The World's highest resolution IRST
equipped with a Visible Channel
and a Laser Range Finder





LIGHT WEIGHT,



Electro Optic Systems has designed, manufactured and exported advanced technology systems for 35 years.

Our fully stabilised, remotely operated weapon and sensor systems provide cutting edge detection, identification, tracking and engagement.

FIND OUT MORE: eos-aus.com/defence

SHOWCASED AT

**The R400S Mark 2
Duty Dual (Mk2-1)**

weapon system is a
system capable of
weapons up to and
lightweight 30mm
guided missiles.

The R150S is a light
for protected vehicle
approach, the system
and control group
the same sensor up
surveillance. The R
that can accurately

IDEX 2019

17th to 21st February 2019

Abu Dhabi National Exhibition Centre
Abu Dhabi, United Arab Emirates

STAND CP-335

HEAVY FIREPOWER



THE EOS STAND:

2 Direct Drive Heavy (D-HD Dual) remote
our latest high precision
mounting a variety of
d including the M230LF
n cannon and anti-tank

htweight stabilised gimbal
cles. Using a modular
em uses the same interface
as the R400S and can use
nit for reconnaissance and
R150S is the lightest RWS
y fire the 12.7mm M2HB.

EOS WILL ALSO BE SHOWCASING REMOTE WEAPON SYSTEMS AT:

Oshkosh Defense, Stand 03-B25

The JLTV with the EOS R400S-Mk2

Military Industries Corp., Stand 12-D20

The AVF Al Shibl 1 with the EOS R400-Mk2-D-HD

LIGHT WEIGHT, HEAVY FIREPOWER

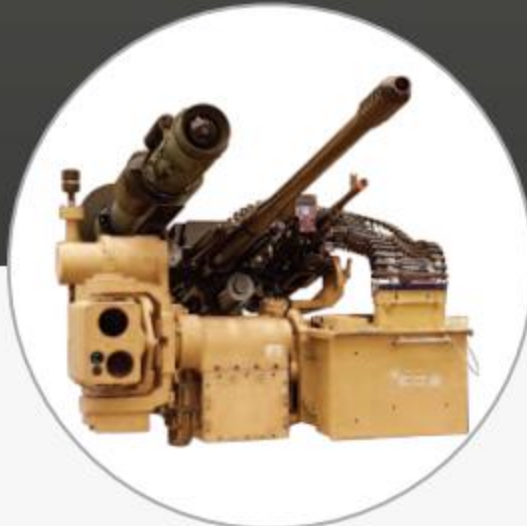
Electro Optic Systems (EOS) has designed, manufactured and exported advanced technology systems for 35 years. Our fully stabilised, remotely operated weapon and sensor systems provide cutting edge detection, identification, tracking and engagement.



R150S

Medium weight firepower in a lightweight package

- M2 0.50cal with high performance sensor unit for firepower and surveillance on weight constrained reconnaissance platforms
- 7.62mm or 5.56mm MGs with medium performance sensor unit for self defence of support vehicles
- Common User Interface



R400S Mk2-D-HD

Medium weight firepower with heavy weight precision

- Configurable as a single or dual weapon
- M230LF 30 x 113mm cannon engaging point targets to beyond 2500m
- 7.62 secondary machine gun engaging targets to 1500m
- ATGMs targeting armoured vehicles beyond 4000m
- Common User Interface



R800-Mk 44

Heavy weight firepower in a medium weight package

- A pedestal RWS solution for 30x173mm and 35x223mm dual feed cannons
- Doubles ready ammunition compared to turreted systems, on the roof, outside of the crew compartment
- Lighter than turret approach without compromising accuracy or functionality
- ATGMs and rockets to engage a wide range of target types
- Common User Interface

MULTI-MISSION SYSTEM RWS ENHANCEMENT KIT

All the long range lethality and sensors of the R400S Mk2:

M230LF 30mm cannon (140 rounds)

7.62mm M240 coaxial weapon (500 rounds)

Long range ISR grade day/night sensors and eye safe range finder

PLUS

- Passive UAS
- Active UAS detection
- CUAS Soft Kill
- CUAS Hard Kill
- Radar detection of ground and air targets
- EW System for broad range RF emissions
- Acoustic shot detection
- Optical based automatic movement and target detection

FIND OUT MORE: eos-aus.com/defence



Confidence Under Pressure.

World leading capability and technology to support the world's most demanding manned underwater operations.

Submarine Rescue

With its pedigree, heritage, understanding and global capabilities, JFD offers unrivalled capability in Submarine Rescue expertise.



Swimmer Delivery Vehicles

Surface or sub-sea crafts optimised for a particular deployment method or mission profiles which can be provided in a number of configurations.



Defence Rebreathers

JFD offers a comprehensive range of rebreathers to meet the varied requirements and operational demands of defence divers.



confidence under pressure

jfdglobal.com



Critical Solutions
International

Single Purpose vs Multi Purpose - Replacing Conventional Explosives

For decades, military explosives have generally fallen into two broad categories — bulk explosive components and role-specific systems.

Both categories offer unique value and can be employed for a range of tailored effects. However, these each also present application constraints to the modern multi-tasked infantry or sapper unit. The responsibility of small units to operate autonomously and adjust objectives mid-mission has increased on the contemporary asymmetric battlefield. This means that it is more important than ever for personnel employing explosives to be able to react to unknown targets and adjust desired effects in stride, without negatively impacting resources or time on target. The best way to accomplish this is through the employment of

explosive systems that are both modular and multi-purpose.

Specialized Explosive Systems

Combat environments have always been unpredictable, but today, conventional forces are being tasked with nonstandard missions and tasks. Due to the dynamic nature of tasks asked of the modern, multi-role fighter, it is generally inefficient to bring role-specific explosive systems on general missions. It wouldn't make sense for an infantry squad to carry a cumbersome Bangalore torpedo on a patrol just in

case they happen to come across a wire obstacle. Similarly, no unit would lug 40lb cratering charges or the 112lb APOBS on patrol unless these role-specific charges had a known application on that mission. Most units (even combat engineers) would not even have access to specialized explosive systems unless specifically allocated for a defined mission critical task. Light units are frequently issued fragmentary orders mid-mission and often come across unanticipated obstacles that require explosive disruption. Without the ability to foresee these targets, role-specific charges have limited value.

Building Block Charges

The dynamic nature of the modern combat role has led many small units away from specialized explosive charges in exchange for bulk (block, sheet, and cord) explosive that can be manipulated for unique targets and tasks. This allows personnel to tailor



their charge to match their target and desired effect. The biggest issue with this approach is that expedient charge construction still requires pre-mission knowledge of the targets that the unit will encounter as well as technical knowledge for the construction of nonstandard charges and time to prepare them. Carrying a rucksack full of C-4 and detonating cord on patrol broadens the range of charges that could be made for unexpected targets, but has limited value during a mission as there is no time to build expedient Bangalores using that C-4, detcord, and pickets when you are sitting on an unanticipated breach site. Alternatively, even if you have the time to prep your charges before the mission, you still run the risk of encountering targets that are different than anticipated, realizing too late that a wall is 2 feet taller, a door has more hinges, or a column has a greater diameter than your charges were constructed to accommodate.

Access to explosive resources able to be adapted mid-mission is critical for today's multi-role units. This is why equipment selection prior to mission is so important. Dismounts in particular cannot limit their operational capability by not having the right tools available when they need them. On the other hand, they cannot afford the burden of carrying every potentially valuable resource into battle.

Ever-changing tactical context limits target anticipation and the ability to determine which explosive systems will most likely be deployed on a mission. Engagements with the potential for non-standard obstacles require non-

standard explosives and applications. Units without the demolition specialization may not have knowledge of, or access to these resources. Each potential explosive task variation should be factored into resource allocation for missions well in advance of execution to ensure maximum mission effectiveness. If targets and effects can't be anticipated, then modular, multipurpose, and adaptable charges must be used.

Splitting the Difference

Dismounted units need an all-purpose charge. They need something that can quickly conform to any task, target, or desired effect. They need something modular so it can be broken down amongst the patrol to reduce burden or scaled up to employ on larger targets. Mostly, they need a system that is easily modified for employment in a range of explosive tasks in stride.

The most effective answer to the combat explosive dilemma is to balance the effectiveness of the role-specific charges with the adaptability of bulk charge components. Explosive system innovations like Critical Solutions International's Bandolier charge bridge that gap by offering a system that offers both dynamic adaptability through its modular construction and rapid employment competitive with specialized charges. Utilizing gap-bridging solutions like the Bandolier provides both versatility and rapid employment to modern fighters while lightening their load and increasing maneuverability.



BANDOLIER

M U L T I - P U R P O S E E X P L O S I V E C H A R G E

CSI is proud to put the latest in explosive technology into the arsenal of the individual soldier. The Bandolier is a modern explosive charge that is designed to accomplish any explosive-based task that the operator may encounter during missions. This pre-packaged charge can be carried on the operator's kit and employed immediately using any standard commercial or military initiator. Its versatility is truly unmatched.

BREACHING



NON FRANGIBLE DESIGN



DYNAMIC ENTRY



TERRAIN CONFORMING



REINFORCED CONCRETE



CONCERTINA WIRE



TIMBER CUTTING



Visit us in stand
CP310 with Remah
International Group



Critical Solutions
International

L I G H T W E I G H T S I M P L E F L E X A B L E

Critical Solutions International, Inc.

+1 (843) 800-0033 | www.C-S-I.com | 2284 Clements Ferry Rd, Suite A | Charleston, SC 29492



Guartel
Technologies Ltd

METAL & CABLE DETECTORS



A member of

Counter IED UK 



**FOR MILITARY
& LAW ENFORCEMENT
OPERATIONS WORLD-WIDE**

T: +44 (0)20 7384 3001

E: info@guartel.com

www.guartel.com



Remote Locking System

Pneumatic Mast



Will-Burt's patent pending Remote Locking System for pneumatic masts allows an operator to lock and unlock the mast from an assured distance. No manual interaction is required to raise or lower the mast. Operation of the system is intuitive, requiring less training and reducing the risk of operator error.

The Remote Locking System is available on any Heavy-Duty pneumatic mast system or larger.

FEATURES AND SPECIFICATIONS

- Ability to stand clear from payload during deployment and retraction
- Easy to understand and operate control
- Super pins for longer lock life and increased wind survival speed in guyed applications
- Close azimuth design and two full-length keys on every mast section reduces mast movement and twist
- Specialized external wiper seals and sealed locking pins reduce water and dust ingress
- Hardcoat aluminum processing extends operational life
- No routine maintenance required
- Pneumatic operation requires no fluids



www.willburt.com
330-684-4000



Remote Locking System

Pneumatic Mast



**Locked Pneumatic
Actuator**



**Unlocked Pneumatic
Actuator**



**Control Box
Included**

System includes locks and control system.

Available for mast tube sizes from 13.5 in. (343 mm) to 3 in. (76 mm).

The Will-Burt Company, headquartered in Orrville, Ohio, USA, is the world's premier manufacturer of mobile telescoping masts, towers and pan and tilt positioners. We offer virtually every payload elevation and integration solution from the top brands; Will-Burt, GEROH, Integrated Tower Systems (ITS) and MAD – for defense, government, first responders, cellular, broadcast, energy production and other markets. Will-Burt also offers contract manufacturing, metal fabrication, powder-coating, and rapid prototyping services. All Will-Burt Company manufacturing locations are backed by a certified ISO 9001:2015 Quality Management System. Incorporated in 1918, Will-Burt is 100% employee-owned and is classified as a small business.



UNITED STATES WORLD HEADQUARTERS

169 S. Main St.,
Orrville, Ohio USA 44667
Telephone: 330.682.7015
Mast Customer Service: 330.684.4000
Fax: 330.684.1190
Email: contact_us@willburt.com

INTEGRATED TOWER SYSTEMS

2703 Dawson Road,
Tulsa, OK 74110
Telephone: 800.850.8535
Fax: 918.749.8537
Email: programs@itstowers.com

EUROPE GEROH

A Will-Burt Company
Fischergasse 25
91344 Waischenfeld, Germany
Telephone: +49-9202-18-0
Fax: +49-9202-18-11
Email: info@geroh.com

UNITED KINGDOM MAD

Unit 5, Station Approach
Four Marks, Alton Hampshire,
GU34 5HN, United Kingdom
Telephone: +44 (0) 1420 565618
Fax: +44 (0) 1420 565628
Email: info@madcctv.com

UK SALES OFFICE

Unit 5b, Station Approach
Four Marks, Alton Hampshire,
GU34 5HN, United Kingdom
Telephone: +44 (0) 1403 265532
Fax: +44 (0) 1403 259072

ASIA SINGAPORE SALES OFFICE

1 Fullerton Road,
#02-01 One Fullerton,
Singapore 049213
Telephone: +65 6832 5689
Fax: +65 6722 0664

Made in the USA

ISO 9001:2015

© September, 2018 The Will-Burt Company

www.willburt.com
330-684-4000



BCB International

OVER 160 YEARS OF LIFESAVING INNOVATION

FRAMM Adjustable Rifle Stock

The FRAMM is a unique stock that allows operatives to comfortably operate their weapons while wearing a ballistic helmet with the visor fully lowered (ballistic visors and gas masks).



Floating Body Armour System

This innovative system provides comfortable armour with an integrated life jacket which self rights. The removable inflatable stole is located underneath the high performing level IIIA armour pack. This protects the wearer and the life jacket from bullet or fragment threats. Having the lifejacket under the body armour also gives it a low profile close fit. The gas inflatable stole is kitted out with an automatic trigger which deploys within seconds in water. The armour vest expands around with the bladder when activated to provide continuous protection.



Barracuda - Non Lethal Boat Stopping System

A hand held device capable of launching a 36 metre (40 yard) arrestor line and two 3 ft (1m) sea anchors.

- Ideal for close-in interception, to stop vessels
- Works in a variety of scenarios, waterways, ports, etc
- Larger port or boat mounted systems available



Blast Boxers - I.E.D Protective Undergarments

BCB's Blast Boxers help protected against blasts and fragments from I.E.Ds which help guard against life changing injuries. Comfortable, breathable and extensively used by U.K and U.S Forces.

- MIL STD - 662F
- V50 17gr FSP



Come visit us on Stand C8 - 005

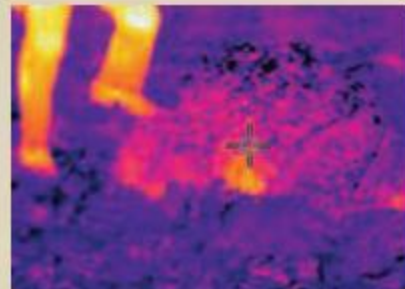
Camo Compact

BCB are the current suppliers of 3 colour compact camouflage cream to the British MoD and many NATO forces. This version of our camo cream is "non-irritant", Infrared Reflective (IRR) and is standard issue to armed forces worldwide. Supplied in a strong ABS plastic case, Integral acrylic mirror in the lid.



Camouflage Nets

- NATO issue - Lightweight - Infra red reflective
- 3D helps break up the objects outline, and reduces signature
- Woodland – Desert – Mountain/Moorland – Arctic – Arid – or custom made
- Excellent colour fastness to U.V, water and abrasion resistance
- Made to UK MoD specifications
- Strong, durable and extremely robust
- Suitable for all climatic conditions from -40°C to +70°C. Remains pliable in extreme temperature ranges
- U.V treated, mould and rot resistant
- Non toxic, lightweight, waterproof garnish.
- Quiet, rustle free, and matt anti-reflective printing
- Reduces the thermal signature of hot objects



Sand Bagger

Sandbags (and lots of them) are essential for protection against blast, bullets and floods. When you need them you want them quickly. The BCB Sandbagger will help you produce all you need, right where you need them.

The BCB Sandbagger collapses for easy transportation and storage and can be erected in seconds.

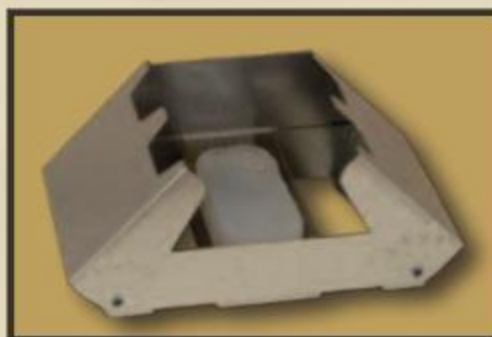
All parts remain attached which eliminates the possibility of loss and the machine is completely maintenance free.

With the saving in labour cost the sandbagger will pay for itself in the first 11½ hours of use.



FireDragon Fuel

- Ideal for the outdoors to cook your food and boil your water quickly, safeguard your health, while protecting the environment.
- Our fuel is non-toxic, non-drip and made from 100% natural renewable ingredients.
- It is easy to light, burns cleanly and independent research shows that it boils quicker than all other solid fuels.
- Can be used to cleans hands before cooking





Extreme Products for Extreme Conditions®

**AWARD WINNING PATENTS
ADAPTABLE CAPABILITIES**

When Success is Vital

**IDEX
2019**

INTERNATIONAL DEFENCE
EXHIBITION & CONFERENCE

ABU DHABI, UAE

17-21 February

ABU DHABI NATIONAL EXHIBITION CENTRE - ADNEC

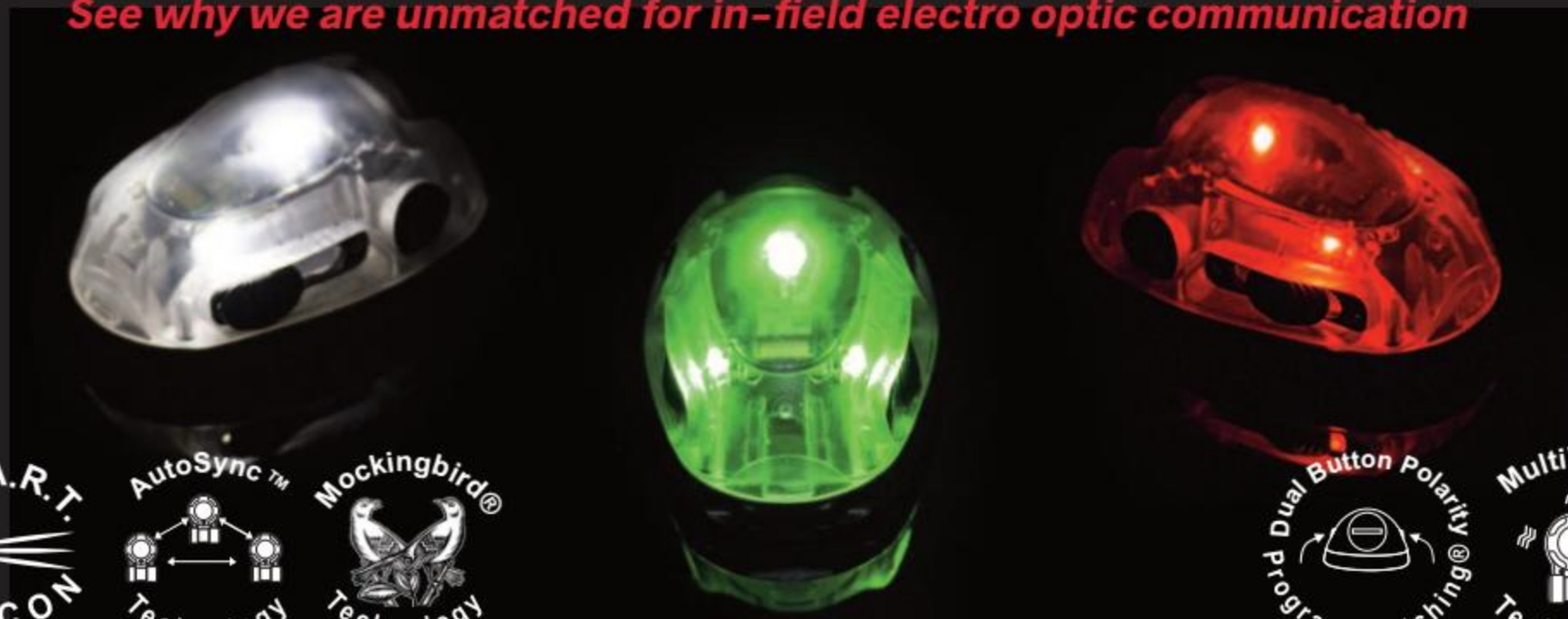
**VISIT US AT STAND FT-010
IN THE CANADA PAVILION**



LEARN ABOUT THE TRIOLBYTE™

Our Cutting Edge Series of Helmet Lights for advanced IFF and C2 Operations

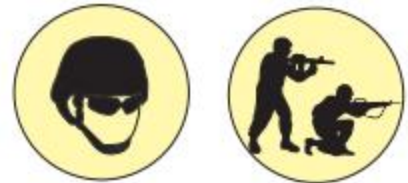
See why we are unmatched for in-field electro optic communication



SEA. AIR. LAND.

www.adventuretactical.com

IFF and C2 Signal Lights, Beacons and Markers



Guardian Mockingbird®
Programmable IR Marker Light



Trilobyte™
Tactical Helmet Light



VIPIR™ SWIR
Handheld Beacon



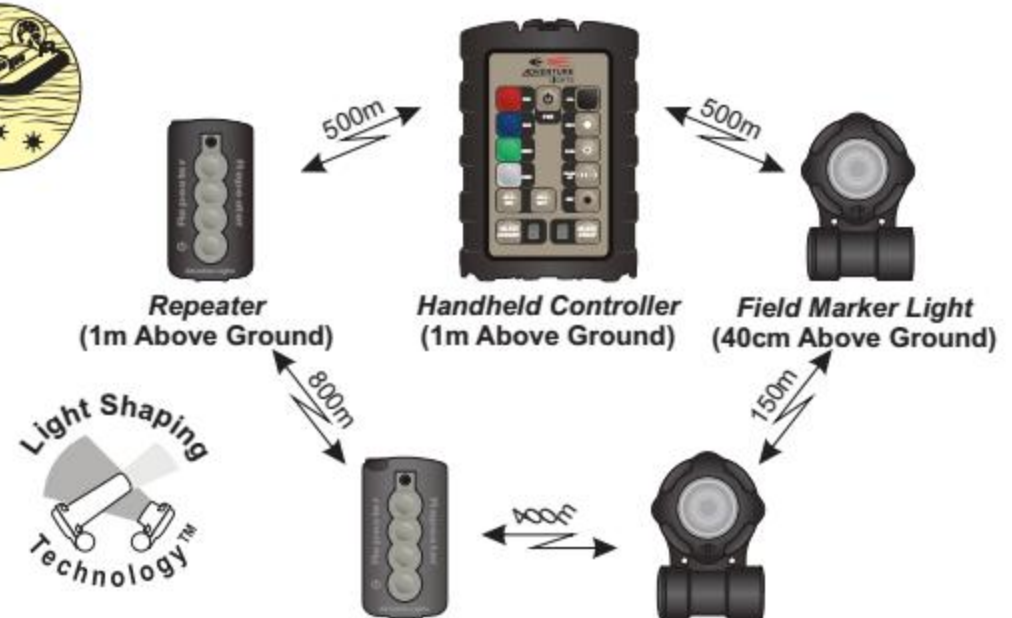
Guardian Trident™
Micro Beacon

Expeditionary Airfields and Landing Zone Kits



6 Light Landing Zone Kit

Kits available for Landing Zones, Drop Zones, Parachute Jumper Signalling, Cache, and Beach Head Marking and various other applications



Marine Emergency Life Jacket & Raft Lights



Guardian Trident Survival™
Water Activated Life Jacket Light



Lighthouse® Interior Raft Light
Pull-Pin Activated

Intuitive

Proven

Solutions



Tactical HF & VHF Radio

Barrett tactical HF and VHF voice, data, interoperability and security radio communications solutions have been field proven in over 150 countries.

By understanding the unique challenges facing our clients, Barrett provides a complete communications solution including tailored operator training and technical support.

**Find us in the
Australian pavilion
at IDEX 2019**



SCHROTH SAFETY PRODUCTS

SCHROTH®



4pt Harness - ECE/FMVSS compliant
Mine Blast Tested



Lightweight Troop Seating
AEP 55 Vol. 2 (Level 4B Protection)
(additional technical data upon request)

**Safety
through
Technology**

Visit www.schroth.com

SCHROTH MINE BLAST & UTILITY SEAT SYSTEMS



The SCHROTH Mine Blast Protected Seat Systems are tubular lightweight systems with a unique resettable Energy Absorbing (EA) system designed into the seat.

The EA design and technology comes from the years of experience SCHROTH has with energy management in seatbelt systems. The design of the seat gives the occupant not only excellent protection in a mine blast

event, but also offers excellent protection in the event of an accident or impact. The All Belts to Seat (ABTS) design allows the vehicle manufacturer to optimize the installation of the seat within the hull. An integrated footrest can also be incorporated into the seating system for additional lower-leg protection. The unique SCHROTH EA technology is tunable to match the size and weight of the vehicle as well as the level of protection required and the available space within the vehicle interior. The EA is also designed to reset itself and offer high levels of protection for the secondary (slam down) event.

SCHROTH®

The Mine Blast protected seating system is available in two versions:

- SU-62 compact forward- or rear-facing seat
- SU-63 side-facing seat with full or side specific headrest for exceptional side impact protection

The SCHROTH seating comes standard with an ECE certified lightweight 4-point harness restraint. Restraint systems with ECE complaint 5-point seatbelts are also available.

SCHROTH offers the ideal system for military personnel & troop transport configurations.

KEY FEATURES

- Quick release, wall-mounted interface
- Modular construction
- Spring Loaded Self-Folding, storable seat pan

CUSTOM APPLICATIONS

Our lightweight seat systems may be adapted to many ground vehicle applications. We can assist with interface, integration, installation and ergonomic requirements as well as any vehicle specific seat modifications that may be required.

Contact:

Mr. Julian Schulte

Tel: +49 2932 97420

E-Mail: Julian.Schulte@eu.schroth.com



Cobham Aerospace Connectivity Exhibiting at IDEX 2019

Attending IDEX enables us to, cost-effectively, meet all levels of the customer community: in-country partners; end-users; platform OEMs; government/military agencies.

From the conference we are able to progress existing (known) opportunities at all levels of the customer community whilst allowing access to new opportunities. At the same time gathering more visibility of the customer's landscape and identify opportunities for partnering.

Cobham Product Range

Cobham's range of products enable secure and reliable communications, protection of mission critical platforms and rapid communication deployment.

Products are rugged, efficient and proven in the field by customers in a variety of environments and situations.

Please visit our stand, **06-A27**, to discuss your requirements with a member of our team.

Cobham will be exhibiting a wide range of products at IDEX to cater for multiple interests in the region including but not limited to:

Airborne Antennas



Land Antennas



Interference Cancellation



Intercoms



Mast Systems



Cobham Aerospace Connectivity
The Cobham Centre
Marlow, SL7 1TF, UK
Tel: 01628 472072

E: antennasystems.marlow.marketing@cobham.com
www.cobham.com/aerospaceconnectivity

AIR



Tuneable Antennas



Airborne Tetra



Direction Finding

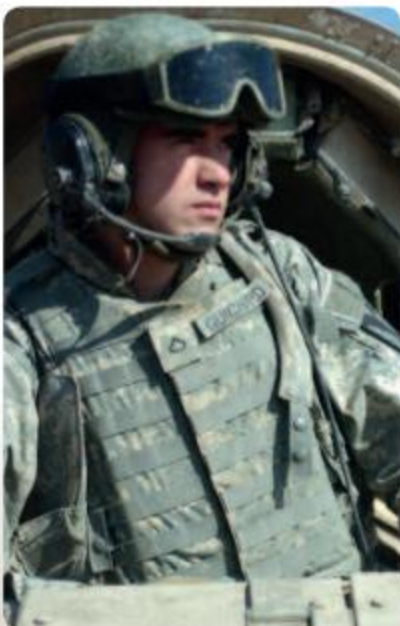


Anti-Jam GPS

COBHAM

The most important thing we build is trust

Vehicle Intercoms



Interference Cancellation



Mast Systems



Mine Detection



Microwave Antennas



LAND



Improving harsh

Navigating the world's toughest environments is one of the challenges facing modern armed forces.

Both tracked and wheeled armoured vehicles can often struggle to gain traction on harsh terrain such as sand, swamp, ice and snow. As a result, vehicles

can easily become stuck and can cause troops to spend considerable time and effort recovering them; putting themselves at risk in the process.

Critical to aiding manoeuvrability, expedient mobility systems offer the perfect solution by creating smooth passage for vehicles in extreme climatic conditions that otherwise would be almost impossible to traverse.

Renowned for their bespoke, high quality solutions, FAUN Trackway®'s innovative and specialist road-laying equipment is hugely beneficial in time-critical scenarios. These hard-wearing systems are able to accommodate up to 150T and safely provide a solid landing in over the shore operations for quick and unhindered access by military vehicles.

oving mobility in the world's shrest terrains

Movement across areas such as sand where there aren't any roads, is not the only factor to consider. For bridges, ground erosion at bridgeheads is a common issue which can be detrimental to vehicle access. FAUN Trackway®'s prestigious Heavy Ground Mobility System operated in support of the recent Saber Strike exercise, where M150 Trackway® was deployed to provide ground stability and access points, both for the bridge installation and bridging ingress/egress to sustain heavy vehicle movements.

First designed over 50 years ago, the military-grade, aluminium panel interlocks in multiples to create access routes for such operations. Whilst hard-standing enough to withstand heavy traffic, it is light enough to transport, making it a versatile, multi-use asset. When not in use as an access route or roadway,

the M150 Trackway® can be used as a helipad, runway, for aircraft parking or airfield damage repair.

Chris Kendall, CEO, FAUN Trackway Limited commented:

"Our M150 Trackway® has been used by military engineers around the world for over 50 years. Together with our deployment and recovery systems, we have designed and manufactured a multipurpose solution that can be used quickly, efficiently and with minimal manpower. We're looking forward to exhibiting at IDEX at stand 05-C20 where we will be discussing how armed forces can tailor our Trackway® solutions to meet their requirements".

See it in action: www.fauntrackway.co.uk

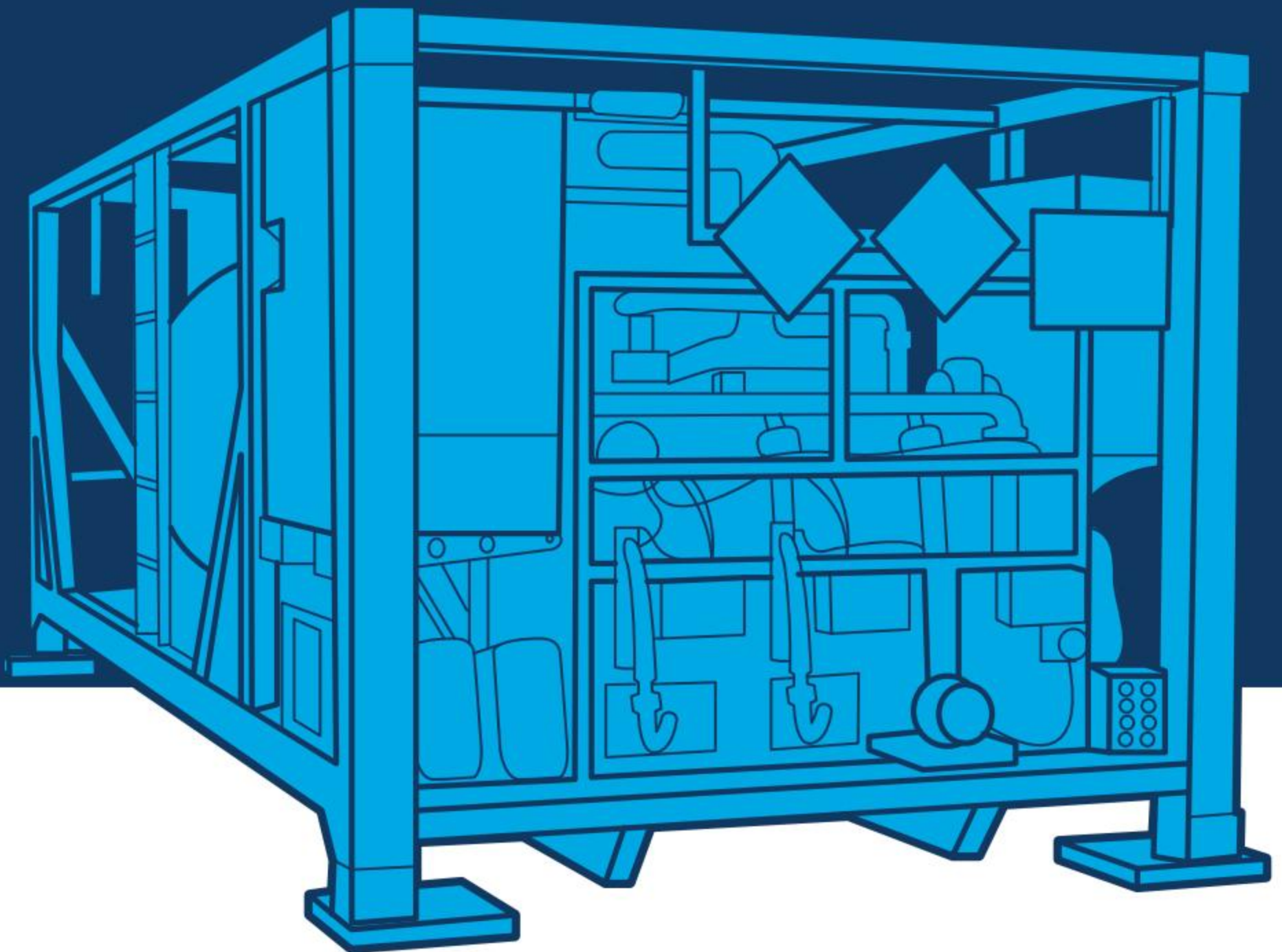
TRACKWAY® SOLUTIONS

ROADWAYS RUNWAYS HELIPADS



DEPLOYABLE MODULAR FUEL & WATER SYSTEMS

LAND, SEA AND AIR



SOLIFOS

FIBER OPTIC SYSTEMS

SOLIFOS AG is
Switzerland's
leading cable
producer.



We offer our customers an entire product range for the transmission of signals, either by copper or by fiber-optic cables and power covering everything from low voltage cables up to 1.5 kilo volt high voltage cables and power supplies for military camps. In our in-house research and development department we work constantly on new innovative products. In close cooperation with our customers, we develop customized system solutions and handle large-scale projects for entire integrated data, communication and power supply systems. We are specialized in assembling special cables with connectors, readymade for customer's applications.

Reliable Tactical Fiber Optic Cable Solutions

Military organizations are demanding real-time applications, such as video transmission and video conferencing with their current and future C4I systems. Tactical field radio and microwave communications media are reaching the limit of achieving these demands where higher bandwidths are required. The need for tactical fiber-optic cables to fulfill these operational demands is increasing enormously.

Working closely with leading military services in Europe and overseas, SOLIFOS AG is challenged to find new innovative cable solutions to meet the needs of harsh field environment communications. One example is the new smart BRUfield tactical cable solution, which enables faster deployment and enhancement of your network perimeter.

SOLIFOS AG offer fiber optic cables and accessories for military and civilian applications. These cables, attachments and deployment systems have been successfully deployed in military applications around the world. SOLIFOS AG are known for their exceptional product quality and client-oriented services.

Fiber Optic Cable Designs

SOLIFOS AG supply specialist fiber optic cable designs for military applications. The company actively develops inventive solutions to fulfill specific military requirements. SOLIFOS AG fiber optic cable solutions have been chosen again and again for deployment in demanding military scenarios under severe climatic conditions. The cables are provided, pre-assembled with mil-spec lens-connectors or ferrule connectors, supplied on a choice of cable reels for efficient cable deployment.

BRUfield the smart tactical fiber-optic cable is a very robust dielectric cable distinguished by its very small diameter and



its very low weight. With the same size reel you are using with your standard tactical fiber cables, you can deploy double the distance as of today using the BRUfield cable. Furthermore soldiers would not suffer under the heavy weight since the BRUfield cable is approx. half the weight of standard tactical cables. Finally the BRUfield cable meets exceptional specifications, which out-performs standard dielectric cable types.

BRUmil: Designed for use in demanding field scenarios, the extremely thin BRUmil cable contains up to 8 fibers in an armored, stainless steel tube and an abrasion-protected polyamide jacket. This small cable is highly resistant to crushing, has a high tensile performance, and is fully protected against damage from rodents. The narrow cable design enables as much as double the amount of cable to be rolled onto a reel as is possible with standard designs.

BRUpowermil is a hybrid cable design combining the mechanical advantages of BRUmil cables with a pair of coaxial conductors and 4 data transfer fibers for simultaneous transmission of data and power under harsh environmental conditions. Like the BRUmil, it has high compressive and tensile strength, and a fully rodent-proof coating.

BRUtough: Adapted for military applications, BRUtough tight-buffered cables feature a non-metallic design with a polyurethane jacket for optimum flexibility. This robust cable design is well suited to rapid and frequent deployment in tactical operations.

Fiber Optic Cable Assemblies

Supporting their range of military cables, SOLIFOS AG also offer military connectors, reels for up to 10 km of BRUfield or BRUmil cables and backpacks for rapid deployment in challenging military scenarios.

Backpack reels, hand-operated reels and vehicle-mounted reels are available with capacities between one hundred and ten thousand meters. These allow cables to be deployed quickly and efficiently in military installations of all scales. The ergonomically designed backpack reel enables easy deployment of short to medium cable lengths up to thousand meters by just two soldiers.

SOLIFOS AG assembles any military connectors with integrated lenses or butt-joint connectors. The connectors are fully consistent with the company's cable designs, and include specialist hybrid connectors for use with BRUpowermil cables.

Military Cable Deployment Aids

SOLIFOS AG offer a versatile selection of cable deployment aids to ensure correct deployment and installation. These include cable shoes and hooks for anchoring cables to buildings, trees and other surfaces together with telescopic poles for guiding and anchoring cables over obstacles, as well as floor ducts for protection of cables at ground level.

There is one more product we will release 2019:

NATO-reel with rotary joint for optical and electrical signals. The reel includes a motor drive that can be controlled manually or can be implemented in a system e.g. to control a UAV, UGV; UUV... The motor drive can be controlled by an external control device. The special reel will look like an ordinary NATO-reel but will include the additional functionality (rotary joint and motor drive). More product information will be available in January. Product will be presented at the DSEI 2019 Solifos AG Booth S8-155

SOLIFOS AG Communication Systems

International forces, organizations and peace missions require rugged, mobile communications equipment. Supporting their range of cables and cable accessories, SOLIFOS AG offer customized communication systems to integrate the hardened network into COTS infrastructure. The company is particularly experienced in the provision of fiber optic cables linking interoperable communications systems.

SOLIFOS AG offer a diverse range of rugged communications systems adapted for various climates and requirements. SOLIFOS AG interoperable communications equipment is designed for speedy deployment and trouble-free operation.

This is achieved through modular arrangements of electrical systems built into rugged shipping containers. A typical communications set-up includes a robust power supply module, an air conditioning unit to protect against overheating of the equipment, and a choice of customized data modules for storage, processing and surge-protected data transmission.

Lightning / Surge Protection

SOLIFOS AG provide full lightning and surge protection for all power supplies and Ethernet connections. Masts and cables are exposed to lightning strikes. Together, these systems safeguard both communications equipment and personnel against the dangers of lightning strikes.

Remote Power Supplies

SOLIFOS AG' hybrid BRUpowermil cables and connectors combine integrated power lines and fiber optic cables, allowing simultaneous transmission of data and electricity. This represents a huge advantage when linking to remote communications systems over long distance.

Tactical Communications Training and Maintenance

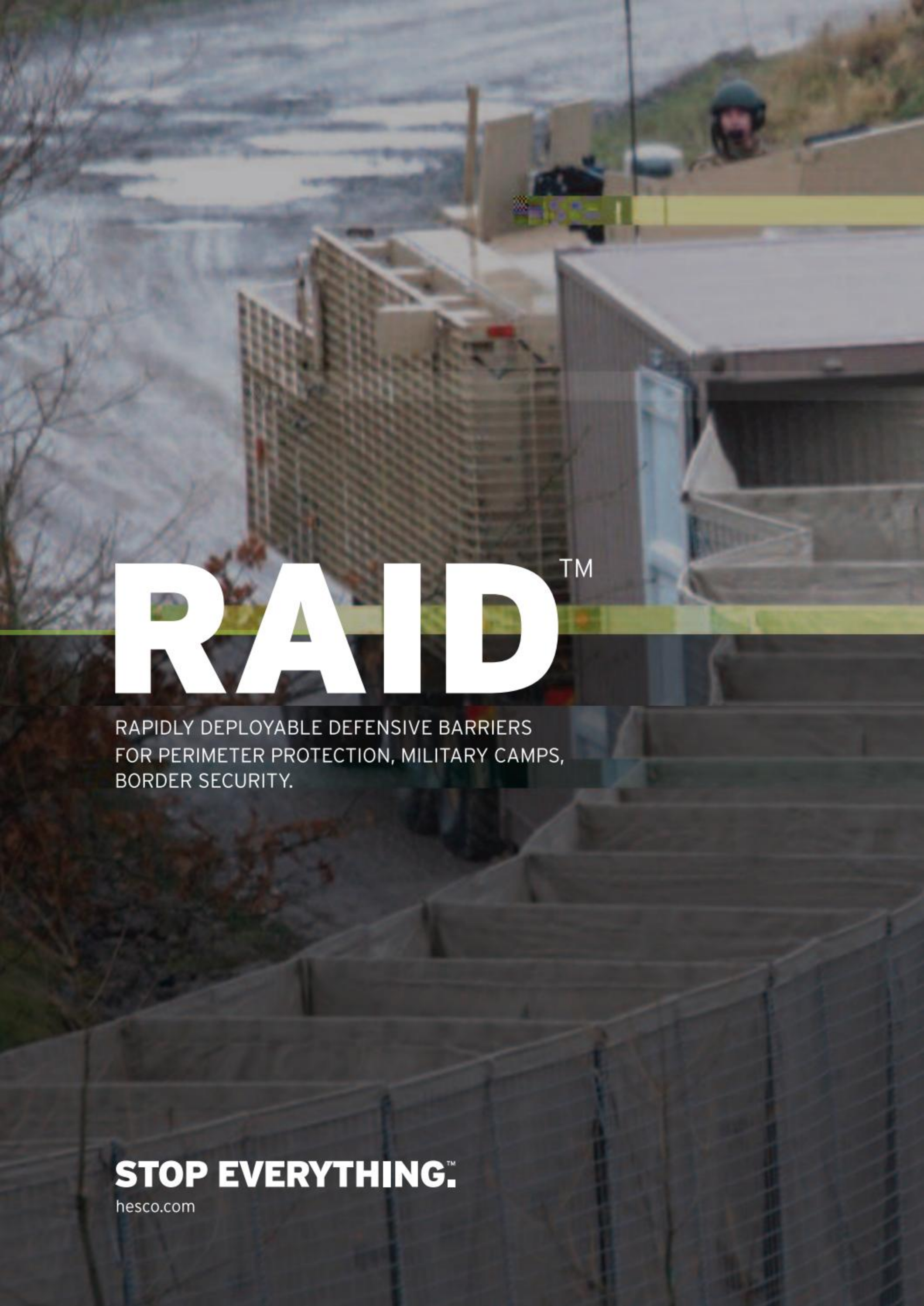
Rapidly deployed communications equipment must be correctly installed and maintained to ensure effective and reliable operation. SOLIFOS AG provide specialist tactical infrastructure training courses covering the installation, maintenance and repair of their cables and equipment. This training also helps to extend the lifespan of the hardware, reducing expenditures over the life of the equipment.

Military Cable Test and Repair Kits

SOLIFOS AG supply a choice of cable test and repair kits for tactical cables and assemblies. These include the BRUMIL 810 Tactical Cable Measuring Case for testing tactical fiber optic cable networks, the BRUMIL 880 Tactical Cable Repair Case for repairing cables in the workshop (with an optional extension kit for repairing BRUpowermil hybrid cables) and the BRUMIL 860 Emergency Field Repair Kit for rapid repairs during operations.

Solifos AG offers special solutions for distributed acoustic sensing cable for third party intrusion (TPI) detection and border control.





RAIDTM

RAPIDLY DEPLOYABLE DEFENSIVE BARRIERS
FOR PERIMETER PROTECTION, MILITARY CAMPS,
BORDER SECURITY.

STOP EVERYTHING.TM

hesco.com



FROM ZERO TO 1,000 IN UNDER 5 MINUTES. HESCO RAID IS OUR RAPIDLY DEPLOYABLE BARRIER SYSTEM, ALLOWING FOR HESCO MIL UNITS TO BE DEPLOYED DIRECTLY FROM THE INNOVATIVE RAID CONTAINER.

Save on time, logistics, packaging and use RAID units to form curves, corners, boundary walls or perimeter security.

Filled with sand or earth, a finished HESCO RAID provides complete perimeter protection against blast and ballistics.

RAID 7 now available via NSN.

See us at IDEX 2019, UK Pavilion Booth 05-C23 or contact us to find out more about RAID.

support@hesco.com



50 years focus on the safety

Polyamp has two main sector of operations:

- Industrial grade DC/DC Converters and Power supplies
- Signature Management Systems, Systems Division

Polyamp AB
Box 925
191 29 SOLLENTUNA
Tel: +46 - (8) 594 693 00
Fax: +46 - (8) 594 693 05
info@polyamp.se
www.polyamp.com

The Systems division of Polyamp specializes in the design, manufacture and supply of Underwater Electromagnetic Signature Management and Control Systems for Worldwide application within the International Naval Industry / International Navy authorities.

The type of systems supplied are Advanced Degaussing systems for surface and submarine naval vessels. Electro-magnetic Mine Sweep supply, Underwater Electric Potential (UEP/ELFE) sensors and electromagnetic design and measurement systems.

The SWECADE software can predict and design coil systems, dimension Degaussing systems, control fixed and movable ranges, support signature analyse and document the fleet vessels signature history.

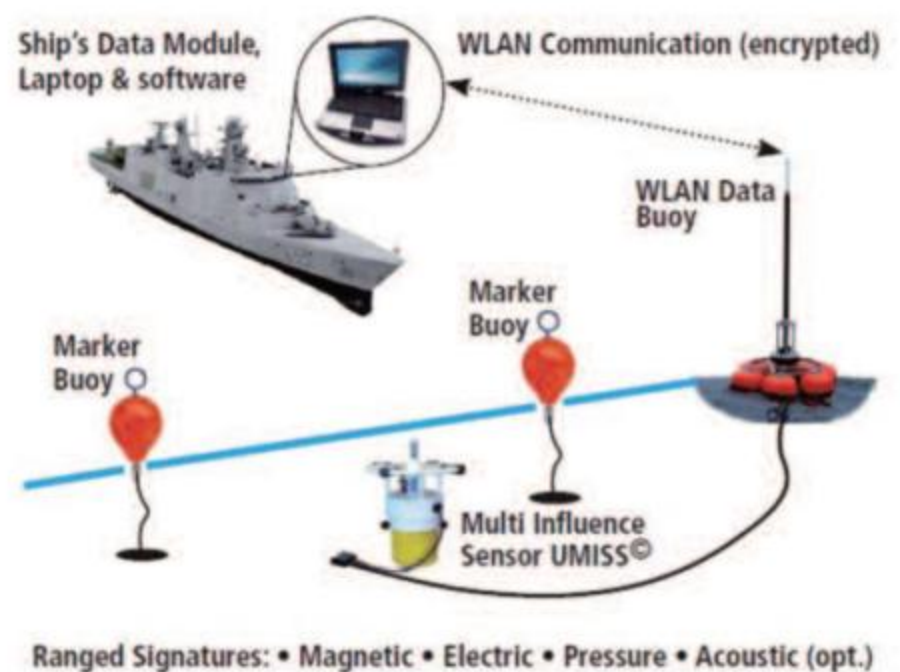


Illustration of an UEP signature of a vessel

Underwater Electric Potentials (UEP) is produced by corrosion currents in the ship or submarine hull and also from propeller or other dissimilar metallic materials in contact with the salt/sea water. A ship's electric signature is behaving in a similar way as the magnetic signature. Therefore this can also be used as an input or trigger signal in an influence mine. The hull of the ship and the propulsion also produces a modulation of the corrosion currents called Extra Low Frequency Electric field (ELFE) that can be used for positioning, target evaluating or for reconnaissance.

The Polyamp Self Range System POLYSERA® is a Multi Influence Sensor system that will allow Naval ships to perform autonomous control of their own underwater signatures. Knowledge of level and range for the signatures are crucial for mission planning and tactical behaviour of Naval units.

The POLYSERA® system consists of one or more standard Polyamp UMISS® Multi Influence Sensor System connected to a sea cable which communicates the underwater data to a Data communication buoy at the surface. The Data buoy contains a small computer, batteries and a WLAN modem with antenna, which sends the measured and encrypted signatures data to an on-board Ships Data Module and a laptop computer where all the underwater signature data can be seen, stored and analysed. Due to its small size and weight the POLYSERA® is a truly portable system.



www.polyamp.com

Industrial grade DC/DC Converters and Power supplies

Polyamp has designed, manufactured and marketed industrial grade switched mode DC/DC converters since 1970 with power ratings from 30 to 2000 W. There are more than 350 standard types in the Company's current product range and some of them are kept in stock for higher service degree.

Polyamp's DC/DC converters are used in many applications where the customers demand high reliability and accuracy performance throughout their whole life. Particularly when operating in very harsh electrical/physical environments. All Polyamp units are designed for easy installation and do not need any additional electrical or EMC protection when integrated into customer applications.

During this time Polyamp has successfully delivered and supported DC/DC converters in a wide range of applications, and in so doing has established a reputation for quality, reliability and on time deliveries.

Polyamp supplies switched mode power supply systems with high reliability and dependable performance in harsh electrical and physical environments. Product range covers:

- DC/DC converters 30 to 2 kW
- Inputs from 10 up to 850 Vd.c.
- Outputs from 5 to 150 Vd.c.
- AC/DC Power Supplies 5 - 6 kW where we also sell Delta Elektronika and Powernet products



Customers include railways, electric vehicles, the armed forces, air traffic control and the process and power industries including nuclear.

Applications include:

- Train and Track Side
- Process Control, safety systems
- Power Plants (including Nuclear 1E class)
- Power / DC Distribution & Telecom
- Forklifts, Electrical Vehicles
- Radio applications
- Industry
- Naval and Military
- Air Traffic Control

Signature Management Systems, Systems Division

The Systems Division of Polyamp AB specializes in the design, manufacture and supply of Signature Management and Control Systems for Worldwide applications within the International Naval Industry.

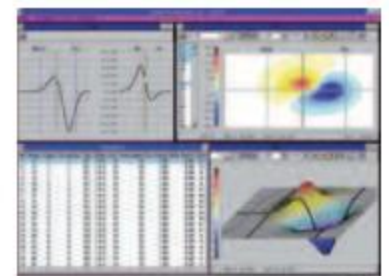
Polyamp supplies Military Systems such as:

- Degaussing Systems.
- Influence Mine Sweep Supply Systems; MSS2000.
- Range Software; SWECADE.
- UEP/ELFE Measurement Systems
- Exercise Mine Systems; POEMS.
- Underwater Multi Influence Sensor Systems; UMISS

Customers include Shipyards, Navies, Governments and Prime Contractors from the International Naval Community.



Sample UMISS equipment



Typical SWECADE display

Systems Deliveries and Experience

The Company's experience in Degaussing is considerable with over more than 25 years that covers the design and supply of Digital Degaussing equipments for submarines, steel surface ships and mine counter-measure vessels (MCMVs). All Polyamp AB Degaussing systems are fully digitalized, with multiple magnetometer control, and all are of the Advanced type (ADG) and using the latest type of modern hard/software open oriented. Latest design are of the modern decentralized type.

They include:

- RSwN MCMVs type Landsort and Styrso class
- RSwN Gotland Class Submarines
- Range Software; SWECADE.
- RSwN Corvettes type Stockholm, Göteborg classes & the Visby Class Stealth Corvettes
- Singapore Navy Bedok Class Minehunters & Challenger Class Submarines
- US Navy San Antonio Class Landing Platform Docks
- Royal Danish Navy Absalon Class Flexible Support Ships and Nils Juel class Frigates
- Royal Danish Navy SF MKI MCMV vessels
- US Navy CVN 77 Air Craft Carrier

Other Systems delivered are:

- Multi Influence Sensor Systems for France; DCNS & DGA
- Several UEP/ELFE sensor systems for RSwN, US, India, Germany and other International Navies

www.polyamp.com

TSS International official distributor for:



YOUR MOBILITY SPECIALIST FOR ARMoured VEHICLES

- Flat tyres?... **Keep on driving**
- Punctured fuel tank?... **No leakage**
- Enclosed in armour?... **Barrier free communication**
- Heavy armouring?... **Extra braking power**



TSS INTERNATIONAL BV ZUIDEINDE 30-34, 2991 LK BARENDRECHT. THE NETHERLANDS.
PHONE: +31 (0)180-618 922 FAX: +31-(0)180-611 326 EMAIL: SALES@TSSH.COM

WWW.TSSH.COM

CONTACT US

For further information
and friendly advice...

www.militarysystems-tech.com

Military Systems & Technology is a web portal designed for the International Defence & Aerospace Industry. It is a source of daily information for Manufacturers, OEM'S, System Integrators and Contractors. We have MOD and Government Readers. The portal encompasses all aspects of Military equipment, technology, design and services.

We welcome any enquires and are always happy to discuss individual requirements.

SALES & GENERAL ENQUIRIES

Tony Nutt (Managing Director)

T. +44 (0) 1392 881545

E. sales@militarysystems-tech.com

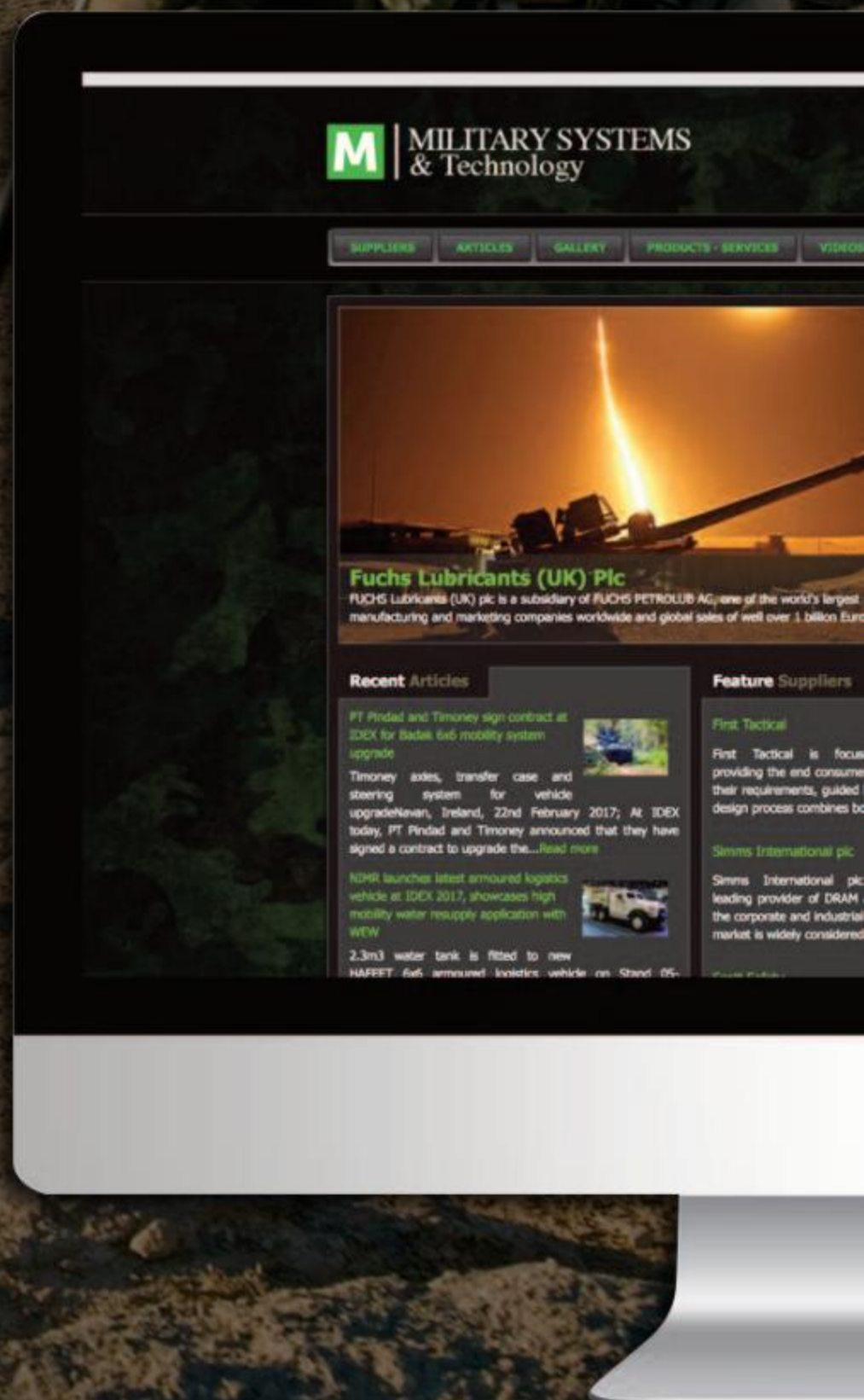
DESIGN & ARTWORK

T. +44 (0) 1392 881545

E. guy@militarysystems-tech.com

Westlake Publications Ltd

Worth Cottage, Hele, Exeter, Devon,
United Kingdom, EX5 4PS





The Defence Suppliers Directory

If you are interested in submitting any press / editorials / adverts / images
for our next magazine, please send all content to:

guy@militarysystems-tech.com

www.militarysystems-tech.com