

Day 1 • 26 February 2024

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The Enforcer light shoulder-launched guided weapon system can be used to engage a broad variety of targets at ranges beyond the capability of currently available infantry weapons, including fast moving vehicles and targets behind cover. Enforcer is under contract and ready when it counts.

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**26th to 28th February
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(Photo: BuisnessWire)



In the ever-evolving landscape of global security, the challenges faced by homeland security agencies are both diverse and complex. From traditional threats like terrorism to emerging challenges such as cyber warfare and pandemics, safeguarding the homeland demands a multifaceted, comprehensive approach. It might seem natural, but every time a new threat arises, gaps are found in the current planning, hinting that there is a big room for improvement.

One of the most pressing concerns in contemporary homeland security is the persistent threat of terrorism. While significant strides have been made in disrupting terrorist networks and thwarting attacks, the evolving tactics and ideologies of extremist groups continue to pose a formidable challenge. From lone wolf actors radicalized online to sophisticated transnational organizations, the threat landscape changes constantly, thus requiring adaptive and proactive measures from security agencies.

Counterterrorism efforts must not only focus on preventing attacks but also on understanding the root causes of radicalization and extremism. This requires a multifaceted approach that includes community engagement, countering violent extremism (CVE) programs, and addressing socio-economic grievances that can fuel radicalization. By addressing these underlying factors, we can mitigate the appeal of extremist ideologies and prevent individuals from turning to violence.

In the last decade, malicious activities also included influence campaigns leveraging on media and social networks, ultimately ending in the creation of subversive groups of different natures. For this reason, states are paying growing attention to increasing the resilience of their populations to terrorist attacks and activities. Building 'civil resilience' means limiting the impact of malicious activities and, indirectly, containing the phenomenon of internal radicalization.

Many non-state organizations are growing in size and capacity, expanding their recruitment pool and operational possibilities, facilitated by an increasingly interconnected world. In addition to the usual counter-terrorism and rapid response activities, there is therefore a more urgent need for states to 'immunise' their societies by preparing their citizens for the effects of terrorist attacks, disinformation campaigns and hybrid warfare techniques so that every citizen can become part of a cohesive system against which malicious actors can have only limited grip.

Limiting panic and terror brought by an attack or by an overwhelming flow of worrying information makes the malicious campaign lose its effectiveness and, in the long run, even its *raison d'être*.

Additionally, the rise of cyber threats presents a significant and growing risk to national security. As our reliance on digital infrastructure deepens, so does our vulnerability to cyber-attacks. From state-sponsored hacking attempts targeting critical infrastructure to ransomware attacks on businesses and government agencies, the potential consequences of cyber warfare are vast and far-reaching.



Navigating Today's Homeland Security Challenges

A Call for (National) Comprehensive Approaches and International Cooperation

Effectively combating this threat requires not only robust technological defences but also enhanced collaboration and information-sharing among public and private sector entities. Governments must work closely with industry leaders, cybersecurity experts and international partners to develop and implement cybersecurity best practices, improve incident response capabilities and deter malicious actors through diplomatic and legal channels. Some mechanisms do exist, but new gaps arise often, and breaches, leaks and information theft heavily impact European and US ecosystems – also endangering law enforcement and military databases.

Moreover, the global interconnectedness of the modern world has made pandemics and other public health emergencies a top homeland security concern. The COVID-19 pandemic has starkly demonstrated the devastating impact that infectious diseases can have on societies and economies. Ensuring preparedness and resilience in the face of future health crises demands coordinated efforts in surveillance, response planning and vaccine distribution, both domestically and internationally.

Amidst these challenges, it is essential to recognize the interconnected nature of security threats and the importance of a holistic approach to homeland security. Siloed responses are no longer sufficient in addressing the complex and intertwined nature of modern threats. Instead, a comprehensive strategy that integrates intelligence gathering, law enforcement, cybersecurity, emergency management and public health initiatives is needed to effectively safeguard the homeland.

Furthermore, fostering collaboration and information-sharing among federal, state and local agencies, as well as international partners is critical in addressing these multifaceted challenges. By leveraging collective expertise and resources, we can enhance our ability to detect, deter and respond to threats in a timely and coordinated manner.

Finally, political debate and media attention to these issues must be constant, yet not alarmist or scary. In practice, it is a matter of grafting the issue into society so that it is discussed and known, without creating alarmism. Scaremongering, provoked tension, and hyper-attention to problems such as terrorism and disinformation campaigns may be excellent opportunities to garner votes or money, but they are counterproductive psychological mechanisms in the construction of a society resistant to the shocks that wars at the gates, terrorism and hybrid warfare tactics can unexpectedly create in our societies.

In conclusion, the homeland security challenges of today require a forward-thinking and inclusive approach that adapts to the evolving threat landscape. By embracing innovation, collaboration and strategic foresight, we can build a more resilient and secure homeland for future generations. It is only through concerted efforts and a shared commitment to our collective security that we can effectively confront the myriad challenges that lie ahead.

Marco Giulio Barone

is Editor-in-Chief of Military Technology

The Bavarian State Minister of the
Interior, for Sport and Integration



Foreword

Ladies and Gentlemen, dear trade fair visitors!

In 2023, global events such as Hamas' terrorist attack on Israel or the ongoing Russian war of aggression against Ukraine, but also the increasing extremism and anti-Semitism in this country, once again illustrate how important the term "security" is for all of us. Especially during these times, state security authorities are concerned about dangers that threaten not only citizens but also the society from outside and also from within. So, they play an outstanding, protective and at the same time stabilizing role. For our security authorities and our Bavarian Police in particular, there is the need to master the diverse and changing challenges associated with these threatening situations on a day-by-day basis.

Thanks to the tireless efforts of our emergency services, Bavaria has been the safest Federal State in Germany for years! With the lowest nationwide crime levels here in Bavaria, there is by far the highest highest clearance rate. Ensuring the safety of our citizens is not an empty promise, but is our top priority. Besides this, a stable security situation is the basic prerequisite for a life in freedom in peace. In addition to the population, Bavarian businesses also benefit from the high standards of protection and security.

In order to continue to be well-prepared for future challenges and to ensure a modern and successful fight against crime, there are security products that are state-of-the-art and have

their finger on the pulse. Our emergency services must not only be well-trained, but also fitted with the best equipment. Therefore, Enforce Tac is an ideal opportunity to find and identify mission-relevant security solutions and to meet with experts from a wide range of areas.

I am happy to be the patron of Enforce Tac again this year. And I am very pleased that the trade fair is taking place over three days for the first time. This signals the success and high quality of this trade fair. Over 600 exhibitors show what is currently possible in terms of safety technology, All of which have contributed to the great success of the trade fair in recent years.

I hope that the trade fair in Nuremberg goes well and that there are fruitful discussions about interesting topics and an enriching experience exchange.



Joachim Herrmann

Bavarian State Minister of the Interior, for Sport and Integration
Member of the Bavarian Parliament



Dear visitors, exhibitors, comrades and friends,

As the anticipation mounts and excitement fills the air, I am delighted to extend a heartfelt welcome to Enforce Tac 2024. It is an honour to have you join us as we embark on this journey towards advancing security and cooperation within the realms of law enforcement and defence. I am filled with immense anticipation for the Enforce Tac 2024 that lies ahead. Alongside my dedicated team, we have spared no effort in curating an experience that surpasses expectations, offering you an unparalleled opportunity to explore, connect and engage.

With your visit, you have already made Enforce Tac history together with us: for the first time, our exhibition will take place over three days – and how could it be otherwise, in three halls for the first time. With more space and more time, I invite you to immerse yourself in the wealth of premieres, highlights and innovations. From the inaugural Scandinavian-German Defence Symposium to the diverse array of exhibitors spanning our expanded space, there is no shortage of inspiration to be found.

With Norway and Germany maintaining one of the largest partnerships for defence and economic projects in Europe, and the recent inclusion of Sweden and Finland in NATO, the symposium's thematic focus gains added relevance. The collaboration between these nations is integral to strengthening the NATO alliance and addressing common security challenges.

Enforce Tac 2024 is poised to be a pivotal event, facilitating discussions and partnerships that will shape the future of defense collaboration. The diverse lineup of esteemed speakers covering a wide range of topics ensures attendees can expect a comprehensive exploration of the current state and future prospects of international defence cooperation. The symposium not only serves as a platform for exchanging ideas but also as a catalyst for building lasting relationships that will contribute to the continued growth and security of the participating nations.

Over the next three days, our programme of events promises to ignite meaningful dialogue, foster collaboration and provide invaluable insights into the ever-evolving landscape of law enforcement and defence. Whether you are participating in insightful discussions on international procurement processes or engaging meet-and-greets and our major premiere Enforce Tac Village, each moment offers a chance to deepen your understanding and forge lasting connections.

The special premiere at Enforce Tac 2024 is the Enforce Tac Village, a realistic outdoor training ground where exhibitor products are presented in various law enforcement and military scenarios. The Enforce Tac team developed the Village along with three strong partners in line with the motto "dynamic.tangible.live".

Enforce Tac at a glance:

This year, Enforce Tac, the International Exhibition & Conference for Law Enforcement, Security and Tactical Solutions, is celebrating its eleventh iteration. The latest in law enforcement and special tactics equipment for 360-degree security is again being presented at the Exhibition Centre Nuremberg, 26-28 February. Enforce Tac was created from the traditional Official Agencies Day at the start of IWA OutdoorClassics and can look back on a long tradition. The growing interest in an international and, above all, discreet exchange of views on law enforcement, security and tactical equipment led to the premiere of Enforce Tac as a separate, restricted exhibition and conference in the Congress Centre of NürnbergMesse in 2012.

The project team is made up of former and current members of military special forces and police tactical units. Their wealth of experience in special and customized training and expertise in scenario building guarantee a great experience. PRORETA Tactical GmbH is responsible for the infrastructure, while OF Operative Fähigkeiten GmbH and the Airborne Medical Group will oversee the planning and execution of the tactical scenarios. Visitors to Enforce Tac 2024 can look forward to the various scenarios four times a day. The on-site experience will also be live-streamed, allowing the action to be followed inside the exhibitions halls as well.

As we cast our gaze towards the future, our vision for Enforce Tac is one of growth, relevance and quality. Building upon the foundation laid last year, where we underscored the inseparable nature of internal and external security, we are committed to elevating every aspect of our event. From increasing the calibre of our visitors to expanding platforms for qualitative exchange, our aim is to drive this meaningful progress.

As we embark on this journey together, I encourage you to seize every opportunity to engage, collaborate and inspire. Your presence here today is a testament to your dedication to our shared mission, and I am truly grateful for your participation.

Thank you for being a part of Enforce Tac 2024.

Warm regards,

Isabelle Teufert
Director Enforce Tac





STATE-OF-THE-ART
IMAGE INTENSIFIER TUBE

PHOTONIS PIONEER IN 16MM

THE BENCHMARK IN ALL
MAJOR EUROPEAN ARMIES



PHOTONIS SHALL DELIVER 40,000 IMAGE INTENSIFIER TUBES TO BOOST MILITARY NIGHT VISION IN GERMANY AND BELGIUM

THE CONSORTIUM HENSOLDT OPTRONICS - THEON SENSORS WITH OCCAR RENEW THEIR TRUST IN PHOTONIS' EXPERTISE

Photonis, brand of Exosens and world leader in image intensifier tubes, has been selected, for the second time, to supply 40,000 4G 16mm image intensifier tubes for Mikron night vision binoculars of Theon Sensors to be supplied to German and Belgian Armed Forces.

The move stems from a second contract between the consortium Hensoldt Optronics - Theon Sensors and the Organisation for Joint Armament Cooperation (OCCAR), leading to the output of 20,000 additional night vision binoculars for Germany and Belgium, scheduled for delivery over 2024 and 2025.

The first contract, signed in 2021, was aimed at increasing Belgian and German night vision capabilities to achieve the level required by NATO Capability Objective 1201 «Advanced Individual Combat Capability». A total of 16,325 Mikron night vision goggles have been delivered to Germany (11 775 units) and Belgium (4,550 units) and actually 30,000 pieces in total shall be delivered including options on that first contract. Adding this second contract, over 50,000 binoculars shall be delivered between Germany and Belgium. An option of 25,000 additional night vision goggles is included in this new contract.

While it is important to maintain the best performance of an image intensifier in all light conditions, it is nearly equally important to make this opto-electronic system as easy and comfortable to use in battlefield conditions allowing effective soldiers to operate safely.

Thanks to its expertise, Photonis was the first manufacturer in the world to develop white phosphor image intensifier tubes and is also the only company to offer a 16mm format tube.

A new standard which enabled the design of modern, lighter and smaller night vision binoculars. Night vision devices that are designed around the 16mm IIT offer the tremendous advantage of having the same level of performance as those based upon the 18mm IIT, but with significantly reduced weight.

Available in a 16mm format, the 4G technology has become Photonis' top-performing product over the last 10 years and is today the benchmark in all major European Land Forces programs: Germany, Belgium, Austria, France, United Kingdom, Spain, Sweden, The Netherlands, Finland, Poland notably.

The 4G is perfectly suited to the stringent requirements of night combat operations. Its high performance FOM (Figure Of Merit) and long DRI (Detection Recognition Identification) ranges giving soldiers a considerable tactical advantage over their opponents in the most challenging light conditions.

The integration of Photonis image intensifier tubes in the Mikron night vision binoculars will enable dismounted soldiers and military vehicle drivers to view their surroundings, move around and engage in combat even in the darkest nights. This will also boost interoperability and reduce the logistical footprint on the ground where both nations are deployed.

«Over the years, our technology has become an essential part of European defense. Conflict evolves as does technology, which is why we invest in Research and Development to provide more effective solutions for soldiers. War is now in Europe, so Armed Forces need high-tech equipment to gain advantage,» says Frédéric Guilhem, Chief Commercial Officer of Exosens.

Rahmenprogramm Enforce Tac 2024

Name	Ort	Ansprechpartner/Durchführung	Datum und Uhrzeit
Enforce Tac Village	Ladehof zwischen Halle 7 und 8	Proreta (Infrastruktur) Operative Fähigkeiten und Airborne Medical Group (Operative Durchführung), intern Isabelle, Thomas und Julia	Mo: 10:00, 12:00, 14:00, 16:00 Di: 10:00, 12:00, 14:00, 16:00 Mi: 09:30, 11:00, 13:30, 15:00
Kleines Kampfgespräch (Interview eines ehemaligen Kommando Spezialkräfte Soldaten)	Nur Online	Operative Fähigkeiten und Airborne Medical Group, Christian Gerstner, intern Isabelle und Thomas	Di: 17:00
Blackbox	Halle 7	Nils, Linda	ganztägig
Enforce Tac TV	Messehallen	Luisa, Isabelle	ganztägig
Enforce Tac Fitness Test mit Sahin Kovancisoy von RCFN Fitness	Halle 8-225	Sahin Kovancisoy, intern Nils, Isabelle, Ruth und Thomas	ganztägig
A.T.E.K. e.V. PTBS Selbsthilfegruppe	Übergang Halle 7A	Sandra Thamm, Isabelle, Thomas und Julia	ganztägig
Buchvorstellung "Unter dem Schwert" eines ehemaligen Kommando Spezialkräfte Soldaten	Halle 8	Christian Gerstner, intern Isabelle, Ruth und Thomas	ganztägig
Verteilung des Magazins "Flashbang" (Meet & Greet)	Übergang Halle 7A	Dominique André, Isabelle, Nils und Thomas	ganztägig
Creator Get-Together/After-Work	Mercator Lounge NCC Ost	Ruth, Lisa-Marie	ab 18:00
Skandinavian-German Defence Industry Symposium	Shanghai NCC Ost	David Faller von Solid Ground, intern Isabelle und Thomas	Mo und Di von 10:00-14:30
Noche Cubana (Ausstellerparty)	NCC Ost, Ebene 3	Nicola, Isabelle	Di: ab 18:00
Fachkonferenz "Waffen und Schutzausstattung"	Sydney, NCC Ost	DHPol (Stefan Beckmann), intern Nils	Di ganztägig
VIP Frühstück mit StM Herrmann	Mercator Lounge NCC Ost	Nicola, Isabelle, Thomas	Mo: 10:00-11:00
Eröffnungsrundgang mit StM Herrmann	Messehallen	Nicola, Isabelle	Mo: 11:00-12:30
Fachgruppensitzung der AG "Public Security and Defence" vom UAV DACH	VIP Service 8/9	René Achten, Michael Wieland, intern Isabelle und Thomas	Di: 15:00-17:00
Mittagessen mit Peter Ottmann zu 50 Jahre NM	Vasco da Gama NCC Ost	SvC	Di: 12:30-14:00
Side-Event Bayern Innovativ, TechHUB SVI	Vasco da Gama NCC Ost	Nadine Singer, intern Isabelle und Linda	Mi: 12:00-14:00
Rundgang Ausschuss für Kommunale Fragen, Innere Sicherheit und Sport des Bayerischen Landtags mit anschließendem Mittagessen	Messehallen, Business 1+2	Andrea Ulrich, intern Isabelle und SvC	Mi: 09:00-12:00
Internes Get together	Foyer Shanghai NCC Ost	Nils	Mi: 18:00 - open End
Besuch und Rundgang mit StS Tobias Gotthardt, MdL	Teilnahme am TechHub, vorher Rundgang	SvC	Mi: 10:30-12:00

Law enforcement throughout the world is increasingly responding to civil unrest, violence and popular protests with Crowd Control Weapons.

(Photo: Legal Resource Center/ Yotam Ronen)

Peter Donaldson

Real-world issue – less-than-lethal weapons

Nobody has come up with anything more effective or efficient than the automatic firearm, which has been in widespread use for more than a century. Forcing determined, violent individuals or groups of people to stop what they are doing instantly without killing them or doing them serious harm is much more difficult, and the fact that there are so many candidate non-lethal – or less than lethal, or less likely to be lethal – weapons using several different working principles and all with significant drawbacks is a sign that it is not a mature technology and that the problem that the technology is designed to address is a hard one.

Ray guns that can be set to stun have been science fiction staples for decades, but nothing as effective as the handheld phaser depicted in Star Trek or the far more subtle point of view gun from the Hitch-Hiker's Guide to the Galaxy has made it into the real world.

Yet the allure of non-lethal means of forcing the compliance of unruly crowds and threatening individuals who pose a danger to law enforcement officers and others remains a powerful one, and police forces the world over are increasingly employing them and looking for new and better ones, helped and cajoled by an innovative and hungry industry.

The variety of these weapons is impressive and growing, and includes Electronic Control Devices (ECDs) – also known as Conducted Energy Weapons (CEWs) – such as the Taser and PhaZZer families; Kinetic Impact Projectiles (KIPs) such as bean bags, baton rounds, rubber balls, plastic and 'sponge' rounds; chemical irritants delivered as jets, fogs and gases, in grenades or as payloads in KIPs; water cannons; stun grenades; odour agents; slippery gels; dazzling devices; entanglement devices such as gun-launched nets; and more exotic weapons such as millimetre-wave

pain rays and acoustic weapons, including loudspeakers and gas vortex guns.

Quest for accuracy

FN Herstal took a different route with its FN 303 system, which includes a 15-shot carbine-style launcher and the seven-shot FN 303-P pistol, which fire the same range of 18mm, 8.5 gram, fin-stabilised frangible projectiles using compressed gas, air in the carbine, carbon dioxide in the pistol. The impact payload is formed of glycol granules under the frangible cap, and can be supplemented with washable or indelible paint or an irritant. The carbine fires its projectiles at muzzle velocities between 85m and 91m/sec and is claimed to be accurate up to 50m, with 20 claimed for the 303-P. Tests of the carbine by U.S. law enforcement officers from Benton County, Indiana, showed that it is capable of putting six rounds into a 12.7cm circle from 22.9m and from its maximum recommended range of 50.3m, officers were able to hit the torso of a life-size mannequin with every shot. This compares favourably with 12-gauge beanbag, 37mm and 40mm impact munitions tested by the Los Angeles County Sheriff's Department at this distance. Of these, 46% shot groups smaller than 46cm, 30% between 46cm and 91cm, while 24% missed the 36-inch target. On average, square beanbags produced 55cm groups and sock

Peter Donaldson is a regular contributor to Mönch with more than 25 years' experience in a broad range of complex technical and operational defence and public security subjects.



The compressed air-powered FN 303 less lethal projectile launcher incorporates a sight and is highly accurate at ranges up to 50 metres. A rotary magazine (not shown) holds the projectiles, allowing rapid fire in multi-target scenarios. (Photo: Stefan Nitschke)



◁ *The FN 303 P less lethal launcher is highly accurate from zero to 20 metres. It features a magazine that holds seven projectiles and a disposable CO₂ cartridge. (Photo: FN Herstal)*



◁ *The Pogojet-firing pistol stops a target in their tracks from a hundred meters away without harming it. (Photo: Battelle Memorial Institute)*

beanbags formed 44.5cm groups. In this same series of tests, LA County matched Benton County's 12.7cm groups with the FN 303 carbine.

FN cautions users never to aim at the head or neck because of the risk of serious injury or death, and always to aim lower than the centre of mass when the target is within 5 metres.

US rival **PhaZZer Electronics, Inc.**, offers a comparable weapon based on the M4 carbine platform. With controls and ergonomics identical to those of the M4, the Raptor features a new 17.27mm calibre aluminium barrel and a new lower receiver that accepts a 20-round magazine and with a 0.213 litre air/CO₂ tank in the stock. The Raptor fires a variety of rubber, OC, ultraviolet marking, paint marking, low impact and high impact glass breaking ammunition to a range of 50m at a muzzle velocity of 107 m per second. With standard rails, it can mount a range of sights and accessories including an under-barrel Taser or the company's own PhaZZer Enforcer equivalent.

Adjustable velocity projectile

Whatever the combination of mass, velocity, calibre, and composition needed to obtain the required effect, projectile design is always compromised by a fixed muzzle velocity. Always fastest when it leaves the muzzle, a conventional projectile inevitably slows down with range, so making it acceptably safe at short range while remaining effective at longer ranges is very difficult.



The electronic control devices used by security forces at Grissom Air Reserve Base, Indiana, deliver a high-voltage, low-power charge of electricity to disrupt a person's central nervous system and induce involuntary muscle contractions. (Photo: Technical Sergeant Mark Orders-Woempner)



The Blunt Impact Projectile (BIP) ammunition is a 40mm blunt impact kinetic energy round employing a patented collapsible head and advanced engineering technology to provide superior pain compliance to previous less-lethal projectiles. (Photo: SDI)

Jeffrey Widder, Senior Research Scientist at the **Battelle Memorial Institute** in the U.S. state of Ohio, is developing a round and launcher called the Pogojet Caseless Telescoping Less-Lethal System to solve this problem. According to the patent document, it features a caseless, captive piston driven, spin-stabilised rocket assisted projectile. Initially, the Pogojet was also a fixed-velocity projectile, pushed from the launcher's short, lightweight barrel by the captive piston and then accelerated to less than 100m/sec in the barrel and sustained at that speed by propellant gasses venting through the base. However, Widder has found a way of throttling the rocket and is investigating a means of linking the throttle mechanism with a laser rangefinder so that the system automatically ensures that the projectile hits the target at a safe but effective velocity regardless of range, out to its maximum of about 100 metres.

ECD developments

At very close ranges, ECDs or Conducted Electrical Weapons (CEWs), such as the Taser and PhaZZer families, offer a safer option than impact munitions, although they are rarely used in crowd control situations. Calls from law enforcement organisations for better safety, accountability, and performance, said **Taser International, Inc.**, led the company to develop the new generation of "smart weapons" on a digital platform exemplified by the X2, launched in 2013, along with the Axon body cameras and cloud-based evidence management, which are currently rolling out to police forces. The Ventura County Sheriff's Office in California bought 325 Taser X2s and the same number of Axon Body 2 cameras plus a five-year subscription to the Evidence.com officer safety plan. This came just a week after the company announced the sale of 300 X2s and 628 of the cameras to the Minneapolis Police Department. The Taser X2 has several new features, including a back-up shot to remove the need to manually reload if there is a problem with the first shot, dual lasers to show where each probe will strike, and a warning arc to show the subject that the weapon is ready to fire. Rival ECD/CEW manufacturer PhaZZer has added extra capabilities to its Enforcer model with cartridges that fire payloads such as pepper powder, pepper balls, rubber balls and paint balls as alternatives to the usual current-delivering dart pairs to provide greater flexibility.

Conclusion

While there is no shortage of innovative ideas for non-lethal weapons, increasing scrutiny by human rights groups and private citizen surveillance will mean that smart solutions that combine demonstrable effectiveness and safety with greater accountability will be at a significant advantage. ■

NEXT GENERATION MULTI WEAPON SIGHTS

Fire Control System

FCS14™

For use on Multiple Weapon Platforms with built-in laser range finder, inclinometers, gyro, and ballistic computer calculating for lead and distance to moving, stationary and airburst targets. Exceptionally high first hit probability reduces ammunition consumption, training time and collateral damages.



Red Dot Sight

ACRO™ P-2

The Acro™ P-2 represents the next generation of RDS optics. With over 5 years of constant-on use, submersible to 35 meters for 120 minutes and tested to withstand over 20,000 rounds of .40 S&W ammunition, the Acro™ P-2 goes above and beyond the call of duty. For use on Multiple Weapon Platforms.



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Interview with Magnus Andersson, Director FCS Sales at Aimpoint



(All pictures by Aimpoint if not differently indicated)

Magnus Andersson worked ten years as a Technical Officer in the Army with weapons as a specialty. He started at Aimpoint in 1998 and have since worked with the sale of aiming systems for various weapon platforms. Since 2012, he has been working full-time with FCS (Fire Control System) for support weapons and manages the majority of Aimpoint's OEM projects within FCS.

on purpose kept the sight and the DSA separated in different housings, as the speed of development of sensors is so fast that it is very difficult to keep the pace with developments. The user can get his sighting system updated by buying a new generation of DSA and keep the FCS14 as it is. Competitors with all sensors in one housing are stuck with the sensors they have. They can't change sensors as time goes by. We see this advantage every day when we are out doing demonstrations.

What sets Aimpoint FCS - Fire Control Systems apart from competitors in terms of technology, features and performance?

One part is described above, the multi-weapon capability. In addition, it is extremely easy to introduce the sight to a new user. It takes five minutes to understand how to use it. The interface for the gunner is very logic even in combat situations. The most needed functions for the gunners are always present. During the designing phase of the products, we evaluate very careful the addition of 'nice to have features'. Every symbol displayed should be a true value for the gunner. Moreover, the same interface can be integrated with other type of technologies, for example to program airburst ammo.

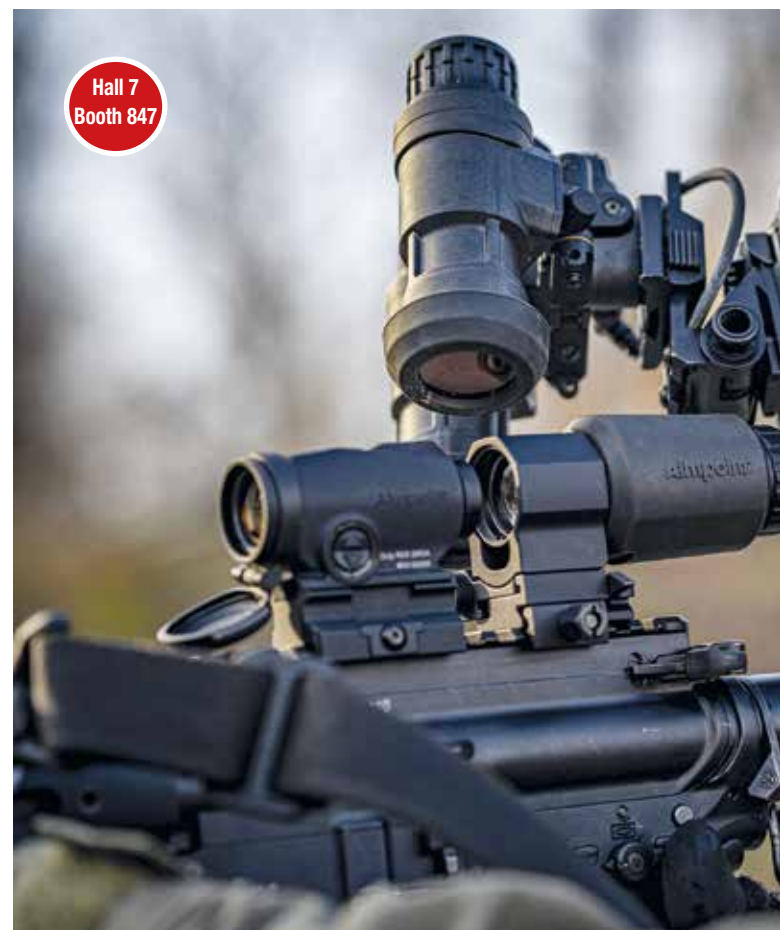
The high reliability of our systems has been proven over the years. They do not lose the zero while being transported by military vehicles of all

Aimpoint 3X-P, Acro P-2 and FCS14 represent the spearhead of the company's capabilities to provide customers with accurate and highly reliable sights and fire control systems for firearms and missiles. The success of these products depends on the company's capability to leverage on a broad knowledge base and considerable feedback from end users.

Can you describe the development pathway of the FCS14 since the design phase to today's product?

The legacy FCS13 and TH60 (thermal clip-on) served the users very well over the years. We have sold over 3,000 units and the return rate on warranty and repair is down to very few examples. The product is extremely reliable and stable, even in new weapon configurations.

The challenge with a multi-weapon sight is that all weapons have chock profiles that very much differ from one weapon to another. Some weapons might have massive recoil/impulse or vibration, some others do not. All these differences require a lot of knowledge and understanding of how to design a multi-weapon sight. So far, Aimpoint is the only company that has managed to design a true multi weapon sight. The FCS14/DSA is just the next step. Lighter, smaller and more capable. It has more modes it can be operated within. The baseline is still the direct view optic where the naked eye is used. Then you can use the solder issued NVD of all generations as a perfect combination. Further, you have the DSA containing a low light sensor that can operate down to quarter moon and a LW-IR sensor. Both low light sensor and thermal can be zoomed 1x-8x. We have



The Acro P-2™ represents the benchmark for which all pistol mounted optics are measured. Designed and tested to withstand the shock, vibration, extreme temperatures and material stresses generated by firing over 20,000 rounds of .40 S&W ammunition, the Acro P-2 goes above and beyond the call of duty. Built to endure the physical demands of semi-automatic pistol slides, the Acro P-2 is a closed emitter red dot optic that includes a brighter, more efficient LED emitter coupled with a higher capacity CR2032 battery to provide over five years of constant-on use.

kinds. We have been able to convert real life vibrations, recoils and more into theoretical data in our design tools so we can design from the beginning with correct data. Everything is later verified through a lot of live firings.

We are continuously updating all sights with new features, including also software updates. Updates can be demanded by customers or autonomously when we detect potential improvements. For example, we are working with indirect fire mode for 40mm grenades, with different air-burst patterns and a more effective presentation of information.

How does the system handle adverse environmental conditions, such as extreme temperatures, humidity, or low visibility?

Throughout time, it has been proven that our sights simply work, always, even combined with other technologies (sensors working in different wave lengths), ranging from the direct view mode to existing NVD that most soldiers are equipped with today, type PVS14 or PVS31, for example. Thanks to our extensive experience in building military grade optics, we been able to design and control the behaviour of materials under extreme temperatures.

Can you share insights into the validation process and any significant testing that has been conducted?

To design a multi-weapon sight is very difficult and challenging. We are addressing the entire range of support weapons. We have been very successful, and our products have been in service for several years now



within military units. Now we are launching the next generation of optics with new technical solutions that will be addressed to the same weapons. As mentioned before, we are both doing a lot of simulations and a lot of live firing with all kinds of weapons.

Can you provide your overview of the current market landscape for this kind of systems? How has it evolved in recent years?

There is no 'fashion' behind support weapons, most weapons have been serving through several wars. These weapons are old but also reliable and by integrating a modern optronic, they are given a new life and can be in service on the modern battlefield for many years. When we started this journey to offer optronics for crew served weapons, no one was prepared or thought it was good idea. It was widespread opinion that these are weapons for suppressive fire and optics would just interfere. Now, after years of test firings, most western countries agree on the need for an optics on these weapons. No one is questioning their utility any longer. This is the main difference going back in time.

What are the key trends and challenges in the industry, and how is Aimpoint positioned to address them?

The current trends is to put optics on all kind of weapons, all they down to pistols. We are well prepared for this development. We think there is a lot of old type of weapons with thousands of grenades in stock, that with



◁ *The Aimpoint® 3X-P features a variable dioptic setting (-2 to +2), allowing the magnifier to be adjusted to the individual user's eye and an ergonomic design with protective rubber cover for a sure grip when used as a handheld device. Offered at an affordable price point, the 3X-P is the ideal solution to increase the distance of your aiming solution without sacrificing the advantage of extremely quick target acquisition.*

The New Era for Fire Control Systems

Recently, the Aimpoint Fire Control Sight (FCS14) has been tested and integrated into the MBDA Enforcer fire-and-forget shoulder-launched weapon. Further developments are expected, such as the evolution of the FCS14 for anti-drone use.

The proliferation of unmanned aerial vehicles (UAVs) has presented new challenges to military forces worldwide. These agile, and often unpredictable, platforms demand innovative countermeasures to ensure the protection of critical assets and personnel. In response to this evolving threat landscape, Aimpoint has been developing capabilities with the **FCS™** Fire Control System, with a particular focus on anti-drone measures.

FCS™ incorporates advanced sensor technologies and precision targeting systems to enhance the accuracy and efficiency of anti-drone measures. By leveraging sophisticated technology, military forces can detect, predict and eliminate drones with unprecedented precision.

One of the key advantages is the possibility to integrate the FCS on an array of existing light, medium and heavy weapon systems. This capability enhances the interoperability of anti-drone systems with

existing military infrastructure and other countermeasure systems. FCS' seamless integration allows for a comprehensive and layered defense strategy, combining various technologies to create a robust anti-drone defence.

The impact of Aimpoint's FCS extends beyond traditional military applications. Law enforcement agencies, critical infrastructure protection teams and other security entities can benefit from this technology to safeguard public spaces and vital installations.

For instance, FCS14 might also represent an ideal FCS solution to augment the Small Anti-Drone Missile currently under development at MBDA. Directly derived from the Enforcer, the new missile is thought to counter swarms of Class 1 drones (<150kg) in close-in protection of critical infrastructure or air defence batteries.

In conclusion, the integration of the Aimpoint FCS as an anti-drone system represents a significant leap forward in the ability to counter the evolving threat posed by drones using existing weapon platforms. The marriage of advanced sensors and precision targeting systems empowers our military forces with a potent tool to protect against aerial threats effectively.

an FCS from Aimpoint could be modernized and up to date. No need to de-mill this ammunition.

How does Aimpoint stay ahead in terms of technology and innovation within the fire control systems' product line?

We are always close to the end users and listen to their needs. This is the only way to have the best products. We are not necessary interested in their wish for new products, but more what their problems and concerns are.

How do you approach building and maintaining strong relationships with clients and partners?

We are always close to end user and by having an R&D department constantly pushing the limits, we think we always will be welcome to show what we have. We are not afraid to show what we have and test it on new applications. If it doesn't work 100%, we think the end users will understand and will not close the door. If you don't dare to try, you can't win. (mb)

*The FCS14
in the version
for the Enforcer
shoulder-launched
weapon.
(Photo: MBDA)*



INVISIO unveils the X7 headset – redefining the usability of tactical in-ear headsets



The X7 takes the flexibility and ruggedness of previous in-ear headsets, along with innovative vibration technology and hear-through modes to offer clear communications that are vital in tactical environments along with hearing protection, flexibility and comfort.
(Photo: Invisio)

Hall 7A
Booth 137
(Imtradex GmbH)

INVISIO announced its new generation of tactical in-ear headsets – the new AI-enhanced X7. Offering a whole new level of comfort, ease of use and hearing protection as well as unparalleled natural situational awareness, the X7 promises to set a new industry benchmark for in-ear headsets in the most demanding environments.

The X7 has been developed using extensive feedback from in-field user experiences to create a range of new features, including an ergonomic design perfected to fit the ear, soft materials to ensure comfort for prolonged usage, and the introduction of headset sleeves to protect from wear and tear and provide a more secure and comfortable fit. With a headset weight of just 47 grams, the X7 minimizes the wearer's load, delivering a compact and lightweight design that ensures minimal interference with eyewear or headgear, without compromising hearing protection, and simultaneously facilitating superior situational awareness. Its careful design not only provides improved comfort and ease of use, but also addresses common headset issues such as excessive heat, sweating, discomfort and interference.

The X7 has an integrated Voice Pick-up Sensor (VPU) which picks up vibrations from the inner ear and transforms them into speech without the need for a specific in-ear contact point. Its hear-through microphones are positioned within the external contours of the outer ear, utilizing the outer ear capability of detecting the origin of sounds and providing full 360-degree situational awareness.

The newest addition to the INVISIO range offers a solution for all users regardless of ear size and shape thanks to a choice of three different headset sleeves with ergonomically-shaped INVISIO EarWings™ as well as a choice of different ear tips including either foam tips, tri-flanged tips or the INVISIO CustomFit™-custom-molded ear tips providing the ultimate personalization. Connected to an INVISIO control unit, the X7 uses AI-powered audio enhancements to provide unparalleled communication and speech quality excluding unwanted noise, with different hear-through modes and digital signaling processing supporting automatic adjustment of received audio volume. It provides certified, market leading and level-dependent hearing protection without compromising situational awareness, and can be combined with the INVISIO T7 over-the-ear headset to provide dual hearing protection for extremely noisy environments.

Like other in-ear headsets, the X7 is headwear-agnostic and will work with almost all tactical helmets, providing unrivaled flexibility and mission

versatility, as well as working with gas masks and other respiratory systems without impeding communications. The small, unobtrusive design minimizes visibility, giving a tactical advantage in civilian scenarios and missions where other headsets can appear bulky and conspicuous, adding to the variety of use cases in which it can be deployed. Submersible to 2m for two hours and MIL-STD-810H compliant, it is the headset of choice for users operating in the most challenging of environments.

"The INVISIO X7 is a product of the latest technological advances combined with extensive feedback from use in the field to create a market-leading in-ear headset that sets a new standard for comfort, ease of use and flexibility for tactical users on the ground," said Jonathan Wassberg, product manager headsets at INVISIO.

The X7 takes the flexibility and ruggedness of previous in-ear headsets, along with innovative vibration technology and hear-through modes to offer clear communications that are vital in tactical environments along with hearing protection, flexibility and comfort. The latest developments mean this X7 in-ear headset sets a new professional standard, providing an invaluable asset for modern warfighters and a tactical edge for the most challenging tasks in the toughest environments.

The INVISIO X7 offers:

- Ergonomic design, soft materials and a choice of headset sleeves with ergonomically shaped INVISIO EarWings™.
- A choice of different ear tips including either foam tips, tri-flanged tips or the INVISIO CustomFit™- custom molds of the inner ear
- Integrated Voice Pick-up Sensor (VPU), which transforms vibrations from the inner ear into speech without the need for a specific in-ear contact point.
- Unparalleled 360-degree auditory situational awareness utilizing the contours of the outer ear for the most natural experience.
- Rugged - submersible to 2m for two hours and MIL-SPEC compliant.
- NVISIO Audio™: AI and digital signal processing to filter out noise and increase speech intelligibility.
- Market-leading hearing protection of 36dB SNR/32dB NRR and option of double hearing protection with hear-through.
- Mission adaptive: Volume from received audio is automatically adjusted to surrounding sound level.

Additional product data and photos are available on request.

(str)



*The prototype
of the FN Smart Protector® 303T.
(Photo: FN Herstal)*

Making less lethal even less lethal

FN Herstal is showing the evolution of their FN 303® kinetic energy less lethal launcher, the FN Smart Protector® 303T. It takes the FN 303 Tactical and adds high-tech elements to reduce the risk of unintentional headshots. Severe injuries from kinetic energy less lethal projectiles often result from hitting the head. Users are trained to never target the head, and the FN 303 system is highly accurate. But accidents may happen.

The FN Smart Protector®-303T has a camera that takes video images of what is in front of the launcher, special software scans images in real time and detects human heads. If the launcher is pointed at someone's head there are audible and visual warnings, and the trigger is immediately blocked until there is no longer a risk. Video and sound recordings are stored for downloading for after-action review or evidence. This evolution

uses modern technology to make the use of a very safe system even safer. It helps avoid injuries to persons targeted, or bystanders. It provides valuable help to the user who is expected to never make mistakes, even in very difficult situations. It also proves that every possible effort has been made to use safe and proportionate force in law enforcement and public safety operations. This is just one of a wide selection of small arms, ammunition and related products to be seen on the stand of FN Herstal.

(mb)



Discover more here

The FN SCAR®-SC, the baby of the FN SCAR® family



*FN SCAR®-SC .300 BLK
with sound suppressor.
(Photo: FN Herstal)*

Bigger is not always better. Users who need to carry and deploy a weapon in confined spaces must have a very compact weapon. The FN SCAR®-SC carbine is a variant of the FN SCAR® rifle, designed to meet demanding requirements from US Special Forces. The 5.56x45mm FN SCAR®-L and 7.62x51mm FN SCAR®-H proved their outstanding reliability, accuracy and rugged build in combat operations. Their open architecture and modular design allowed adaptation to all kinds of missions with military, law enforcement, regular or special operations units. The FN SCAR®-SC subcompact version inherited the advantages of its parent design, with some specific features. FN SCAR-SC is submachine gun sized but fires 5.56mm (.223) calibre or 7.62x35mm (.300 BLK). Interchangeable buttstocks adapt the weapon to the user's mission requirements, including one for use when wearing a helmet with a visor. The standard receiver has a full-length top rail integral to the receiver,

side rails, and a lower rail. An optional version has a receiver adapted for mounting M-LOK interfaces for accessories. Commonality with the FN SCAR-L, FN SCAR-H and FN SCAR-H PR precision rifles simplifies training, and the high number of common parts makes logistics and armourer training easier. The FN SCAR has been very successful on the military, and law enforcement markets. The FN SCAR SC has been particularly well received by law enforcement.

(mb)

More information here.
Want to see the FN SCAR®-SC,
and a selection of outstanding
small arms, ammunition and
less lethal solutions?



Revolutionizing connectivity and coordination

ODM GmbH approaches Enforce Tac 2024 in Nuremberg with a diverse range of original equipment precisely tailored to the dynamic needs of police, security, rescue, special forces and the military. ODM's robust communications products revolutionize connectivity and coordination with interference-free voice communications components.

Beyond conventional boundaries, ODM's next-generation personal equipment includes infrared stereo headsets with ANR and situational awareness, robust and versatile handsets, flexible cabling solutions, climate-regulating textiles and protective gear such as ballistic helmets and bags. For stationary, professional voice transmission, the company, headquartered in Wattenheim in the State of Rhineland-Palatinate, Germany, also offer desktop microphone units, encrypted headphones and handsets for emergency services in control centers and security logistics. The company's solutions focus on robustness, user-friendliness and versatility to ensure the success of the mission and its products are tailored to the needs of the forces in the respective mission.

At Enforce Tac 2024, visitors can explore the future of surveillance with ODM's new reconnaissance drone equipped with advanced optics and thermal imaging cameras for real-time aerial reconnaissance. From tracking the movements of suspects to covering vast terrain, the ODM drone provides outstanding invaluable situational awareness that helps law enforcement agencies, police, fire services, civil defence and special forces make strategic decisions.

Sustainability is also at the forefront of ODM's quality solutions, and the firm is committed to local production and protecting the environment.



A headset is an indispensable part of personal safety equipment (PSE), protecting hearing in noisy environments and allowing communication and minimizing health risks.

(Photo: ODM)

ODM is also an experienced partner for its customers when it comes to maintenance and obsolescence management.

At Enforce Tac 2024, one can discover ODM's evolving product portfolio in detail. The company is showcasing proven expertise in communication and protection, sustainably realized through regional supply chains and production in Germany. (stn)

RGW SERIES

RGW series – a technologically advanced and unrivaled shoulder-fired weapons concept. Featuring a variety of recoilless, shoulder-fired, single-soldier operated, single-use weapons for anti-tank, anti-structure and multipurpose uses.

RGW munitions are available in 60mm, 90mm and 110mm variants.

- Recoilless system
- Easy handling
- Fully disposable weapons
- Fire from confined space
- High accuracy
- Maintenance free
- Full training support
- Growing user community

NEXT GENERATION OF SHOULDER-FIRED

Dialogue with
Matthew Baker,
Director of Military & Federal at Streamlight

A Wealth of Bright Solutions

Streamlight designs, manufactures and markets high-performance lighting, weapon light/laser sighting devices and scene lighting solutions for professional law enforcement, military, firefighting, industrial, automotive and outdoor applications. With over 525 U.S. and Foreign Patents, and over 135 U.S. and Foreign Trademarks, the company is a pioneer in the development of rechargeable lights and helped to revolutionize LED lighting.

How is the Homeland Security environment changing in your opinion?

With exponentially more border crossings per year in the U.S., the burden placed on our Customs & Border Protection end users also increases. Human smuggling appears to be more profitable than narcotics trafficking. Each state's National Guard is being called up to handle the processing duties, like paperwork, feeding illegals, and caring for young children, while CBP officers can do the law enforcement jobs they were sworn to uphold. Our lighting products are used every day by CBP officials to patrol illegal crossing paths along fences (Stinger, PolyTac), to inspect cargo vehicles (Stinger, PolyTac), to search packages



Matthew Baker has extensive work experience in the military and federal division. Matthew served as the director at Streamlight, Inc. where they supervised the company's path and brand into the U.S.



(Stinger, PolyTac, ProTac), to perform medical/first aid (Sidewinder), to engage, deter and arrest hostiles (TLR series), to detect counterfeit currency (UV lights), to track groups of people (Stinger CRI), to signal other agents and air surveillance, sometimes covertly to avoid detection by illegals and smugglers (Sidewinder), to serve as a hasty checkpoint (Portable Scene Light).

Can you highlight any recent technological advancements or innovations in Streamlight products that enhance their performance in critical homeland security situations?

As we increase the candela in our weapon lights, we can perform in truly dark, open settings by flooding an area with more light and reaching more distances. This means an agent, who typically works alone until backup can arrive to assist, can identify, and hold a greater area with a single flashlight or weapon light. As border agents and law enforcement officials begin using special pistol optics like RDS to improve marksmanship skills, our lights with increased candela can increase target identification at greater distances. Our Stinger CRI, with warmer LED output, gives our border agents the ability to recognise disturbances more quickly in terrain

◁ ***The ProTac series expands its weapon-mounted lights with this 50,000 candela light with a 447m beam distance. It features a fixed-mount for MIL-STD 1913 or M-LOK® compatible rails. Lightweight, this bright light can be used in close quarter combat or to identify medium-range threats. Rugged, reliable and features a remote switch with momentary/constant on operation or a standard push-button switch. Easily replace batteries by unplugging the remote and removing tail cap – no connected wires. IP67 rated without the remote pressure switch installed; waterproof to 1 m for 30 minutes.***
(Photos: Streamlight)



The TLR-7 X multi-fuel rail-mounted light accepts either Streamlight's SL-B9™ USB rechargeable protected lithium-ion battery pack or a CR123A lithium battery. Interchangeable rear paddle switches accommodate different shooting styles.

(like footprints, and broken tree limbs) that are typically washed out by higher-lumen, high-output LED products.

Given the diverse nature of homeland security operations, can you elaborate on the range of battery options available for Streamlight flashlights and how they cater to different operational needs?

The CR123 battery still reigns dominant in this setting. It's proven and can be stored for long periods, and it provides the best output. However, the ability to have dual fuel options is the greatest benefit. Our SL-B26 rechargeable stick battery can power six-volt stacked power handhelds and our ProTac HL-X RM carbine lights. Our newly released rechargeable SL-B9 can power our TLR-7X. So, these agents with access to USB or other direct power can keep their rechargeable topped off and ready. Additionally, when these agents conduct low-light training, the rechargeable battery option lets them save money and then they can use CR123 for their live operations. A favourite power option from Streamlight used by the U.S. Dept. of Defense is our Sidewinder Compact II and Sidewinder Stalk feature is the ability to accept AA, CR123 and even AAA to power that product. Any convenience store sells one of these batteries, or any T.V. remote control can be cannibalised for its battery to be used in an emergency.

For those in tactical units, how easily can Streamlight flashlights be integrated with other tactical equipment commonly used in homeland security operations?

Without the need for any tools, our TLR-7X and TLR-1HL fit onto the issued weapons of CBP in about 15 seconds. This weapon fitted with these TLR products fits easily into the issued holsters of these agents. This gets tested and approved prior to being issued [...] it is a mandatory requirement. Our Sidewinder Compact II and Sidewinder Stalk fit every helmet, in a variety of user-preferred positions, and they have backup mounting options to attach directly to tactical vests. A brand new Stinger CRI purchased today will fit into an existing Stinger charging cradle purchased ten years ago and already hard-wired into a CBP vehicle.

Could you provide an overview of the key features and specifications of the Pro Tac rail-mounted flashlights? How do they differ from other models in the market?

Very few, if any, weapon light manufacturers have the ability to conduct ballistic round testing on a variety of cyclic operation weapons and ammunition. In the past, companies had to purchase thousands of rounds



With a rechargeable battery system powering 300 lumens of bright light and a red or green laser, the TLR-6 allow for easy target identification. It includes three easy-to-swap batteries to triple the run time for a full hour of power. A portable charging case conveniently stores and charges batteries without the need to tether your gun.

of ammo, hand load them into magazines and then spend days just to get the results of one bullet type. Streamlight has an accelerometer, like the ones used by the U.S. Dept. of Defence Special Operations Command, to get quick data and how a Pro Tac RM will perform. Streamlight may be the only weapon light maker that possesses its own set-up, and this quick processing of data works well with our indoor firing range for "hands-on" form/fit/function tests.

Homeland security operations often involve harsh environments. How does the Pro Tac family ensure durability and reliability under tactical conditions?

The ProTac HL-X handheld is used by the U.S. military and was selected for its durability, size, output and multiple battery configurations. Its sister product, the ProTac HL-X RM Pro, has the same performance but can be mounted to a carbine. These products are environmentally tested, but the RM version receives MIL-SPEC ballistic testing to ensure it can handle a variety of ammunition. The ProTac 1L-1AA is by far our most popular handheld for homeland security ops. It can take AA or CR123 batteries and takes up very little space and that makes it the choice for those in both tactical, like a Border Patrol agent working outdoors, and non-tactical settings, like a Customs official scanning packages in an airport.

About the Sidewinder Stalk multi-function military helmet light system, how does it enhance visibility in low-light or no-light situations?

The Sidewinder Stalk gives the user the ability to work in regular white light for the best hands-free setting. However, white light may not be allowed for covert uses to preserve night vision or to properly read instrument gauges in a helicopter. So, we have incorporated red, green and blue options for backup visible low-light needs. Sidewinder Stalk also offers an infrared (IR) beam for covert usage with NVGs, and it has an IFF IR beacon that can signal various aircraft, drones or others seeking to mark friendlies' positions.

How does the Sidewinder Stalk withstand the rigours of military operations, and what level of resistance does it have to elements like water and dust?

Sidewinder Stalk has been tested and is currently in use by U.S. Special Operations Command in a variety of settings across the globe. It has also been selected for use in the U.S. military aviation ground support community for its fit to the new cranial helmet and its ability to offer different beam colours. It is tested to MIL-STD-810-G. ■



Reviewer FN EVOLYS®, a truly ultralight machine gun

Recent years have seen military operations in very differing conditions. However, some requirements are always the same. Weight reduction is everyone's favourite. Less weight = greater mobility = increased survivability. Units on foot always need support weapons with much more firepower than magazine-fed weapons. It must be easy to handle and fire, and very reliable. Day and night optics and sound suppressors are becoming standard.

FN Herstal's EVOLYS ultralight machine gun is a totally new design that optimizes the weight/firepower ratio. Belt-fed (it really is a machine gun), it uses modern materials and design features to minimize weight (it really is ultralight). The integral one-piece top rail for in-line day and night optics, side and lower rails, and a gas regulator for reliable sound

*The FN EVOLYS® ultralight machine gun on showcase at Enforce Tac
(Photo: FN Herstal)*

suppressor use make it "accessory friendly". The feed cover is on the side, it does not interfere with optics, and is easier to handle. The belt is mechanically pushed into position when closing the cover, and the last link is ejected, avoiding common causes of stoppages on belt-fed guns. The selective-fire trigger allows single shots for discriminate firing and reduced ammo consumption.



The FN EVOLYS has the firepower of a machine gun but handles more like a rifle, and in 5.56mm it weighs about 5.5 kilograms. It is also available in 7.62 NATO. (mgb)

Discover more here.



LIBELLE®

www.diehl.com/defence

VISIT US AT
Hall 7A
Booth No. 221

Reviewer

ESG supplies visAIRion laser safety glasses to Brandenburg police helicopter squadron

ESG Elektroniksystem- und Logistik-GmbH has been commissioned by the procurement authority for the Brandenburg police force to supply its pioneering visAIRion laser safety glasses to the pilots and flight technicians of the Brandenburg police helicopter squadron. The laser safety glasses were handed over to the future users at the Ahrensfelde site.

ESG's visAIRion laser safety glasses for aircraft crews, which are now also used successfully by the German Armed Forces, not only offer optimum, customisable ergonomic features and maximum wearing comfort, but above all a broadband protective effect while at the same time ensuring sufficient transmission for external vision in poor weather or night vision conditions. With the initial equipment of its pilots and flight technicians, the Brandenburg police force is taking on a pioneering role in the police environment worldwide with regard to optimising the operational capability of its helicopter squadron by sustainably increasing protection against the increasing dangers of laser attacks.

The visAIRion team at ESG is responding to the changing threat situation posed by the possibility of attacks with new laser pointer models by continuously reviewing the protection spectrum and optical performance of the laser safety glasses and developing them further where necessary. Among other things, ESG is currently working on variants of laser safety glasses that are also suitable for non-ballistic cockpit windows and whose filter technology can be used to replace visors, as well as



The Brandenburg police helicopter squadron now has laser protection equipment that meets the special challenges of police missions. (Photo: ESG)

mask goggles for dust-intensive environments. ESG has been one of the leading German providers of design, integration, operation and in-service support of complex, security-related electronic and IT systems for more than five decades. In Germany and internationally, ESG provides products and services for customers from government authorities, the fields of defence, public security and industry. ESG is a certified aviation company for aircraft and aviation equipment for the Bundeswehr and an aviation engineering company in line with EASA Part 21J, EASA Part 21G and EASA Part 145. As a special systems company for mission avionics, simulation and training, as well as special deployment systems, ESG offers customised solutions. Independent process and technology consulting is one of ESG's key competencies. (stn)

BDSV

Bundesverband der Deutschen
Sicherheits- und Verteidigungsindustrie e.V.



„Mit Sicherheit sicher leben“

Der BDSV e.V. ist die Interessenvertretung der deutschen **Sicherheits- und Verteidigungsindustrie (SVI)**. Unsere Mitgliedsunternehmen verstehen sich in erster Linie als hochqualifizierte Ausrüster und Partner der **Bundeswehr** sowie der **Behörden und Organisationen mit Sicherheitsaufgaben** der Bundesrepublik Deutschland. In einer immer unsicheren Welt liefern unsere Unternehmen sichere Lösungen und Systeme.

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SICHERHEIT IST DIE MUTTER ALLER NACHHALTIGKEIT



Reviewer GORE-TEX: comfort and protection from head to toe



Hall 7A
Booth 537



*The multifunctional GORE-TEX EXTRAGUARD product technology for the military.
(All photos: W. L. Gore & Associates)*

Military operations are extremely challenging. Soldiers have to run, climb, crawl and shoot – in all weather conditions and even in rough terrain. They must be able to rely on their equipment without compromise. At Enforce Tac 2024, **GORE-TEX** presents several innovations for military protective clothing from head to toe: the revolutionary EXTRAGUARD upper material technology enables robust yet lightweight military GORE-TEX combat boots that remain light even when worn for hours in wet conditions. In clothing for the armed forces, GORE-TEX Stretch technology combines thermal comfort with maximum freedom of movement, and the PYRAD® product technology protects against sudden heat and flash fires.

EXTRAGUARD upper technology is light, stays light and dries quickly

Conventional military boots are rather heavy and not very comfortable. In addition, the water-repellent impregnation wears off as the product's service life increases. Another problem is re-drying: it can take many hours before combat boots are completely dry again. If the boots have to be worn again when wet, this can draw heat from the body – resulting in cold feet. The innovative EXTRAGUARD upper material technology for military combat boots combines the advantages of a robust upper material with those of lightweight, flexible and breathable textiles for the first time. When dry, it is 40 percent lighter than dry leather of the same thickness. As EXTRAGUARD upper material absorbs less moisture from the outside, it remains light even when wet for long periods and dries considerably faster. EXTRAGUARD upper material is also flame-retardant. A real breakthrough for more protection, comfort and minimal maintenance.

The EXTRAGUARD upper material unfolds its full benefits in combination with the GORE SEAM® tape and the GORE-TEX bootie. The EXTRAGUARD upper itself consists of three layers: a highly abrasion-resistant and flame-retardant outer protective layer, a functional layer for physical protection and an inner construction layer with low water absorption. During the manufacture of GORE-TEX combat boots, it is sealed with GORE SEAM tape so that no moisture can penetrate through the seams. The upper material is integrated into the boot with the internal, durably waterproof and breathable GORE-TEX bootie. The GORE-TEX bootie construction ensures that the boot is permanently waterproof, even if the water-repellent waterproofing wears off or the upper material is damaged.

Comfortable fit, easy cleaning, robust protection

GORE-TEX combat boots prove their worth in the field from the very first minute: they are comfortable right from the start, do not need to be broken in and retain their shape. Their robustness offers reliable protection against sharp objects, common chemicals and moisture. Care is very easy, simply rinse with water. Specific care products are not necessary. Even after months of wear in a wet environment, they remain durably waterproof and breathable and exceed the required values in accordance with EN ISO 20345/347 many times over.

Reduced CO₂ emissions, less material waste

Another advantage: EXTRAGUARD upper technology is very durable thanks to its robust and long-lasting performance, a decisive lever for greater sustainability. This has been proven by numerous tests carried out under laboratory and practical conditions. Thanks to the low consumption of resources and minimized CO₂ emissions, the material also sets new standards in terms of the low environmental impact of production.

GORE-TEX Stretch technology:

Reduction of thermal stress and optimum freedom of movement

GORE-TEX Stretch technology, the innovative combination of robust, breathable hardshell material and stretch components, is the first textile technology for military clothing that reduces thermal stress while allowing maximum freedom of movement: protection against overheating and improved freedom of movement are at the top of soldiers' wish lists for operational clothing. This is confirmed by numerous surveys conducted by Gore among members of various military units. With the GORE-TEX Stretch product technology, the specialist for technical functional textiles has created a milestone for more comfort and protection: this consists of elastic components between a membrane and robust polyamide outer textile. The innovative material offers up to 20 percent elasticity and is ideal for clothing with close-fitting cuts. The tighter fit reduces air pockets between the body and clothing. Breathability is up to 25 percent better compared to previous military clothing. In addition to significantly improved temperature regulation, the material is more comfortable to wear and can be easily combined with other layers of clothing without



Soldiers tested the flexibility of the GORE-TEX Stretch rain suit in sloping terrain.

restricting freedom of movement. The GORE-TEX Stretch product technology is also permanently waterproof and windproof.

Put to the test – fitness-for-use test in snow, rain and wind

How does the technology perform when it counts? Two former special forces soldiers tested the GORE-TEX Stretch Defense rain suit both on the course and in a two-day simulated reconnaissance mission in the mountains in the most adverse weather conditions of -5 to -1 degrees Celsius. The soldiers tested the flexibility of the GORE-TEX Stretch rain suit in terrain with slopes, thickets and wet snow. The test showed that the protective clothing made progress in the mountains, sometimes climbing and crawling, considerably easier. In view of the physical exertion, the material regulates the body temperature. Despite the long period of use, it was not necessary to dry or change the protective clothing – a big plus in real-life situations without the opportunity to change clothes.

Oliver Opitz, product specialist at Gore for armed forces, emphasizes: „In this fitness-for-use test, the GORE-TEX Stretch technology showed what it's made of: protection and comfort in extreme weather conditions paired with maximum freedom of movement. Our test subjects were very impressed, which is in line with the feedback from many special forces to date.“ Military procurement is also already convinced: several special forces units are testing the material in action, and one special forces unit has already placed its first order.

PYRAD® product technology:

Durable heat and flame barrier with and without membrane

Military personnel need to be confident that their flame-retardant gear will protect them from risks in the field – whether it's an improvised explosive device (IED) explosion or an accident while refueling a military vehicle or aircraft. Combat suits with PYRAD® product technology from GORE-TEX Professional Fabrics (Gore) protect them in the event of sudden heat and open flames. In combination with an additional GORE-TEX membrane, PYRAD technology offers additional protection against common chemicals, fuels such as gasoline and diesel and most diluted acids and alkalis.

Paul Jennewein, product specialist at Gore for flame-retardant military clothing, explains: „PYRAD product technology takes the equipment of soldiers to a new level. It offers critical protection against sudden flash fires and at the same time a high level of comfort and freedom of movement thanks to the lightweight fabric.“

The PYRAD product technology is based on a physical effect: it consists of countless small reactive graphite particles that are evenly incorporated into the fabric. If the particles are heated strongly by a sudden flame, they react abruptly to form a stable, gapless carbon layer, which effectively prevents the flow of heat through the laminate and stops the spread of the flame. (stn)



PYRAD® technology in fitness-for-use test.

Briefing

Robustness meets high-tech – the precision shooters of the German Military Police



Robust capability: The first and foremost goal of snipers is not to be detected (left). The photo on the right shows the view through the telescopic sight of the G22A2 sniper rifle. (Photos: Bundeswehr/Torsten Kraatz/Oliver Pieper)

One of the core tasks of the German Bundeswehr's Military Police are security tasks. In many cases, these are individual tasks, especially if they are carried out in accordance with police operational principles and standards. One of these individual tasks is the specialization of precision marksmen. The author, Lieutenant Colonel Rainer Schönfisch, reports from the Bundeswehr Military Police Command (Kommando Feldjäger der Bundeswehr; KdoFJgBw) in Hannover (Lower Saxony).

The Bundeswehr's Military Police is rich in tradition and has a long history. In 1740, Prussian King Frederick II ordered the establishment of a mounted military police corps. The corps was responsible for protecting the Royal Family and controlled the movements of the Prussian troops. The Bundeswehr Military Police Service has been part of the Joint Support and Enabling Service since 2001. The Bundeswehr Military Police Command was established in 2013 and is headed by a general. Brigadier General Sandro Wiesner has taken over as Commander of the Bundeswehr Military Police Command and Director, Military Police in October 2022.

Specialization influenced by a broad capability spectrum

The precision shooters of the Bundeswehr's Military Police are specially trained and therefore highly qualified snipers who, with the associated combination of infantry and military police skills, support various missions in national and alliance defence, as part of international crisis management and in homeland security. These specialists – deployed as a precision rifle squad – are primarily deployed as a security element with the option of combating armed individuals while at the same time aiming to avoid any collateral damage. This may be necessary to support operations to protect individuals at risk (personal protection), the arrest or detention of suspicious suspects (access searches) and even surveillance during operations during non-peaceful demonstrations (crowd and riot control; CRC). In addition, the precision rifle squads can be employed for surveillance tasks in connection with the implementation of all other military police tasks, from monitoring march routes within a traffic control

network to securing tasks of infrastructure that is important for defence. The precision riflemen perform the following tasks in cooperation with other military police forces:

- monitoring of rooms,
- locating and/or identifying target persons,
- reconnaissance of enemy movements and enemy weapon effects,
- effect through precise use of weapons and
- successful prevention/defence of attacks against own forces.

More than just reactive special police operational tactical skills

The principles of operation of the precision shooters differ from the snipers of the combat troops and must be technically differentiated from them. In contrast to the army's snipers, the military police's precision shooters are able to prevent attackers from dangerous actions, thus primarily rendering them unable to attack or escape and at the same time exclude any effect on bystanders. In the case of individual scenarios (e.g., crowd conflicts), identified suspects must be fended off or combated to avoid serious crimes using weapons or combat materials or endanger their own forces.



Training is the basis for robust specialization

The military police companies are each comprised of two precision riflemen who form a precision rifle squad. As military police sergeants, they are able to carry out all core military police tasks and have also been trained and qualified in this robust specialization as precision marksmen. The demands on precision shooters as specialized forces in the Bundeswehr's Military Police Department are particularly high. In addition to the targeted selection of personnel, their work requires physically trained, mentally agile and psychologically stable military police sergeants who can use the available means of action in accordance with their assignment, even under special stress. In the event that a precision rifle squad is deployed to provide support in the area of personal



Unique ability: Well-camouflaged precision marksman firing his G22A2 sniper rifle.

protection, both of which are also trained in military police skills, basic knowledge of the procedures and operational principles of military police specializations.

All in all, this special requirement profile requires special, high-quality and robust training. To obtain basic skills, future precision shooters are initially trained as Bundeswehr snipers in the first phase of training, together with prospective army snipers at the Army Infantry School in Hammelburg (Bavaria). In a second training phase, the military police training to become a “precision shooter in the Bundeswehr’s military police system” takes place at the Bundeswehr Military Police and Staff Duty School (*Schule für Feldjäger und Stabsdienst der Bundeswehr*; SFJg/StDStBW) which is Germany’s central military police training facility and based in the neighbourhood of the Bundeswehr Military Police Command.

After completing specialization training, the qualification acquired must be maintained, for which the precision shooters have to fulfill specified requirements at least once every six months.

Equipment of the highest modernity

The “tool of the trade” of the precision shooters is the very powerful G22 sniper rifle (made by British manufacturer Accuracy International), which is supplemented in terms of capabilities by the semi-automatic, self-loading G28 rifle for shorter combat distances. In addition to the armament, sophisticated equipment includes thermal imaging observation devices, laser range finders, night vision devices and GPS navigation devices. Together with the clothing and personal equipment that has also proven itself in the army, this mix of materials and weapons enables the best possible fulfillment of orders.

The specialization of German Military Police precision marksmen represents a complex task in the context of the performance of security tasks, which is brought into play in a variety of ways through the interaction of demanding training, the most modern equipment and intensively trained personnel. As a result, precision shooters can be used flexibly depending on the situation, and can be adapted from national and alliance defence to foreign deployment to domestic service operations. (stn)



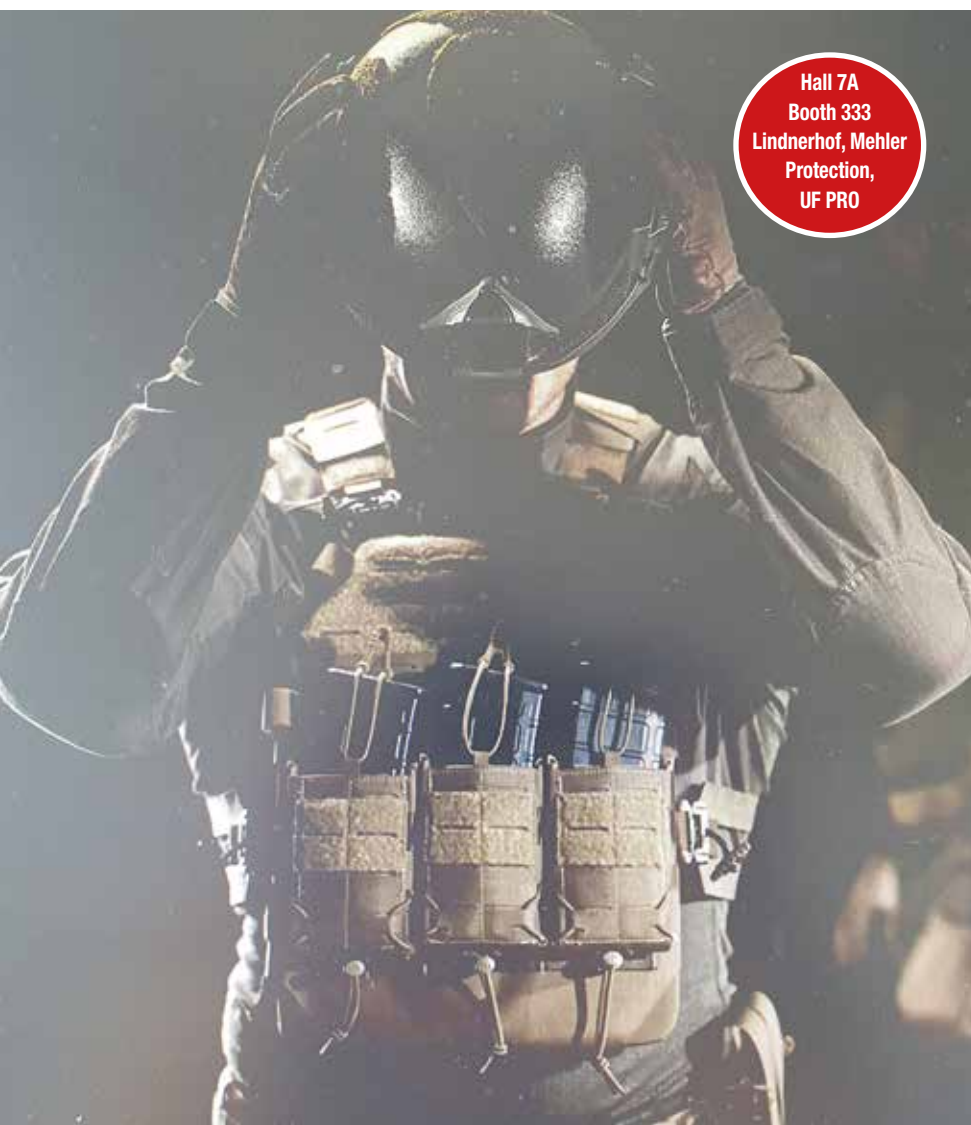
Left: The G22A2 sniper rifle is a repeating rifle with a calibre of 7.62mm. It weighs nine kilograms and has a sight with a magnification factor between 3 and 12. **Right:** Five cartridges fit into the magazine of the G22A2 rifle and must be manually reloaded by the shooter. (Photos: Bundeswehr/Maximilian Schulz)



Powerful armament: Precision shooters employ the G22A2 sniper rifle in .300 Winchester Magnum calibre (left) for medium distances and the HK G28 rifle (right) for shorter distances. (Photos: Bundeswehr/Tom Twardy/Torsten Kraatz)

Product Briefing

The Omega Ballistic Helmets Line offers reliable fragment protection for military and law enforcement forces



Mehler Protection, renowned as a global provider for innovative, reliable and tailor-made personal and platform protection solutions, showcases the Omega Ballistic Helmets line. After extensive development efforts dedicated to delivering uncompromising protection and superb comfort, the Omega Ballistic Helmets line offers two models, the **Omega Core Helmet** and the **Omega Hybrid Helmet**. Made from high-performance polyethylene, the high-comfort Omega Core Helmet provides excellent lightweight ballistic protection. The Omega Hybrid Helmet is ideal for law enforcement and special operations, offering heavier and more extensive protection. Designed for robust protection coupled with superb comfort and exceptional versatility.

Cutting-edge protection: Engineered with advanced materials, the Omega line helmets meet protection standards all while prioritising lightweight comfort. Seamlessly blending state-of-the-art ballistic protection with unparalleled comfort, these helmets ensure optimal performance in highly intensive missions. The combination of minimal weight, extraordinary ballistic protection, and low residual energy is made possible by its innovative, high-performance polyethylene outer shell and supremely strong titanium inner shell.

Modular flexibility. The Omega line helmets showcase a modular design, allowing for versatile deployment across diverse mission profiles. With easily adaptable components like rails, shrouds, and clips, operators can customise their gear configuration to suit specific mission needs.

At the frontline of comfort: Engineered for extended wear, the Omega line helmets prioritise operator comfort while maintaining optimal performance. Featuring adjustable padding, advanced harness systems, and internal ventilation channels, they ensure a secure fit and enhanced air circulation, guaranteeing maximum comfort during prolonged missions.

Striking the weight-performance balance: The Omega Ballistic Helmets offer excellent lightweight ballistic protection, allowing wearers to move freely without feeling encumbered, even during prolonged use. (stn)

◁ *Primarily designed for military applications, the Omega Ballistic Helmets Line offers reliable fragment protection, as well as safeguarding against projectiles from handguns. (Photos Mehler Protection)*

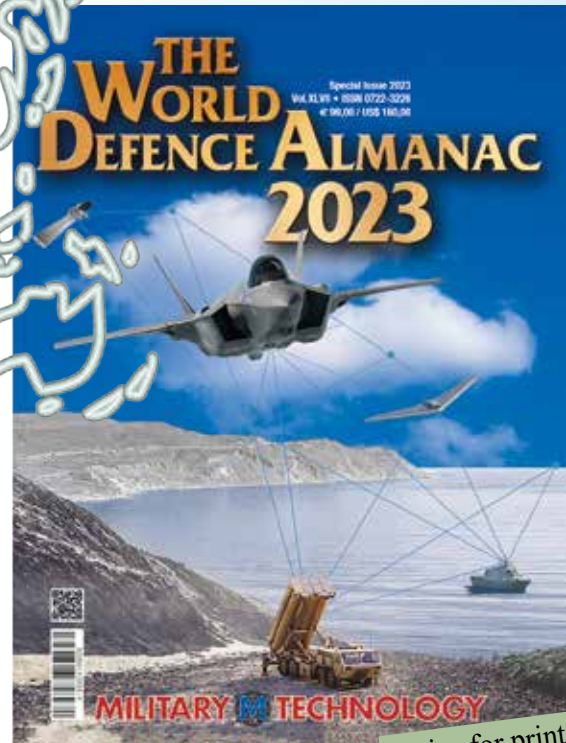
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