

## People talk

# On the right track with Enforcer

Hall 7  
Booth 405



(All photos: MBDA Deutschland GmbH)

## Guido Brendler, director sales & business development, MBDA Deutschland

*Mr. Brendler, the lightweight weapon Enforcer (Leichtes Wirkmittel 1800+) for the German Army has been showcased at Enforce Tac for years. As we know, your company is now pushing ahead with an Enforcer family, i.e. light missiles for various applications. Can you tell us more about it?*

**Guido Brendler:** We developed Enforcer in response to the operational experiences of the Bundeswehr and allied nations. Dismounted troops lacked a precise and lightweight effector against covert positions and lightly armoured moving targets at ranges up to 2,000 metres.

With Enforcer X, we will offer an anti-tank variant of the guided missile, which we would classify as “Light Anti-Tank/Light Anti-Tank”. Unlike Enforcer, which has a multi-effect warhead with a multi-mode fuze, Enforcer X will have a tandem shaped charge warhead, enabling it to engage heavily armoured vehicles and those equipped with third-generation reactive protection.

We are also working on an “Enforcer Air Launched” version for arming drones and a C-AUS [counter-drone] version – the so-called “Small Anti-Drone Missile”.

We base all Enforcer versions on the technology of the *Leichtes Wirkmittel 1800+* original. This offers the customer significant time and risk minimization, and we can provide the missiles quicker.



*The Enforcer missile system is showcased at Enforce Tac 2024. It can be seen in full-scale size at MBDA's booth.*



◆ STATE-OF-THE-ART  
IMAGE INTENSIFIER TUBES

◆ PHOTONIS PIONEER IN 16MM

◆ THE BENCHMARK IN ALL MAJOR  
EUROPEAN ARMY PROGRAMS

## PHOTONIS IS THE WORLD LEADER IN THE DESIGN AND MANUFACTURING OF IMAGE INTENSIFIER TUBES

Within Exosens, Photonis is the world leader in the design and manufacturing of image intensifier tubes. Photonis provides a comprehensive range of innovative products through state-of-the-art technology which meets the need of soldiers in low light conditions.

### 4G+: cutting-edge technology for modern warfare

In modern warfare, individual operations under the cover of darkness underscore the tactical and operational importance of superior night vision capabilities. By offering cutting-edge image intensifier tubes, Photonis have greatly expanded the mobility of the soldier by improving the speed and accuracy of night-time maneuverability.

The 4G+ image intensifier tubes meet the stringent requirements of modern warfare at night to deliver end-users the highest possible performance in all field conditions. The 4G+ technology offers extended bandwidth for high image quality in all environment, an ultra-fast auto-gating and a small halo providing more details around light sources. Moreover, thanks to the very high FOM (Figure Of Merit) performance and the extended sensitivity of 4G+, operators benefit from the widest range in all types of environment (desert, snow, forests, urban landscapes...)

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.

### 4G: preferred technology for European Armed Forces

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

The 4G is perfectly suited to the stringent requirements of night combat operations by providing operators with high image quality and long detection ranges in the most challenging light conditions: brightness of equipment, longevity of intensifier tubes, ability to see farther in increasingly low levels of darkness and very fast auto-gating.

With the broader availability of night vision devices, the challenge is to have the best performance image intensifier-based equipment that is always more efficient than the one of the opposing forces.

As an European pioneer of advanced technologies in the field of optics, Photonis is committed to making major breakthroughs in night vision, with cutting-edge solutions. That's why, Photonis has not yet said its last word...

*The missile system has been fired for the first time with an alternative fire-control-system, the FCS14-RE, which is manufactured by the Swedish company Aimpoint last year. What is the difference between the Enforcer Leichtes Wirkmittel 1800+ with the HENSOLDT sighting system and the Enforcer with the sighting system provided by Aimpoint?*

**Guido Brendler:** The missile, with its operational modes and capabilities, remains as it is. The functionality of Enforcer will be the same, no matter what sight an operator uses. Enforcer has been designed with an open system architecture and offers compatibility with both sighting systems and can be easily adapted to other potential systems. We can provide Enforcer with both sights. The customers has the choice to decide which sight they prefer.

*Small drones have become a serious challenge on the potential battlefield. Especially when drones are attacking in overwhelming quantities during a swarming mission. Is your “Small Anti-Drone Missile” good enough to master the challenges of UAS swarming?*

**Guido Brendler:** Effective protection against drones can only be ensured in combination with different factors: lethal effect within an adequate distance; multi-target engagement with high agility; and high accuracy against small and medium-sized drones. These are just some of the capabilities we designed the “Small Anti-Drone Missile” with. So, yes!

The “Small Anti-Drone Missile” is more than good enough to master these challenges. In addition to its operational capabilities, the “Design-to-Cost” approach was also consistently implemented, which enables a favourable cost ratio between the spectrum of the threats and the missile. Combined with other effector systems, such as Rheinmetall’s Skyranger 30, this results in complementary range combinations that are extremely useful in operational terms.

*We were informed that MBDA’s subsidiary TDW GmbH received a new order to manufacture and deliver 2,600 anti-tank directional mines called PARM (Panzerabwehrrichtmine in German Bundeswehr parlance) to the German Bundeswehr. Would it be fair to describe the DM22 PARM as a Cold War-era weapon system? I am wondering how to put the resumption of production of the system into context. Is your company planning an upgrade?*

**Guido Brendler:** NATO and EU states have recognised that they must protect their borders from aggressors. Although intended as an anti-tank weapon system originally for the Cold War, PARM has proven to be a reliable and effective weapon against state-of-the-art main battle tanks [MBTs] on modern battlefields. That’s why there is currently an increasing demand.

In parallel with the work leading to serial production, TDW will develop a new version of PARM. The successor to the PARM DM22 will be “PARM NextGen”. The current optical cable will be replaced by a variety of sensors, which may include acoustic, vibration and infrared. These may allow identifying the type of target considerably increasing the system capacity. A networking capacity might also be added, allowing the creation of a “smart minefield” where information is shared among the mines as well as providing a global picture to an operator. DM22s can be upgraded with all or part of those capabilities, thanks to the modular conception of the PARM.

*MBDA showcases its new laser for the army at Enforce Tac. What can you tell us about this new system? What progress has been made?*

**Guido Brendler:** There is great interest in small, portable laser effectors, especially from the army and police. We have developed a laboratory prototype of a small portable laser – called MILOS-D – for army and police applications and presented it to the customer. Compared to last year, the power was increased significantly from 100 W to 3 kilowatts. Trials against static targets were successfully carried out over distances of 100 and 400 metres. The prototype has proven that it can, for example, disrupt or even neutralize sensors within seconds.

*What needs to be done until the army laser is ready for delivery?*

**Guido Brendler:** We aim to increase the laser power to several kW, reduce weight by using composite materials, miniaturize it further, and focus on safety and handling so that we can deliver a prototype to German Armed Forces for their own tests. We also aim to implement applications for use against drones and other moving targets for future variants. I am convinced that we are on the right track to achieving all these goals. ■

The interview was conducted by **Dr. Theodor Benien**.



*MBDA’s subsidiary TDW GmbH received an order in November 2023 to manufacture and deliver 2,600 anti-tank directional mines called PARM to the German Bundeswehr.*