EXCELLENCE IN PLATFORM PROTECTION
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Excellence in Platform Protection

Our world is changing. While people, countries and economic areas are becoming closer thanks to communication technologies and globalization, the threat posed by symmetric and asymmetric conflicts is growing.

Security, both in the military and the civilian fields, is one of today’s top priorities. Mehler Engineered Defence GmbH rises to this challenge as a producer of high-performance protection systems using the best technology available.

With certainty
We develop highly effective security systems for land, sea and air vehicles and complex protective rigging in order to protect military and civilian personnel and vehicles. They can be applied in military deployments, munition disposal or cash transit, and also to protect critical infrastructure and staff. Making certain that people in dangerous situations have the maximum protection by applying innovative materials and technological systems – that is our task.

With responsibility
We act as an independent organisation within the Mehler Group. At our headquarters in Königslutter in Lower Saxony, our staff create innovative products and protection systems to counteract symmetric and asymmetric threat scenarios.
We offer our military and civilian clients the latest in composite and metallic armour and high-performance property protection systems all from a single source. As Mehler Engineered Defence, we set international standards in the development of new material combinations: from the choice of fibres and fabric manufacturing through to combinations with other materials such as steel or ceramic, we offer comprehensive high-performance solutions and components.

Our particular strength:
Highly effective yet extremely lightweight protective materials of various kinds.

From a single source
Our service portfolio comprises all stages of material and product development from practical testing and integration into existing systems through to series production. This includes technical consultation, analysis of system vulnerabilities and the assessment of technical protection and anti-terrorism measures.

We know how you can best protect yourself
As a company fully integrated in the Mehler Group, we have access to unique competencies from the choice of fibres and fabric manufacturing through to combinations with other protective materials such as steel or ceramic. This is complemented by our in-house expertise in integrating complex protective rigging in both new and existing systems.

When applying our high-performance, cost-effective protection systems made of steel, fibre or ceramic composite materials, we take into account material-specific design and development concepts. The special focus of our development work is on the innovative combination of different protection materials with the aim of creating high-performance yet lightweight systems to counteract today’s threat scenarios.

Safety can never be 100% guaranteed. But those who protect and defend us deserve the best protection available. This is where we make our contribution. Our complex platform protection systems cover the entire spectrum of sea, land and air vehicles as well as protection systems for critical infrastructure.

Our outstanding expertise in the field of protection guarantees purpose-built, cost-effective solutions to meet your protection needs. This is achieved through our experienced engineers, high-performance CAD systems and test facilities for ballistic analysis, explosives and mines plus environmental impact testing.

Protection systems are only secure when they are continuously adapted to the current and future threat level and intensity. As a high-performance engineering partner, we concentrate on complete protection systems from development and testing right through to system integration and series manufacturing.

Besides material competency, this involves technical consultancy, analyses of system vulnerabilities and assessment of technical protection and anti-terrorism measures.

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How safe can our world be?

Can there be the ideal protection?
Our main task in the military field is the custom development of highly effective protection technologies with the lowest possible weight.

When it comes to land, sea and air vehicles:

- Protection systems from Mehler Engineered Defence protect lives
- The protection level and weapon system requirements define the possible materials for the protection

Reliable Protection in Action

Quality and ongoing product optimisation are of highest priority to us. Experience gained from real-life situations is a key factor for continually improving and developing our products.

Throughout procurement, manufacturing and finally delivery to our customers, all of the steps are based on tracked, documented processes. Traceability from the raw materials right through to the finished product plays a key role. Following our successful certification to ISO 9001 and EN 9100, we fulfil the high demands placed upon quality management systems for manufacturers and suppliers to OEMs, government clients and the defence industry. The certificates cover development and integration of ballistic protection systems, mine protection systems and IED protection systems.

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The safest vehicles

The protection requirements for military ground vehicles are complex and not always covered by standards. We offer a modular product portfolio based on STANAG 4569 to defend against gunfire, mines, EFPs, IEDs and RPG fire. This ranges from add-on systems and structure-bearing armoured rigs through to spall liner systems.

All of the products are suitable for equipping newly developed vehicles but can also be used to retrofit existing vehicles. They can be supplied ready-to-install.

As a partner for system integration, we offer additional ready-to-install sub-systems, hand weapon stations, doors or composite hatches to protect your vehicles.

Additional system features:
- Shock and acceleration resistance for the fixing system to meet MIL STD 810 G
- Vibration resistance to meet MIL STD 810 G
- Resistance to environmental influences (salt water, rain, dust)
- Reduced radar and IR signature on request
- Decontamination capability

We have particular expertise in integrating steel, aluminium and composite structures, and in developing the fixing systems they require.

All of the systems we use fulfil the requirements pertaining to fire safety and smoke gas formation according to maritime standards.

Besides permanently installed systems, we also provide flexible armour solutions, e.g. for MG positions or helicopter landing pads.

Custom system requirements can be implemented at short notice, e.g.
- Short set-up times
- Toolless assembly and disassembly
- Installation without welding (depending on the characteristics of the system)

For maritime safety

Our maritime protection systems are designed to handle the attack scenarios and environmental influences which are specific to maritime operations. With customised, system-integrated solutions for bridges, MG positions, railings and OPZ, we supply protection technologies to the highest specifications.

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Additional system features:
- Vibration and shock resistance to meet maritime requirements
- UV resistance
- Resistance to environmental influences (salt water, rain, dust)
- Ergonomic design for safe handling at sea
- Reduced radar signature on request
- Flame resistant
- Night-vision device compatible
Can lightweight also be safe?

Low weight is one of the key requirements of ballistic protection systems for aircraft. The lowest possible weight with the highest possible level of protection is the optimal solution.

The possible material combinations range – depending on the protection class – from purely HPPE systems through to silicon or boron carbide ceramic based systems. Our expertise extends beyond the protection system itself to the actual integration of the system. We develop custom protection solutions for your individual requirements, e.g. modular equipment configurations, C-SAR systems or toolless fixing in stud or rail systems.

Our lightweight solutions use high-performance materials and are tested by German authorities on their ability to withstand STANAG 4569 KE Level 1-3, various multi-hit characteristics, and to customer-specific threat scenarios.

With our EN 9100 certification, we achieve the high demands placed upon quality management systems for manufacturers in the aerospace industry.

Cash Transit

Security – your top priority

Transporting cash and valuables requires special transport vehicles. The separation between the vehicle and its load, together with customisation options, offers the best-possible solution.

Our concept is aimed at meeting customer-specific requirements. Load volume, protection classes and security equipment are ascertained and implemented in each specific case.

The civilian appearance of the vehicle makes it more difficult for attackers to identify the vehicle as a secure transporter. The modular design allows the truck and the trailer to be combined with other vehicles at any time. The load section of the vehicle is secured against unauthorised access independently of the motor vehicle.

Features and options:
- Discreet ballistic and mine protection to military standards
- Axles with steering-assist
- Protection of relevant components of the motor vehicle such as brakes and steering systems, engine, transmission and cooling systems
- State-of-the-art tracking and communication systems
- Autonomous power supply
- Integrated UAV garage
- Internal / external CCTV monitoring
- Intrusion protection available
- MEHLER access control system
- Maximisation of the load capacity
In addition to standard models, our personnel protection shields are tailor-made to your specific requirements. Our small-format wearable shields are suitable for use in tight spaces such as aircraft or apartments. The larger models offer the maximum protective area while maintaining low weight and are used in evacuations and hostage situations. Foldable versions are also available which can be transported in patrol cars as protection against long gun fire in active shooter situations.

Designs
- Edges reinforced with materials such as polyurethane, aluminium U-profiles, or rubber profiles
- Resistance to environmental influences
- Various grip handle designs

Optional accessories
- Custom-sized windows made of ballistic glass
- Periscope
- LED-lighting
- Camera systems
- Stands
- Transport carts
- Carriages

For government authorities, we produce customised protective shields for personnel in a variety of protection classes such as NIJ 0108.01, VPAM, TR bullet-resistant shields and other protection standards to counteract long gun and handgun threats.

Safety in action

Not only do the personnel have to be specially trained – the clearing vehicles also have to be equipped with the necessary protection. The construction machines and vehicles used must be equipped with additional protection according to the type of dangers which are anticipated. Shockwaves, shrapnel or projectiles could come from any direction – not only the front.

When implementing the protective measures required by legislation for machines and vehicles, we apply our outstanding expertise from the military field. The result is protected cabins and vehicle adaptions for munition disposal technology which is state-of-the-art for today and tomorrow.

The disposal of munitions – both remnants of World War II and munitions left on military exercise grounds – is key to hazard prevention. The disposal of munitions – both remnants of World War II and munitions left on military exercise grounds – is key to hazard prevention. The disposal of munitions – both remnants of World War II and munitions left on military exercise grounds – is key to hazard prevention. The disposal of munitions – both remnants of World War II and munitions left on military exercise grounds – is key to hazard prevention. The disposal of munitions – both remnants of World War II and munitions left on military exercise grounds – is key to hazard prevention. The disposal of munitions – both remnants of World War II and munitions left on military exercise grounds – is key to hazard prevention. The disposal of munitions – both remnants of World War II and munitions left on military exercise grounds – is key to hazard prevention. The disposal of munitions – both remnants of World War II and munitions left on military exercise grounds – is key to hazard prevention. The disposal of munitions – both remnants of World War II and munitions left on military exercise grounds – is key to hazard prevention. The disposal of munitions – both remnants of World War II and munitions left on military exercise grounds – is key to hazard prevention. The disposal of munitions – both remnants of World War II and munitions left on military exercise grounds – is key to hazard prevention. The disposal of munitions – both remnants of World War II and munitions left on military exercise grounds – is key to hazard prevention. The disposal of munitions – both remnants of World War II and munitions left on military exercise grounds – is key to hazard prevention. The disposal of munitions – both remnants of World War II and munitions left on military exercise grounds – is key to hazard prevention. The disposal of munitions – both remnants of World War II and munitions left on military exercise grounds – is key to hazard prevention.

We apply our outstanding expertise from the military field.
The product system CREWsafe is a two-stage protection concept for the creation of protected areas on board ships, for integration in maritime infrastructures and critical facilities of the energy industry.

The concept consists of ballistic protection systems as well as modular wall and door elements of maximum intrusion-resistance and other system components. As a result of their modularity, individual components can be adapted flexibly to existing conditions or be included right from the design phase of new constructions.

In the maritime sector, the protective properties go well beyond the minimum requirements of BMP4 and provide an adequate level of protection in case of an escalation and thus ensure the capacity to act under protection.

As your engineering partner, we offer a comprehensive range of services:

- Analysis
- Conception
- Construction
- Integration
- Class certification

This comprises a layout according to corresponding physiological variables that have been coordinated with Germanischer Lloyd, such as the necessary citadel volume, its required floor area and air exchange rates as well as further requirements regarding “Security versus Safety”.

Protection features and testing:
The protection features of our wall systems have been successfully tested in collaboration with Germanischer Lloyd.

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