

TDW's experience in the field of blast and blast/fragmentation warheads began at the end of the 1960's with the French-German air-defence missile system Roland. Today, TDW's blast/fragmentation warheads are integrated in numerous products of European and international missile houses.

This includes:

- Man-portable weapons
- Air-defence missiles
- Penetrator warhead systems
- Multi-Effect Warhead (MEW) systems
- Anti-ship missiles
- Heavyweight torpedoes

With system and design concepts, simulation, assessment, mechanical design, prototype manufacturing, testing and evaluation capabilities, TDW is able to deliver a full lethal package including warhead, safety and arming unit and fuze.

Furthermore, due to TDW's own high explosive formulations and test facilities, delivered warhead systems are IM compliant (MIL-STD-2105, AOP-39, STANAG 4439, MURAT) to resist external threats such as bullet impact, fire, etc. The warhead systems of today have to fulfil high standards with respect to environmental conditions: long air carriage on fixed and rotary wings, submarine environment in order to safeguard the use by one's own forces and to enhance the service life of the product.

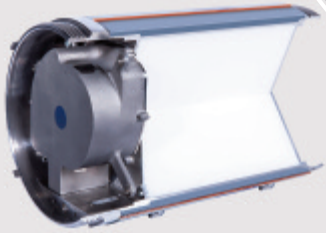
- **High explosive mass: less than 1kg to more than 200kg**
- **Target dependent fragments: natural, controlled or preformed**
- **Improved blast-overpressure performance**
- **Long service life with very low life cycle costs**
- **High reliability**
- **Specific insensitive high-explosive for underwater applications**

BLAST/ FRAGMENTATION WARHEAD SYSTEMS

SUITABLE FOR A BROAD
TARGET SPECTRUM

„the difference!“

TDW
an MBDA company



AIR LAND SEA

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To prepare for the next blast/fragmentation warhead generation, TDW applies its research and development effort in different ways and applications, such as:

- The design of more powerful high explosives in order to reach the same level of performance with a smaller warhead or to produce warheads delivering more effect with a size comparable to the current one.
- To maximize the performance of a warhead system by optimizing the shape and material of the mounted fragments. Coupled with the extended use of simulation, this research allows for the defining of the best location distribution, material type and quantity of the fragments.
- Controlled fragmentation in order to avoid collateral damage and enhance performance by controlling the fragments created by the explosion of the missile's casing.
- Use of reactive materials to control the fragments' terminal effect by increasing their performance or by reducing it after a certain range to avoid collateral damage.

About TDW:

Since the 1950's, TDW Gesellschaft für verteidigungstechnische Wirksysteme mbH has been developing, producing and maintaining all kinds of warheads and warhead systems as well as their associated components. With approximately 130 employees, TDW, which is a wholly owned subsidiary of MBDA Germany, operates as a full-service company at one integral site in Schrobenhausen, Germany.

Products

- **ALARM**
- **ASRAAM**
- **CAMM**
- **Meteor**
- **Mistral**
- **ESSM**
- **PAC-3**
- **RAM / Sidewinder**
- **RBS15 Mk3**
- **NSM**
- **Spearfish heavyweight torpedo**
- **And many more**

