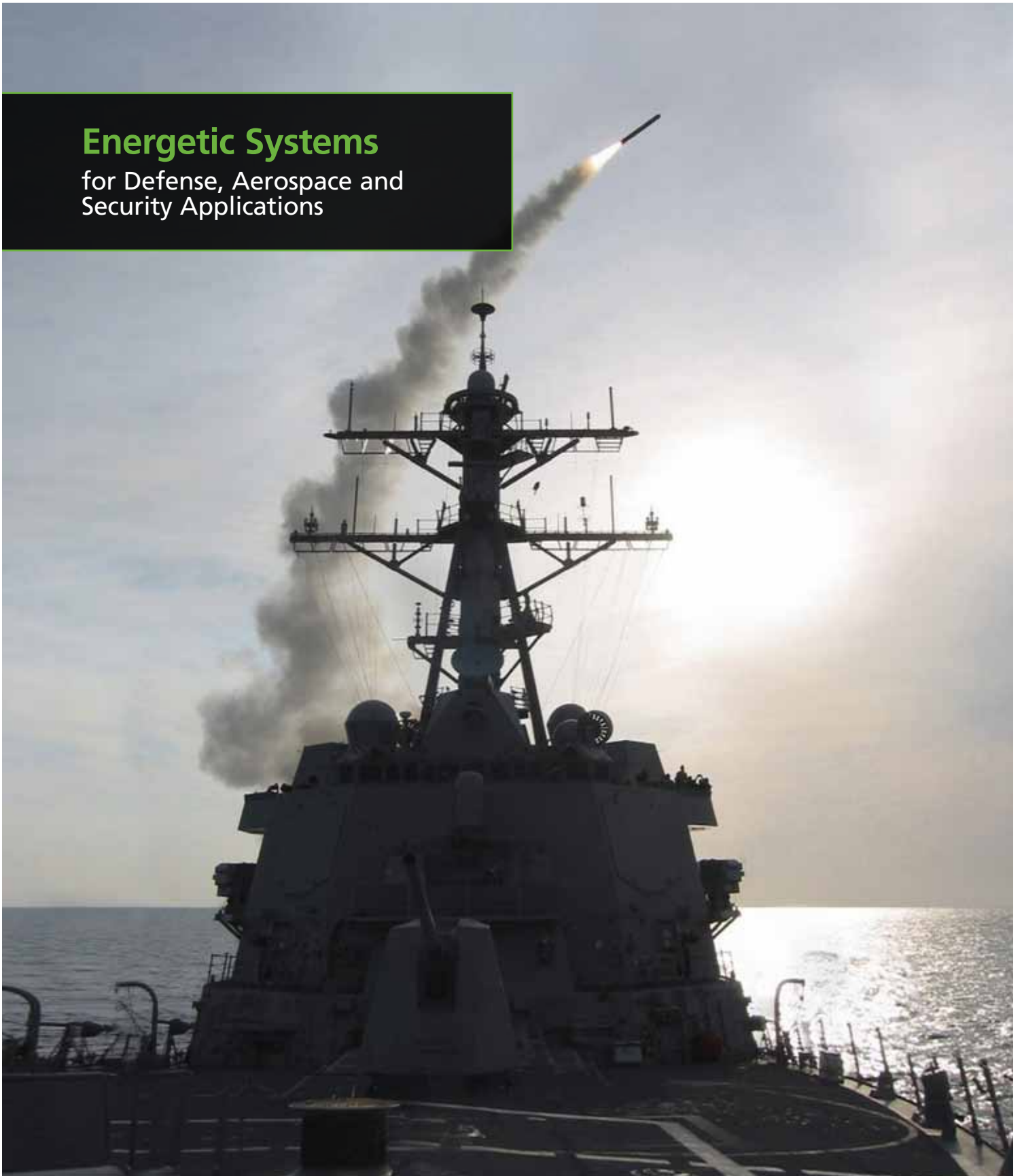


## Energetic Systems

for Defense, Aerospace and  
Security Applications



Delivering the solutions that  
keep our troops safe on the ground,  
in the water and in the air...  
it's our only mission.

**EXCELITAS**  
TECHNOLOGIES



Keeping Our Troops Safe with  
Over 50 years of Unequaled  
Experience Supporting  
Mission-Critical Programs

## We Provide Energetic Systems that Enable the World's Most Advanced Smart Defense Systems

### Excelitas supports many critical Defense applications including:

- Arming and Fuzing
- Warhead Initiation
- Rocket Motor Ignition
- Laser Initiated Ordinance
- CAD/PAD for aircrew safety devices

### Providing Mission-Critical Energetic Systems

Excelitas is a leader in the design, test, and manufacture of energetic products for initiation, actuation, and detonation applications. Our scientific and engineering personnel have spent many years developing a fundamental understanding of all aspects of energetic device performance. Knowledge of the basic properties of these devices allows the performance of our products to exceed aerospace and defense requirements. This makes them the energetic systems of choice on many Department of Defense and NNSA systems that help keep our troops safe. Many of the tests and analyses incorporated into ISO and Military standards were developed by Excelitas personnel.

Our energetic product offerings include:

- Electronic Safe Arm and Fire Modules (ESAFs)
- Ignition Safety Devices (ISDs)
- Detonators
- Actuators
- Custom Energetic Components
- Pyrotechnic Devices
- CAD/PAD Devices
- Energetic Powders and Pellets

Our staff provides decades of unequalled energetic device experience to satisfy design requirements from highly engineered components for complex missile systems to cost efficient designs for aerospace applications. We will work from initial design concept through a complete qualification and manufacturing program to provide a device that will meet all of your application requirements. A full range of environmental, destructive, non-destructive and functional test equipment will fully characterize all aspects of energetic device performance.



## Exceptional Partnerships With Our Customers

Excelitas works closely with each customer throughout the entire product life cycle, from concept definition through long-term after-market support, providing expert technical input at every step along the way. Dedicated program management services ensure successful attainment of qualification milestones, on-time delivery and adherence to contractual commitments.

By utilizing a wide range of standard and customized components from within the portfolio, Excelitas is able to offer high-performance,

integrated systems that provide more reliable and cost-effective solutions for its customers. Specialized design and test capabilities ensure reliable solutions that work flawlessly the first time, significantly reducing critical cost and performance risks of unproven designs. These unique capabilities fuel our ability to consistently deliver solutions that meet or exceed the complex specifications and critically short deadlines of the most demanding defense and aerospace applications.



### Electronic Safe Arm and Fire Modules (ESAFs)

Excelitas has partnered with the leading defense prime contractors to design, qualify, and manufacture in-line Electronic Safe Arm and Fire Modules (ESAFs), for numerous weapon systems.

We have provided over 60,000 qualified systems to the US Air Force, Army, and Navy as well as several allied

nations. Our dedicated staff of research and design experts use the latest advances in technology to design smaller, lighter weight, and cost effective ESAFs to meet the unique mission requirements of sophisticated weapon systems. This includes a line of components and subsystems that have been qualified for penetrator environments.



### Ignition Safety Devices (ISDs)

Excelitas has developed a number of rocket motor initiators that are fully compliant with MIL-STD-1901A requirements. Our ISDs can be used to directly replace non-compliant (to MIL-STD-1901) hot wire initiators used to initiate rocket motors. Because

they are similar in size and have the same mechanical and energetic interfaces as present hot wire designs, these devices can be used as direct replacements for current initiators.



### Custom Energetic Materials and Components, Pyrotechnic Devices, and CAD/PAD Devices

Excelitas has a 50-year heritage of manufacturing pyrotechnic devices for a wide variety of applications in the aerospace and defense industry.

We have produced a large array of custom energetic devices to meet specific customer requirements. In addition to a line of standard products, we have designed products with a precisely controlled delay

time and multi-point initiation. We produce a number of extremely compact devices containing several different kinds of brisant pyrotechnic. Excelitas ensures the reliability and performance of our products by manufacturing and pressing our own energetic pellets and powders, controlling the glass chemistry and formation, and through specialized machining processes.



### Blue Chip® Detonators

Excelitas supplies a family of high voltage chip slapper detonators. Excelitas designs, manufactures and tests a wide range of detonators for a full range of applications. All members of the Blue Chip® Detonator family exceed the mechanical and thermal requirements of MIL-DTL-23659. The devices are not degraded by

high shock (up to 100,000 g) generated during thick wall penetration and have been shown to function reliably at temperatures ranging from -196 C (liquid nitrogen) to over +200 C.



### Laser Initiated Energetic Devices

In addition to our pyrotechnic family we have provided several laser initiated pyrotechnic devices for applications where total immunity to stray electromagnetic fields is required. In these applications, laser initiated devices provide an added margin of safety over hot wire initiated devices.

Our devices exhibit the same performance properties as hot wire initiated solutions with custom designs and outputs available to meet application specific criteria. These devices can be fiber coupled or integrated solutions.

## MIL-Standards

Excelitas solutions are designed to meet the following standards:

- MIL-DTL-23659 Initiators, Electric, General Design Specification (formerly MIL-I-23659)
- MIL-HDBK-1512 Electroexplosive Subsystems, Electrically Initiated, Design Requirements and Test Methods
- MIL-STD-202 Test Method for Electronic and Electrical Component Parts
- MIL-STD-331 Fuze and Fuze Components Environmental and Performance Tests
- MIL-STD-1316 Fuze Design Safety Criteria
- MIL-STD-1576 Electroexplosive Subsystem Safety Requirements and Test Methods for Space Systems.
- MIL-STD-1901 Munition Rocket and Missile Motor Ignition System Design and Safety Criteria



## About Excelitas Technologies

Excelitas Technologies is a global technology leader focused on delivering innovative, customized solutions to meet the lighting, detection and other high-performance technology needs of OEM customers.

From aerospace and defense applications to medical lighting, analytical instrumentation, clinical diagnostics, industrial, and safety and security applications, Excelitas Technologies is committed to enabling our customers' success in their specialty end-markets. Excelitas Technologies has approximately 3,000 employees in North America, Europe and Asia, serving customers across the world.

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