

MARKET Briefs

Executive Summaries of Market Trends and Opportunities in Key Market Segments and Regions Worldwide



Defense Electronics Market

by Virgil Labrador

The military satellite market is anticipated to grow at a compounded annual growth rate (CAGR) of 6% in the next 10 years according to a recent research report by Research and Markets. The U.S. defense electronics market alone is projected to be worth approximately US \$148.774 billion over the timeframe 2019-2028 according to Forecast International.

The growing concern for terrorism and international security are driving the need for better tactical communication systems to be deployed by armed forces across the world. Military satellites are an essential part of the advanced tactical communication systems, according to Research and Markets. To overcome the challenges posed by command, control, communications, computers, intelligence, surveillance and reconnaissance (C4ISR), advanced satellite communications solutions are developed. This is also expected to generate demand for military communication satellites and communications-on-the-move (COTM) equipment in the next few years.

A key driver in the defense electronics market is the critical role of situational awareness on the battlefield. Today, militaries share the front line of defense with intelligence agencies, law enforcement, and emergency services, with budgets reflecting the wide variety of systems and technologies currently available. “The U.S. defense electronics industry appears to be focused on enhancing, modernizing, and upgrading

existing systems while at the same time developing new technologies,” said Richard Sterk, Senior Analyst and editor of Forecast International’s yearly analysis “The Market for U.S. Defense Electronics.”

Defense modernization programs and increasing procurement of advance electronic warfare systems are the major factors expected to fuel the growth of this market. The Asia Pacific region is anticipated to have the highest growth during the forecast period, owing to growth in military satellite development and investments in this region by countries like China, India, Japan, and South Korea, among others.

Prime Contractors

The defense electronics market is dominated by large companies called “prime” contractors in the US. These companies include Northrop Grumman, Raytheon, Lockheed Martin, Harris, and BAE Systems in the North American market and Airbus, EADS, Thales, among others in Europe. These “primes” as they are called rely on a large number of other companies to provide complete solutions for the government and defense markets.

RF and microwave technology are integral to many systems used in military applications today. Today’s wireless terrestrial, satellite communication, and short/long

range radar systems use frequencies of 75 GHz and beyond and must fulfill demanding requirements, even the harshest environments.

The key emerging trend in the electronic warfare market is the combination of cyber operations and electronic warfare capabilities to accomplish both defense and offensive capabilities. The concept of convergence indicates the consolidation of conventional and wireless commercial services and applications.

One company that has extensive experience in development and manufacturing of RF- and microwave-based electronics equipment for commercial and military applications is WORK Micro-

RF and Microwave Modules for Defense and Research Applications

WORK Microwave is a leading manufacturer of RF and microwave modules working at frequencies of 70 GHz and beyond for demanding defense and research applications. It’s defense electronics division’s product lines include: Radar synthesizers and front-ends; Radar transponders; Phased Lock Oscillators (PLOs) Electronic Counter Measure (ECM) equipment; RF selectors; Medium-power amplifiers and drivers up to 200 watts and application-specific RF and microwave solutions.

Beyond developing RF and microwave components and systems for new installations and upgrades, WORK Microwave is a strong consulting partner. They can help you with specifying the dimension require-



ments for new designs and replacements related to a wide range of RF applications such as radar, signal sources, and signal processing equipment.

With years of experience in the defense market, WORK Microwave has the know-how to optimize your system in the most cost-effective and timely way possible. In the defense market, this is particularly important because systems are used for a long period of time. When components and modules become obsolete, their team’s extensive knowledge of designing RF and microwave product replacements and using the latest technology will be beneficial in helping you realize a fully form-fit and functional solution. For more information go to: <https://work-microwave.com/applications/defence-electronics/>

wave. Based in Holzkirchen, Germany, WORK Microwave has built a strong reputation in the industry for reliable, high-spec, energy-saving solutions that meet all MIL standards. Ruggedized, lightweight, and tamper-proof, WORK Microwave's defense electronics products performs flawlessly-even in the toughest, most demanding remote environments.

Combining Expertise in RF and Digital Data Processing

WORK Microwave focuses on two lines of business:

- New designs of RF modules for various military applications including radar, wireless communication systems and satcom solutions.
- Replacement of modules in old radar or RF systems for future-proofing and Form Fitting replacements using modern technology.

Some of the applications for its products include: Long and short range radar systems for ships and aircraft; Man pack radios; Electronic Support Measure (ESM) systems; and Intelligence services using satellite ground equipment.

“With a strong engineering team and efficient in-house manufacturing facilities, which are compliant with ISO 9001 and military standards, we can offer design and production services for a wide range of military applications. Whether customers are looking to develop a new product or need to replace obsolete components, modules or systems, WORK Microwave can provide a solution that is tailored to their exact specifications. All of our engineering and manufacturing processes are done in-house, enabling our customers to benefit from


design flexibility and a faster time to market,” said Thomas Fröhlich, CEO of WORK Microwave.

But more than just another RF and microwave equipment manufacturer, WORK Microwave's key difference from other companies is its expertise in both the RF and Digital Data Processing that is required by the new defense systems. “We see that the products for Electronics Warfare more often nowadays require the combined expertise of RF and digital data processing making us an ideal partner due to our agile engineering team that has extensive RF expertise and digital data processing knowledge. We also come with lots of experience derived from our years of developing satellite communications and navigation solutions,” said Thomas Wiesner, Business Development Manager of

WORK Microwave.

Wiesner also added that they can do combination of ultra-low phase noise & short switching times of synthesizers. “We employ sophisticated high-end product design and best-in-class spectral purity using advanced state of the art technologies and high-quality German engineering standards and practices,” he added.

Conclusion

The requirements for military satellite and defense electronics applications are increasingly becoming more complex. Finding the right partner with strong capabilities in both RF and Data signal processing is key to successfully meeting the changing requirements of advanced electronic warfare in the years to come. 

View a video tour of WORK Microwave's brand new headquarters and manufacturing facility at:
www.satellitemarkets.com/work-microwave-2019



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WORK MICROWAVE

RF and digital data processing experts

RF & Microwave Components and Subsystems

WORK Microwave's defence electronics operate flawlessly, providing outstanding performance even in the toughest, most demanding remote environments.

- Radar Synthesizers and Front Ends
- Oscillators (PLO'S, VCO'S)
- ECM Equipment
- RF Selectors
- Antenna Switch Matrix
- Radar Transponders
- Medium-Power Amplifiers
- Satellite Ground Control Equipment, including Wideband converters

Electronics Warfare



Radar



Ground Support Equipment



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