

Artificial Intelligence (AI)-Based Cognitive Electronic Warfare (CEW) Market Set to Reach \$1.2 Billion by 2029

*The Business Research Company's
Artificial Intelligence (AI)-Based Cognitive
Electronic Warfare (CEW) Global Market
Size, Trends & Forecast Report By 2034*

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What Is The Expected Cagr For The Artificial Intelligence (AI)-Based Cognitive Electronic Warfare (CEW) Market Through 2025?



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The market size of the artificial intelligence (AI) powered cognitive electronic warfare (CEW) has seen a substantial expansion in the past few years. The market is predicted to grow from \$0.48 billion in 2024 to \$0.58 billion in 2025, yielding a compound annual growth rate (CAGR) of 20.4%. Several factors contribute to this growth, including a heightened necessity for spectrum control in previous conflicts, an increased application of EW for counter-terrorism initiatives, a growing dependence on defense, implementation of early AI in defense systems, a surge in demand for secure military communication and a rise in global defense budgets.

The market size for cognitive electronic warfare (CEW), powered by artificial intelligence (AI), is set to witness substantial growth in the nearing years, projected to reach \$1.21 billion by 2029, having a compound annual growth rate (CAGR) of 20.1%. The expected growth during this period is a result of escalating border disputes, proliferating drone and unmanned threats, an increasing emphasis on military modernization initiatives, the broadening intersection of cyber and electronic warfare, and surging global defense collaborations. Key trends expected to shape

this period include the escalating use of AI in spectrum analysis, the growing preference for autonomous EW systems, the increasing implementation of cloud and edge computing, the expanding integration across different domains like air, land, sea, and space to facilitate multi-domain operations, and the increasing application of digital twin technology.

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What Are The Key Factors Driving Growth In The Artificial Intelligence (AI)-Based Cognitive Electronic Warfare (CEW) Market?

The growth of the artificial intelligence (AI)-focused cognitive electronic warfare (CEW) market is foreseen to be driven by escalating geopolitical tensions. These tensions can be defined as the increasing political and military standoffs between countries or regions, often leading to disagreements or instability. The intensification of these geopolitical tensions is mostly attributable to significant power rivalry and territorial conflicts, with countries increasingly focusing on national security issues and involving themselves in strategic competition that disrupts conventional diplomatic collaboration. AI-underpinned cognitive electronic warfare enhances a country's ability to recognize, evaluate, and neutralize enemy electronic signals in real-time, offering superior situational awareness and defense capabilities, fortifying military readiness and delivering strategic benefits during geopolitical unrest. For instance, the Stockholm International Peace Research Institute (SIPRI), an international research organization based in Sweden, reported in February 2024 that conflict casualties rose from 153,100 in 2022 to 170,700 in 2023, illustrating the heightened intensity in various global conflict regions. Hence, these ascending geopolitical tensions are contributing to the [expansion of the AI-centric cognitive electronic warfare \(CEW\) market](#).

What Are The Top Players Operating In The Artificial Intelligence (AI)-Based Cognitive Electronic Warfare (CEW) Market?

Major players in the Artificial Intelligence (AI)-Based Cognitive Electronic Warfare (CEW) Global Market Report 2025 include:

- Lockheed Martin Corporation
- Northrop Grumman Corporation
- BAE Systems plc
- Thales Group
- L3Harris Technologies Inc
- Rheinmetall AG
- CACI International Inc.
- Elbit Systems Ltd
- Israel Aerospace Industries Ltd
- Saab AB

What Are The Major Trends That Will Shape The Artificial Intelligence (AI)-Based Cognitive

Electronic Warfare (CEW) Market In The Future?

Companies leading the field in the artificial intelligence (AI)-driven cognitive electronic warfare (CEW) market are prioritizing the creation of innovative products like cognitive algorithm deployment systems, aiming to enhance the precision of threat detection and effectiveness of operational decisions. These systems, enabled by AI and machine learning (ML), autonomously sense, prioritize, and identify various threats instantly, augmenting situational comprehension and facilitating quick, adaptable responses. For instance, Raytheon Technologies, a defense and technology enterprise based in the US, pioneered the first-ever Radar Warning Receiver powered by AI/ML for 4th generation aircraft in February 2025. This system, incorporating cognitive algorithms, supports real-time detection and prioritization of threats, adaptive countermeasures, and can be integrated into existing aircraft platforms. Its AI-propelled processing speeds up decision-making, escalates survivability, and boosts mission effectiveness in disputed spaces.

Comprehensive Segment-Wise Insights Into The Artificial Intelligence (AI)-Based Cognitive Electronic Warfare (CEW) Market

The artificial intelligence (AI)-based cognitive electronic warfare (CEW) market covered in this report is segmented as

- 1) By Component: Hardware, Software
- 2) By Platform: Naval, Airborne, Land, Space Platform
- 3) By Capability: Electronic Attack, Electronic Protection, Electronic Support, Electronic Intelligence

Subsegments:

- 1) By Hardware: Sensors, Antennas, Processors, Transmitters, Receivers, Power Supply Units, Field Programmable Gate Arrays (FPGA), Application-Specific Integrated Circuits (ASIC)
- 2) By Software: Signal Processing Software, Threat Detection And Identification Software, Machine Learning (ML) Algorithms, Data Fusion And Analytics Software, Simulation And Training Software, Cybersecurity And Encryption Software, System Integration And Mission Planning Software

View the full artificial intelligence (ai)-based cognitive electronic warfare (cew) market report: <https://www.thebusinessresearchcompany.com/report/artificial-intelligence-ai-based-cognitive-electronic-warfare-cew-global-market-report>

Global Artificial Intelligence (AI)-Based Cognitive Electronic Warfare (CEW) Market - Regional Insights

In 2024, North America was the leading region for the global AI-based Cognitive Electronic Warfare market, with Asia-Pacific forecasted to experience the most rapid growth. The report encompasses regions including Asia-Pacific, Western Europe, Eastern Europe, North America, South America, the Middle East, and Africa.

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