

# What is NDAA-Compliant LiDAR?

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In the United States, NDAA-compliant LiDAR has become an increasingly important consideration for survey, mapping, engineering, drone, and infrastructure firms because the law restricts federal procurement involving certain foreign-linked technologies and supply chains considered national security risks. The process begins with Congress passing NDAA provisions, the FAR Council translating those restrictions into federal procurement rules, and federal agencies applying them through contracts, grants, purchasing requirements, and obligations that flow down to contractors and subcontractors. For LiDAR and geospatial systems, compliance can apply not only to the sensor itself, but also to drones, cameras, GNSS/INS systems, software, network connectivity, data storage, and the complete mapping workflow. As requirements continue to evolve, many firms are choosing NDAA-compliant or Blue Approved systems not only to qualify for current work, but also to future-proof major equipment investments against changing procurement rules.



Fully NDAA-compliant UAV solution featuring the Phoenix RANGER-Flex and Harris Aerial H6E.

## What is the NDAA?

The National Defense Authorization Act (NDAA) is annual legislation passed by Congress and signed into law by the President. Each year's NDAA can establish statutory restrictions that affect how federal agencies purchase, use, and contract for certain technologies. Once those restrictions are enacted, the Federal Acquisition Regulatory Council, commonly known as the FAR Council, translates them into federal procurement rules through updates to the Federal Acquisition Regulation.

Federal agencies then apply those rules through contract clauses, grant conditions, purchasing requirements, and flow-down obligations placed on contractors and subcontractors. As a result, NDAA compliance is not always a simple yes-or-no determination. It is a layered process shaped by statutory language, federal procurement rules, agency interpretation, project requirements, and changes introduced in each year's NDAA.

## NDAAs Provisions Impacting LiDAR

Several NDAA provisions have shaped how LiDAR, drones, and geospatial systems are evaluated for federal and federally funded work. One of the most important was Section 889 of the FY2019 NDAA, which restricted federal agencies from buying, using, or contracting with entities that use certain covered telecommunications or video-surveillance equipment and services from restricted companies when that technology is used as a substantial or essential component, or as critical technology, within a system. While Section 889 was not written as a LiDAR-specific law, it quickly became relevant to the geospatial industry because modern mapping systems often integrate cameras, GNSS receivers, communications hardware, drones, software, and data-transfer workflows.

LiDAR has recently come under more direct scrutiny through Section 164 of the FY2025 NDAA, a Department of Defense-specific provision titled “Prohibition on operation, procurement, and contracting related to foreign-made light detection and ranging technology.” Unlike Section 889, which primarily addressed telecommunications and video-surveillance technology, Section 164 explicitly addresses LiDAR. It restricts certain LiDAR technology connected to covered foreign countries, including China, Iran, North Korea, and Russia, as well as covered LiDAR companies such as Hesai. This provision also explicitly mentions the LiDAR ecosystem — software, network connectivity, data storage, and systems that incorporate or interface with the technology. Section 164 takes effect on June 30, 2026.

Drone-related provisions have also significantly affected the LiDAR industry. Laws and rules such as the American Security Drone Act, FY2020 NDAA Section 848, and FY2023 NDAA Section 817 focus on UAS platforms, components, and supply chains, but they matter directly to drone-based LiDAR workflows. In practice, a compliant LiDAR sensor is not enough if the aircraft, controller, communications hardware, GNSS/INS, software, or data workflow introduces a compliance issue. For this reason, buyers increasingly need to evaluate the complete mapping system rather than the LiDAR sensor alone.

The SAFE LiDAR Act reflects the same broader policy direction. Introduced in the House in December 2025, the bill would phase out the use of LiDAR technology tied to foreign adversaries, including China, Russia, Iran, and North Korea, across a broader set of U.S. applications. While it has not become law, the proposal signals that congressional concern over LiDAR supply chains is no longer limited to defense procurement and may continue expanding into transportation, infrastructure, and other civilian markets.

Rob Dannenberg, President of *Phoenix LiDAR Systems*, said the company anticipated the growing importance of NDAA compliance and began shifting its hardware strategy before the issue became a major industry focus.

“Instances of restrictions on foreign-made drones began as early as 2016. As additional restrictions were introduced in subsequent years, including NDAA in 2019, it became clear to us that regulations on drones would naturally extend to payloads as well. By 2021, we shifted our entire hardware strategy toward secure, transparent, U.S.-aligned supply chains. Recognizing the direction that regulation was headed allowed us to transition before LiDAR came under scrutiny. Today, every payload in our Ranger Series meets the most stringent NDAA requirements. For us, NDAA isn’t a checkbox. It’s a recognition that LiDAR has become critical national infrastructure. If the data is going to support government, defense, and public-safety decision-making, then the integrity of the hardware, firmware, and supply chain behind that data matters just as much as accuracy or range.”

## What Makes a LiDAR System NDAA-Compliant?

NDAA-compliant LiDAR is LiDAR that does not fall within the prohibited categories established by applicable NDAA provisions, federal procurement rules, agency requirements, or project-specific contract language. There is no single government-issued certification that universally declares a LiDAR sensor “NDAA-compliant.” Instead, manufacturers and contractors typically make a representation based on their understanding of the law, their supply chain, the components and software used in the system, and the specific procurement requirement at issue.

It is also important to remember that the NDAA is passed annually, meaning compliance requirements can evolve over time. A product that appears compliant under today's rules is not permanently locked into that status if future NDAA provisions, FAR updates, agency policies, or covered-entity lists change. For buyers, this makes documentation and due diligence especially important, particularly when investing in systems expected to remain in service for many years.



Ranger U-160 is a fully NDAA-compliant LiDAR system featuring a unique NFB field of view designed to deliver a high level of detail on vertical structures.

## What is Blue Approved LiDAR?

Blue Approved LiDAR refers to a LiDAR sensor or payload that has been vetted for use within the Department of Defense's Blue UAS ecosystem, typically through the Blue UAS Framework. While NDAA compliance is often based on a manufacturer or contractor representation that a product avoids prohibited supply-chain risks, Blue approval reflects a more specific DoD-aligned review process for use in secure UAS configurations.

This distinction is important because Blue approval can give buyers greater confidence that a LiDAR payload is suitable for defense, government, and other security-sensitive applications. It may also provide a stronger level of future-proofing, since systems that have undergone DoD-aligned review are better positioned to meet evolving compliance requirements if NDAA-related restrictions become more stringent over time.

Dannenberg said Phoenix pursued Blue UAS approval as soon as LiDAR payloads became eligible under the framework.

“From the first moment LiDAR payloads were eligible for approval under the Blue UAS framework in 2024, we committed to making it happen—and the miniRanger-3 became the first, and remains the longest-continuously approved, LiDAR payload on the list. Today it is still one of only two LiDAR systems approved through the framework, reflecting our ongoing commitment to secure, compliant geospatial technology.”



Fully Blue UAS-approved setup with the Freefly Astro Max and the miniRANGER-3 Lite. The miniRanger-3 was the first, and remains the longest-continuously approved, LiDAR payload on the Blue UAS list.

## What Does NDAA Compliance Apply To?

There is important nuance in how NDAA provisions are applied. Some provisions, such as Section 889, apply broadly across federal procurement, while others, such as Section 164, are specific to the Department of Defense. The practical impact depends on the specific provision, the funding source, the contract language, and the agency or client applying the requirement.

Although NDAA compliance begins as a federal procurement issue, its reach often extends well beyond direct federal projects. Many state, county, municipal, transportation, utility, and infrastructure projects receive federal funding, grants, reimbursements, or agency support. When federal funding is involved, NDAA-related requirements may flow down through contracts, grant conditions, prime contractors, and purchasing requirements.

State Departments of Transportation have been an important example of this broader shift. Because many DOT projects rely on federal funding, agencies and contractors are increasingly moving toward NDAA-compliant equipment requirements for drones, LiDAR sensors, GNSS/INS systems, and complete mapping workflows. This reflects a broader trend in which NDAA-style compliance is being adopted not only by federal agencies, but also by organizations whose projects, funding, or clients are connected to federal procurement rules.

## Demand for NDAA-Compliant LiDAR

The expanding scope of NDAA-related procurement requirements has accelerated the shift toward NDAA-compliant LiDAR among U.S. survey, mapping, engineering, and drone service firms. For many organizations, compliance is no longer a niche concern limited to defense work. It is increasingly becoming a practical requirement for participating in federal, federally funded, infrastructure, transportation, utility, and security-sensitive projects.

The first driver is market access. When a project requires NDAA-compliant LiDAR, firms using non-compliant systems are unable to bid on or perform the work, regardless of the technical quality of their equipment. This makes compliance a business-development issue.

The second driver is future-proofing. LiDAR systems are major capital investments, often costing tens or hundreds of thousands of dollars, and companies expect to use them for many years in order to recoup that investment. Because the NDAA is passed annually and procurement requirements can evolve over time, buyers are increasingly considering whether a system that is acceptable today will remain eligible for future projects. Given the direction of recent regulation around LiDAR, drones, and secure supply chains, many firms are choosing compliant systems to reduce the risk that expensive equipment becomes commercially limited before the end of its useful life.

Blue Approved systems can provide an additional level of confidence for buyers focused on future-proofing. Because these systems and components have undergone a more specific DoD-aligned review process, they are better positioned for defense, government, and security-sensitive work as compliance requirements evolve.

Dannenberg said demand for NDAA-compliant LiDAR has expanded rapidly as organizations seek to avoid compliance barriers on current and future projects.

“Demand for NDAA-compliant LiDAR began emerging from government entities in 2022. In 2023, that demand expanded into AEC and other early-adopter markets that depend heavily on federal funding, including state agencies and universities. By 2025, non-compliant LiDAR had become prohibitive for many projects, and demand for NDAA-compliant LiDAR increased by 200% to 300% compared with the prior year. Today, NDAA-compliant LiDAR is a conversation we have for nearly all of our US-based customers.”

## **How LiDAR Providers Are Responding**

For LiDAR providers, including sensor manufacturers, system integrators, software vendors, and complete solution providers, NDAA compliance is becoming both a market requirement and a competitive differentiator. As more federal, federally funded, and security-sensitive customers ask for compliant systems, providers are increasingly documenting supply chains, reviewing component origins, modifying system architectures, and, in some cases, pursuing Blue UAS approval to demonstrate suitability for defense and government use.

This shift reflects a broader change in how LiDAR systems are evaluated. Buyers are no longer looking only at range, accuracy, point density, or price. They are also asking whether the sensor, aircraft, GNSS/INS, communications hardware, software, and data workflow can meet procurement and security requirements. For providers, pursuing NDAA alignment or Blue approval can expand access to government-related markets and reduce friction for customers who need clear compliance documentation before making a purchase.

For Phoenix, Dannenberg said compliance has become an ongoing design and support consideration, not a one-time product claim.

“At Phoenix LiDAR, we recognized early that compliance requirements would continue to evolve. Today, every payload in our Ranger Series meets the most stringent NDAA standards, and that’s not by accident. We track regulatory changes closely and design our systems so they can remain compliant over the long term. As the industry shifts, we will always provide a clear path to keep systems compliant through upgrades or component swaps. No one should have to replace an entire system just to meet a new rule. Phoenix now offers NDAA-compliant solutions for mobile and airborne LiDAR as well, even though those categories are not currently regulated.”



Phoenix LiDAR RMF2 is a fully NDAA-compliant mobile LiDAR solution. Phoenix offers NDAA-compliant mobile and airborne lidar solutions despite these categories not currently being regulated.

## What NDAA Compliance Is Not

NDAA compliance is not a measure of LiDAR sensor accuracy, data quality, range, point density, or overall performance. A non-compliant LiDAR sensor may still produce highly accurate data, while a compliant sensor is not automatically superior from a technical perspective. Instead, NDAA compliance is primarily about supply-chain security, federal procurement eligibility, and whether the sensor, system, or workflow can be used on projects with applicable government funding, contract requirements, or client-imposed compliance standards.

## Conclusion

NDAA compliance is a nuanced and evolving topic, shaped by annual legislation, layered procurement rules, and agency interpretation that reaches geospatial professionals through federal contracts, grant conditions, and flow-down obligations. The trajectory of recent provisions makes clear that supply chain scrutiny around LiDAR, drones, and geospatial systems will only intensify. As institutions proactively adopt compliance standards and firms invest in compliant equipment to remain competitive, NDAA compliance is rapidly becoming a baseline expectation across federal, federally funded, and security-sensitive work.

## Acknowledgement

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