

Driving Innovation in Defense Technology

Investing in the future of national security through cutting-edge defense tech solutions.



Is Defense Tech Driving the Future of National Security?

Geopolitical tensions are reshaping defense strategies. This shift is creating an urgent need for advanced technologies in defense.

Steady investments amid a VC slowdown. Defense tech attracts steady venture interest, driven by recent wins and high-upside potential, even as other sectors face funding slowdowns.

Autonomous systems are leading the charge. Robotics, AI, and autonomous systems are driving innovation in defense tech, playing a key role in modernizing defense capabilities.

Agile innovators take on industry titans. Startups and emerging companies successfully compete with established defense contractors by leveraging cutting-edge technology and adaptability.

Government and private partnerships are fast-tracking defense tech breakthroughs. Strategic partnerships are crucial for scaling cutting-edge technologies and strengthening national security.

Highlights from the Report



Shattering Stigmas

Global conflicts are changing perceptions of defense tech, highlighting its strategic importance in national security.

p. 02



New Wave of Innovators

A new generation of defense startups is gaining traction by using innovation to challenge the dominance of established primes.

pp. 08-09



Southern California as a Thriving Defense Tech Hub

Southern California is emerging as a key center for defense innovation, blending high-tech ambition with hands-on practicality.

pp. 05-06



Government Contracts

Government sales remain complex for startups, with lengthy procurement processes and high entry barriers.

p. 13



Advanced Manufacturing Debt Fund

North Atlantic Capital, A Stifel Company, is empowering the defense sector by supporting mission-critical manufacturing and technological innovation.

p. 14

Why Now?

Global Conflicts Shatter Stigmas

Ongoing geopolitical tensions involving major global players such as Ukraine, Israel, Russia, and China are reshaping defense strategies and driving up demand for advanced technologies. This period mirrors the early days when innovation in chip technology was closely tied to defense needs.

As modern warfare evolves, rapid advancements in AI, robotics, and autonomous systems are increasingly critical to defense. This shift underscores the importance of continuous innovation in defense technology.

In response, increased government funding and initiatives are supporting the development of cutting-edge technologies, creating ample opportunities for both startups and established companies.

Reflecting this focus, the Department of Defense has requested an \$842B budget for fiscal year 2024, marking a 3.2% increase from the previous year.

Source: Deloitte. 2024 Aerospace and Defense Industry Outlook. Deloitte Insights. <https://www2.deloitte.com/us/en/insights/industry/aerospace-defense/aerospace-and-defense-industry-outlook.html>

United States Defense Market

CAGR: 3.58%



| | |
|--------------------------|---------------|
| Study Period | 2019 - 2029 |
| Base Year For Estimation | 2023 |
| Market Size (2024) | USD \$309.77B |
| Market Size (2029) | USD \$367.30B |
| CAGR (2024 - 2029) | 3.58% |
| Market Concentration | Medium |
| Major Players | |

Source: Mordor Intelligence. United States Defense Market - Growth, Trends, COVID-19 Impact, and Forecasts (2023 - 2028). Mordor Intelligence. <https://www.mordorintelligence.com/industry-reports/united-states-defense-market>

United States Aerospace and Defense Market

CAGR: 5.76%



| | |
|--------------------------|---------------|
| Study Period | 2019 - 2029 |
| Base Year For Estimation | 2023 |
| Market Size (2024) | USD \$496.56B |
| Market Size (2029) | USD \$656.93B |
| CAGR (2024 - 2029) | 5.76% |
| Market Concentration | High |
| Major Players | |

Source: Mordor Intelligence. US Aerospace and Defense Market - Growth, Trends, COVID-19 Impact, and Forecasts (2023 - 2028). Mordor Intelligence. <https://www.mordorintelligence.com/industry-reports/us-aerospace-and-defense-market>

Competing Against the Primes

Competing against established prime contractors, the following companies have secured significant government funding and contracts by leveraging innovative technologies and strategic initiatives. Their success underscores the importance of continued investment in the defense tech sector, ensuring that it remains at the forefront of technological progress and operational excellence.

| |  ANDURIL |  Palantir |  SPACEX |  Relativity |
|----------------------|--|---|---|---|
| Specialization | AI, autonomy, and advanced defense systems. | Big data analytics and software for defense and intelligence agencies. | Space technology and infrastructure that provides essential communication capabilities for military operations. | 3D-printed rockets and pioneering cost-effective launch solutions for defense-related payloads. |
| Revenue & Valuation | Reported significant growth, with a valuation approaching \$4.6B as of the latest funding round. | Continues to secure substantial government contracts, reflecting strong market position. | Valued at over \$100B as of the latest funding rounds. | Raised over \$1.3B in funding rounds, with a valuation of \$4.2B. |
| Notable Technologies | Ghost 4 autonomous drone, Lattice AI platform, and Sentry Towers for surveillance. | Gotham and Foundry platforms widely used for data integration and analysis. | Reusable rockets like Falcon 9 and Falcon Heavy, Starlink satellite constellation. | Terran 1 and Terran R rockets. |
| Government Contracts | Nearly \$1B contract with Special Operations Command (SOCOM) for counter-unmanned systems efforts. | Extensive use by the Department of Defense for various military operations and intelligence analysis. | Numerous contracts with NASA and the Department of Defense. | Department of Defense and NASA contracts for defense and space missions using 3D-printed rockets. |

A New Wave of Innovators

In addition to the established leaders, a new wave of companies is emerging, with support from Stifel Bank. These companies are driving innovation in critical areas across space, sea, data, air, and land.

| |  True Anomaly |  SAILDRONE |  virtru |  Shield AI |  FORT |
|----------------------|---|---|---|---|--|
| Specialization | Space defense technology, focused on enabling secure and resilient space operations. | Autonomous maritime vehicles for ocean data collection and maritime security. | Data encryption and privacy protection for secure communications and information sharing. | AI-driven autonomous systems for military applications. | Safety and security systems for autonomous machines and robotics in defense. |
| Notable Technologies | Autonomous satellite operations and space situational awareness systems. | Saildrone Explorer and Saildrone Surveyor, capable of long-endurance missions at sea. | Trusted Data Format (TDF) and email encryption software widely used across defense and intelligence agencies. | Hivemind software enhances UAV capabilities. | Machine control solutions that prevent accidents and ensure secure operation of robots in mission-critical environments. |
| Notable Contracts | Recent contracts with U.S. Space Force for satellite security solutions. | Key contracts with NOAA and the U.S. Navy for maritime surveillance. | Adopted by numerous U.S. government agencies for secure communications. | High-profile contracts for AI pilots and autonomous systems. | Developing safety systems for defense robotics and autonomous vehicles. |

A Different Kind of Tech Hub

Southern California's Thriving Defense Tech Ecosystem

Southern California has rapidly become a hub for aerospace and defense innovation, blending high-tech ambition with a hands-on approach to address complex national security and aerospace challenges.

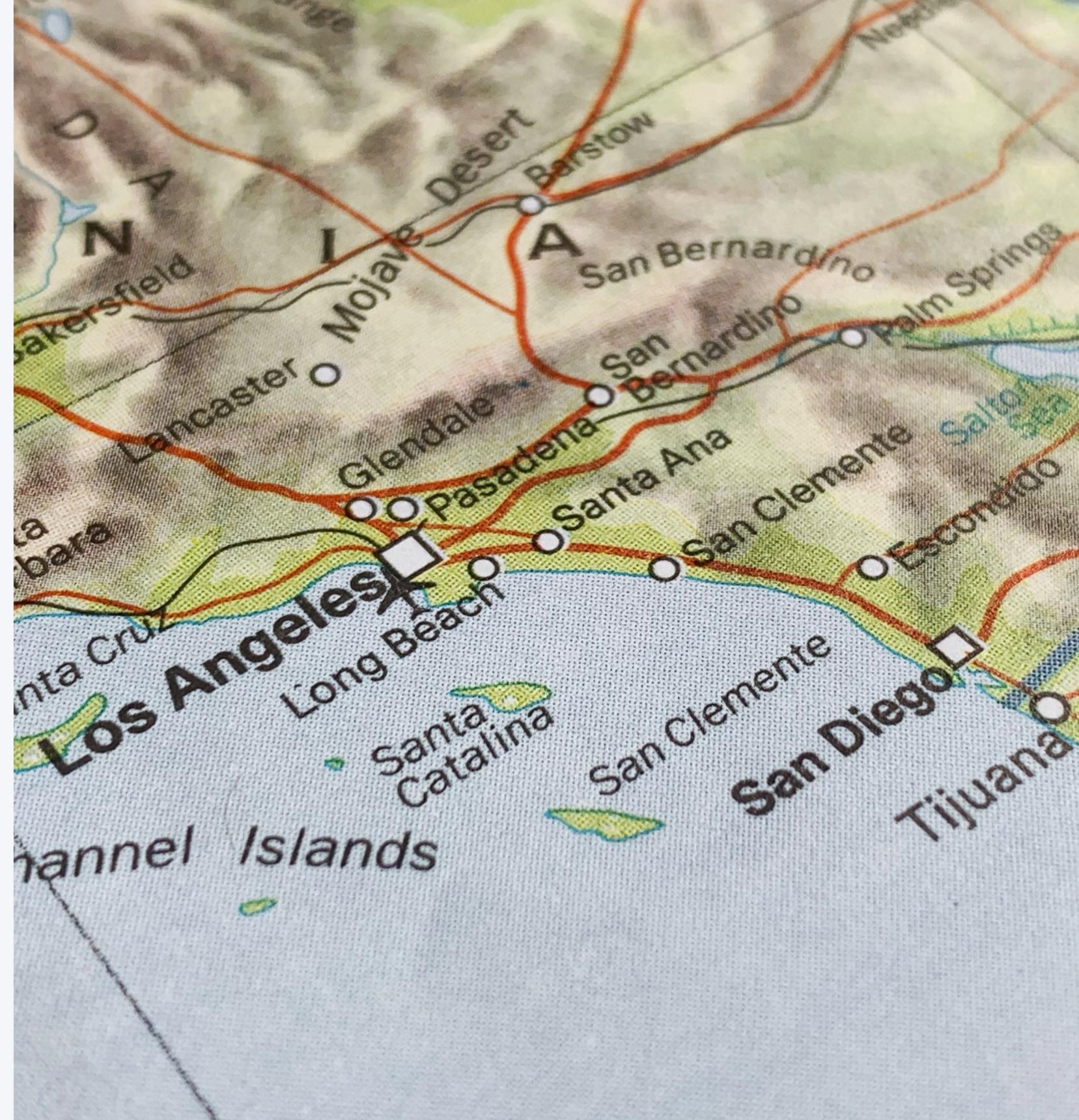
Distinctive Ecosystem. This region combines innovation with a blue-collar ethos, distinguishing itself from Silicon Valley's software focus. Founders here prioritize "hard tech" solutions, establishing Southern California as a center for purpose-driven advancements in aerospace and defense.

Collaborative Community. With its aerospace legacy, Southern California attracts major firms and partners with institutions like the Space and Missile Systems Center, fostering a culture of defense innovation.

Launchpad for High-Impact Projects. With ample industrial space and supportive policies, Southern California serves as an ideal launchpad for ambitious defense projects, from nuclear reactors to next-gen autonomous systems.

Strategic Location. Proximity to military bases and research centers, like Los Angeles Air Force Base, enables seamless collaboration and accelerates cutting-edge tech development.

Industry Giants Driving Talent Growth. Major players like Boeing, Raytheon, and Northrop Grumman anchor the area's defense tech ecosystem, attracting top talent and creating opportunities for both established and emerging companies.



Emerging Leaders in Southern California's Defense Tech Ecosystem



OurSky

OurSky is a modern developer platform for space applications. It delivers real-time observational data and analysis of space objects and activities. Designed as an open, community-driven resource, it empowers engineers of the new space age.



Cambium

Cambium is a radically different advanced materials company that harnesses AI and informatics from molecular discovery to manufacturing. It creates innovative, high-performance materials for applications like monomers, high-temperature composites and foams, carbon-carbon precursors, and laser attack protection systems.



Castelion

Castelion is a modern defense company developing next-generation hypersonic, vehicle, and strike systems designed to deter future conflicts.



Firestorm

Based in nearby San Diego, Firestorm specializes in mission-adaptable Unmanned Aircraft Systems (UAS), building these systems rapidly and cost-effectively. Its approach reduces production time from weeks to hours, achieving a tenfold increase in speed over traditional methods.



Apex

Apex Space manufactures scalable satellite buses through a blend of software, vertical integration, and manufacturing-focused hardware. Its spacecraft support the future of society, powering applications from Earth observation to global communications and more.

Key Takeaway

Emerging companies are redefining what's possible in defense tech with rapid innovation across space, materials, and autonomous systems. They embody Southern California's unique blend of cutting-edge tech and practical, hands-on solutions, positioning the region as a launchpad for the next generation of defense capabilities.

Increasing Funding Access

Widening Funding and Contract Opportunities

The Growing Profile of the Defense Innovation Unit (DIU)

- ◆ **DIU 1.0:** Building DoD-commercial relationships
- ◆ **DIU 2.0:** Rapid tech acquisition
- ◆ **DIU 3.0:** Scaling capabilities for strategic impact

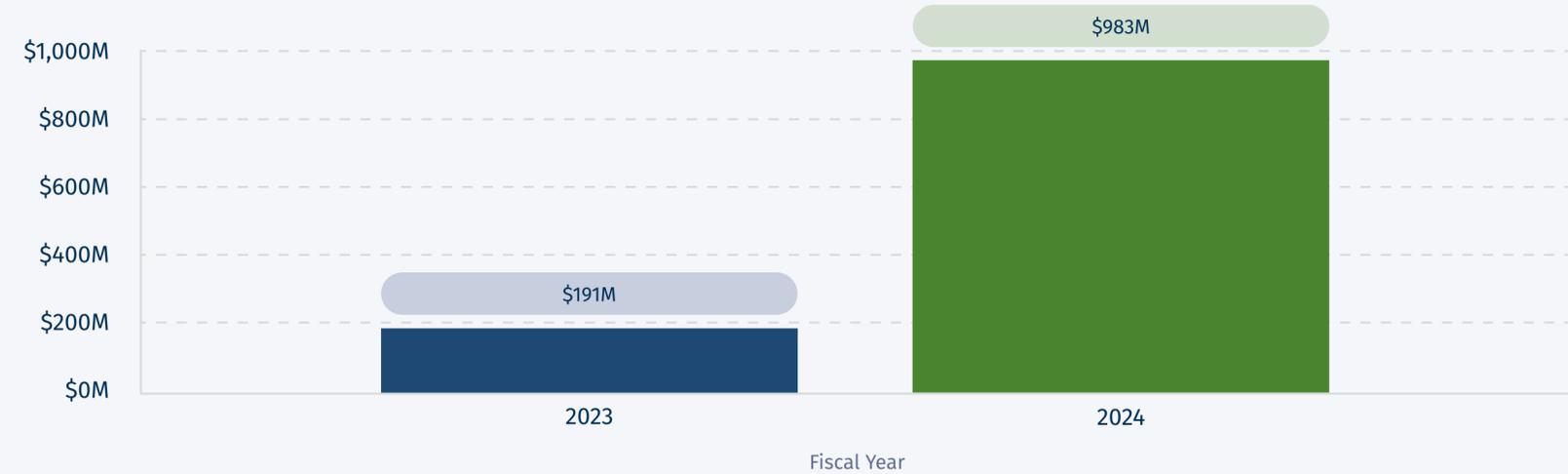
Shifting Acquisition Processes

The DIU and the US Air Force's SBIR program lead this charge:

- ◆ DIU has awarded over 450 contracts worth more than \$5.5B to nontraditional contractors.
- ◆ SBIR program has introduced "Open" topics, which invite firms to propose technologies without specific guidance.

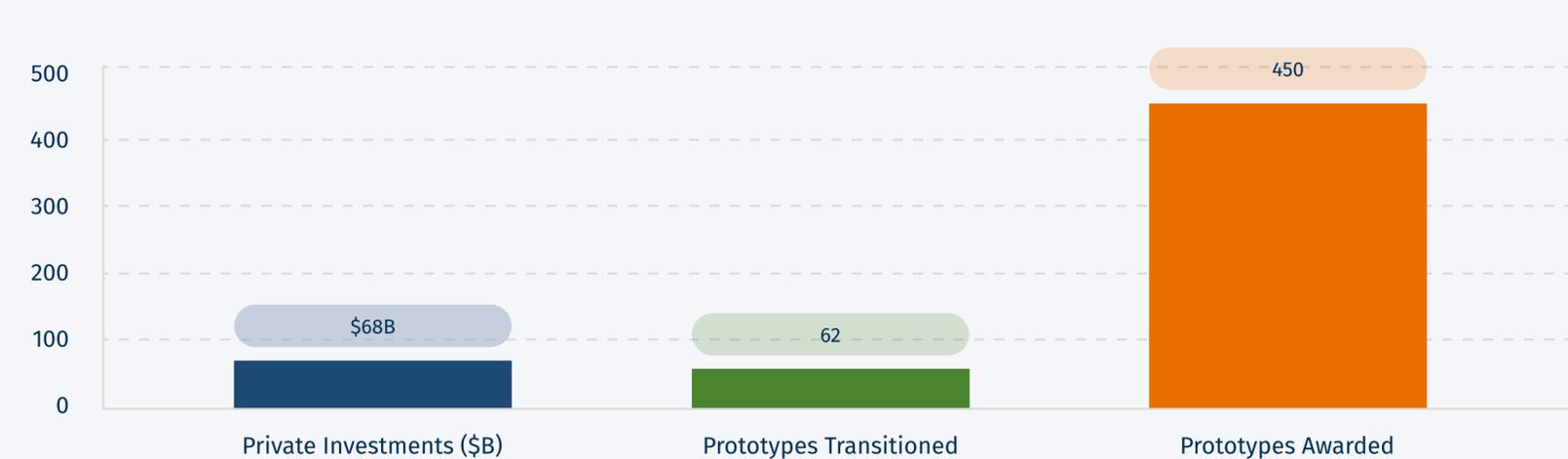
Source: PitchBook 2024 Vertical Snapshot: Defense Tech Update

DIU Budget Growth



Source: PitchBook 2024 Vertical Snapshot: Defense Tech Update

DIU Achievement Count Since Inception



Source: PitchBook 2024 Vertical Snapshot: Defense Tech Update

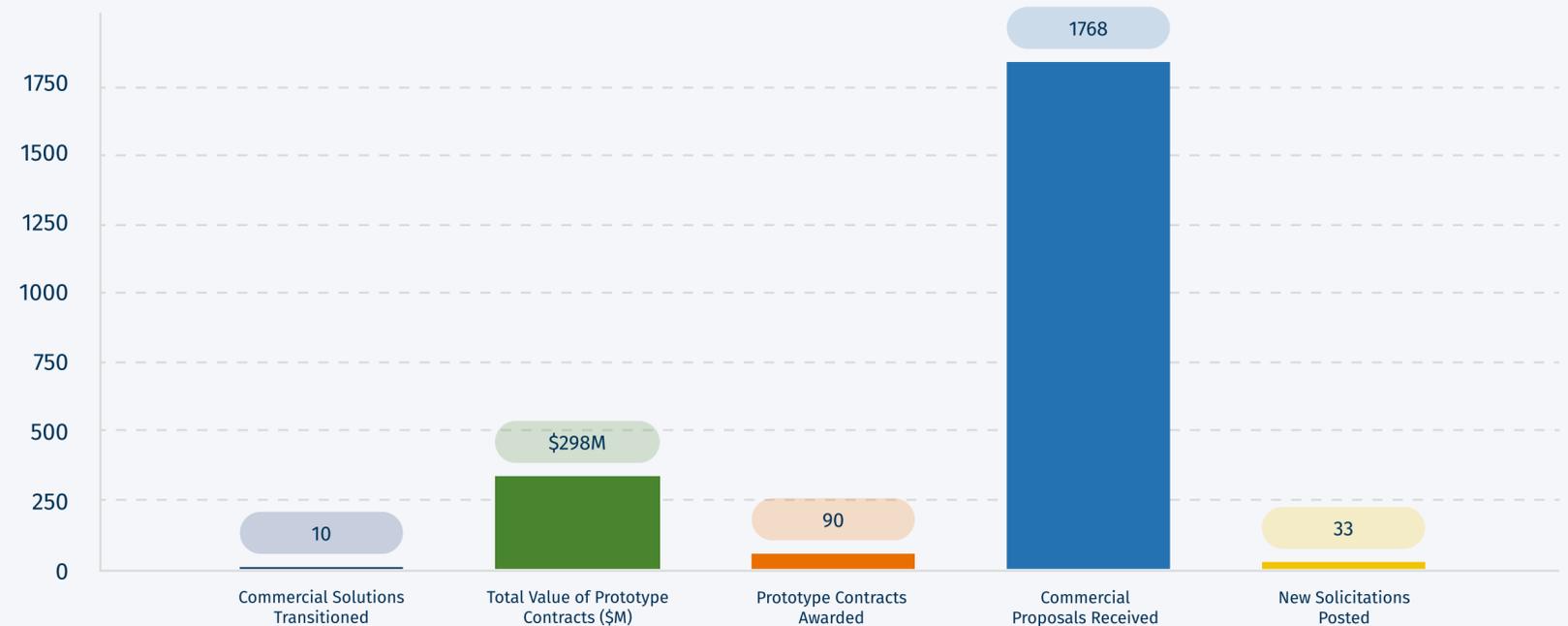
Key Impacts

- ◆ **Startup Participation:** Open acquisition attracts startups, diversifying M&A with innovative tech.
- ◆ **Innovation:** Broad problem statements drive innovation, making award-winning companies prime acquisition targets.
- ◆ **Streamlined Procurement:** Open approaches speed tech adoption, driving consolidation.

Opportunities for Nontraditional Contractors

This strategy invites startups and nontraditional contractors to propose innovative solutions, increasing VC funding and defense integration. With the rising threat of drones, rapid innovation is crucial, as shown by Epirus' microwave system and the Army's counter-drone tech.

DIU Metrics for Fiscal Year 2023



Source: PitchBook 2024 Vertical Snapshot: Defense Tech Update

Source: U.S. Department of Defense. Defense Innovation Unit FY 2023 Annual Report. https://downloads.ctfassets.net/3nanhbfr0pc/57VfnQbajgWdONRicxv6nG/44f831e7a0e857bb8494508f8571fd71/DIU_Annual_Report_FY2023.pdf

Navigating Challenges in Government Sales

Selling to the government presents several unique challenges, including navigating complex procurement processes, extended sales cycles, and stringent compliance requirements. These factors demand a strategic approach and a deep understanding of the government's procurement landscape.

Key Takeaway

Selling to the government can be a lengthy and complex process. To avoid the pitfalls, it is important to have a team with experience and relationships within these government organizations.

Prime Contractor vs. Part of a Prime

The decision to become a prime contractor or partner with an existing one is pivotal. While teaming up with a prime can help new entrants secure contracts faster, it may limit their long-term potential. Companies like Anduril are aiming to become the next prime contractor, a notable achievement given how few reach this status.

Innovation Funding

There is an ongoing debate about how much government funding truly supports innovation. Historically, a significant portion of contracts have gone to large primes like Raytheon and Lockheed Martin, but there is a shift toward engaging more with startups.

Long Sales Cycles

Government procurement processes are lengthy, often taking months or even years to finalize contracts. This extended timeline can be a hurdle for startups needing quicker revenue streams.

Navigating Decision-Making

Identifying and understanding the real decision-makers within government agencies can be complex and often leads to setbacks in the sales process. As such, making progress can be deceptive without clear insights into the procurement hierarchy.

Non-Recurring Revenues

Unlike commercial contracts, government contracts do not always guarantee recurring revenues, adding a layer of financial uncertainty.

Stifel's Advanced Manufacturing Debt Fund

North Atlantic Capital, A Stifel Company, in collaboration with ASTRO America, has become the first investment firm approved to raise private capital under the new SBA-DoD partnership. Through the Stifel North Atlantic AM-Forward Fund, Stifel will provide vital debt financing to lower and middle market advanced manufacturing firms, supporting the production of mission-critical components and technologies essential to U.S. national security in the aerospace and defense sectors.

Key Objectives

- ◆ Support small manufacturers through financial backing for supply chain modernization and advanced technology integration.
- ◆ Enhance national security by fostering critical defense technology development through the fund.
- ◆ Promote the adoption of innovative manufacturing processes critical to defense and aerospace.

Strategic Partnerships

- ◆ Partner with primes like Lockheed Martin to scale cutting-edge technologies in the supply chain.
- ◆ Strengthen the defense industrial base with SBA and DoD backing, avoiding deficit funding.

Impact

- ◆ Create jobs, build U.S. manufacturing, and improve supply chain resilience with the fund.
- ◆ Demonstrate commitment to advancing defense tech, attracting investment and driving innovation.



“This fund is a rare opportunity to mix purpose and passion. We are advancing the adoption of mission-ready production technology for the U.S. aerospace and defense supply chain while supporting the journey of emerging U.S. small businesses. Through this revolutionary partnership with the SBA, DoD, ASTRO America, and our anchor investors, we have the opportunity to create jobs and build U.S. manufacturing capacity.”

– Stifel Bank Managing Director, Mike Nitka

Key Takeaway

Stifel Bank’s new advanced manufacturing debt fund underscores the importance of private capital in supporting national security and showcases a collaborative approach to solving complex supply chain challenges in the defense industry.

Defense Tech Defies VC Slowdown with Steady Investment

Key Investment Trends

- Strategic Importance:** With defense tech vital for national security, the Pentagon increasingly seeks Silicon Valley innovations, looking beyond traditional contractors for cutting-edge solutions.
- Strategic Shift in Defense Investment:** Recent wins and untapped potential in defense have drawn venture capitalists seeking high-upside opportunities. Unlike other sectors facing funding slowdowns, defense-adjacent companies continue to attract steady interest due to limited venture-backed competition.
- Investment Focus:** The defense tech sector has seen a marked shift towards larger, late-stage investments, driven by confidence in the scalability and long-term growth potential of mature companies.
- Market Dynamics:** Deal count and value slightly declined in 2023 and early 2024, but continued substantial investments highlight the sector's attractiveness.

Investments and Deals by Year



Source: PitchBook Data, Inc.; *Data has not been reviewed by PitchBook analysts.

Median Deal Size and Deal Count



Source: PitchBook Data, Inc.; *Data has not been reviewed by PitchBook analysts.

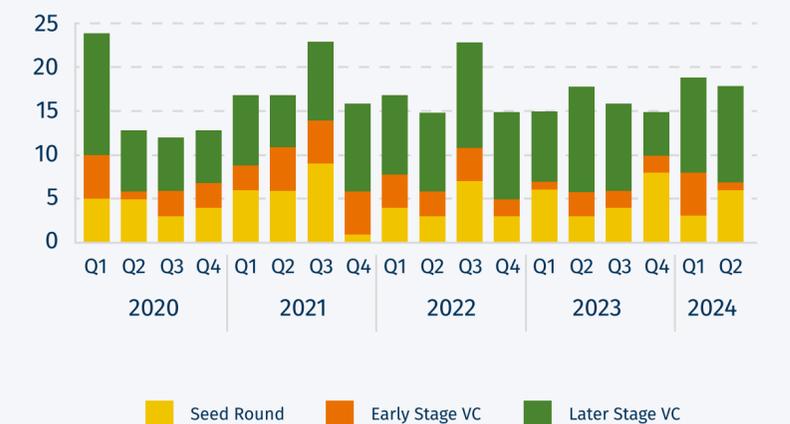
Deal Size by Stage by Quarter



Late-stage VC dominates the defense tech investment landscape, signaling strong confidence in scaling established companies.

Source: PitchBook Data, Inc.; *Data has not been reviewed by PitchBook analysts.

Deals by Stage by Quarter



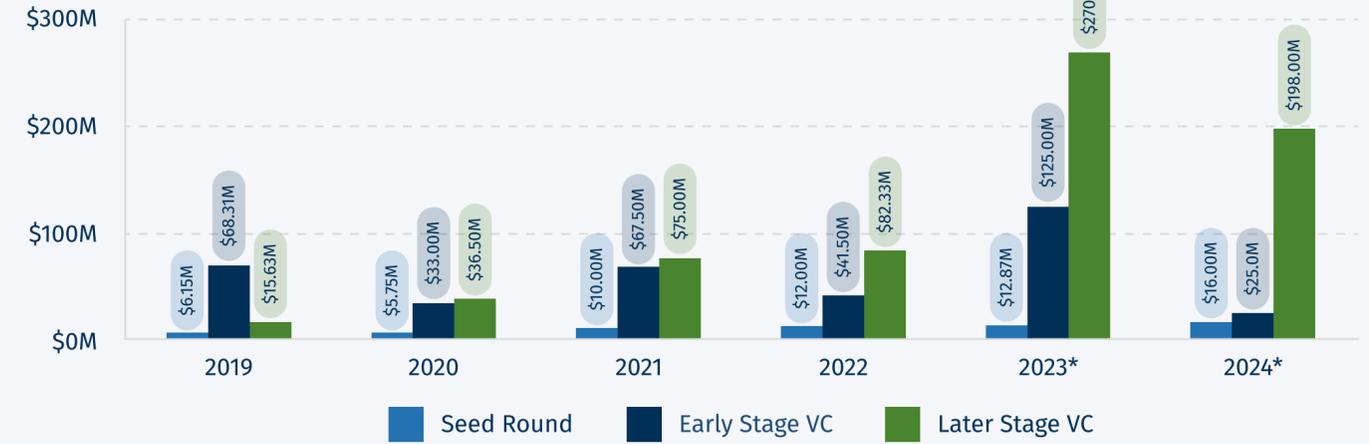
Source: PitchBook Data, Inc.; *Data has not been reviewed by PitchBook analysts.

Median Deal Value by Stage by Year



Source: PitchBook Data, Inc.; *Data has not been reviewed by PitchBook analysts.

Median Pre Money by Stage by Year



*Massive deals skewed defense tech funding in 2023 and 2024. Notable examples include Anduril's \$1.5B round, Shield AI's \$200M, and Helsing's \$494M. These large investments have inflated overall industry figures, highlighting a trend of concentrated capital in a few key players.
Source: PitchBook 2024 Vertical | Snapshot: Defense Tech Update

Source: PitchBook Data, Inc.; *Data has not been reviewed by PitchBook analysts.

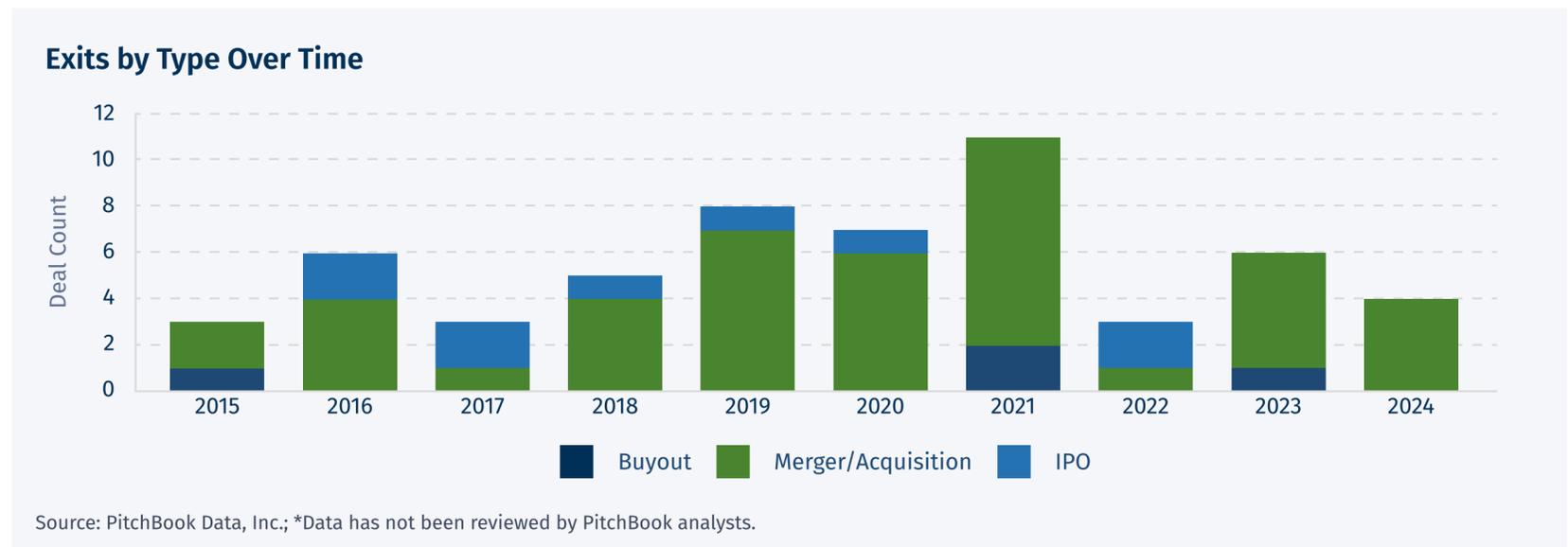
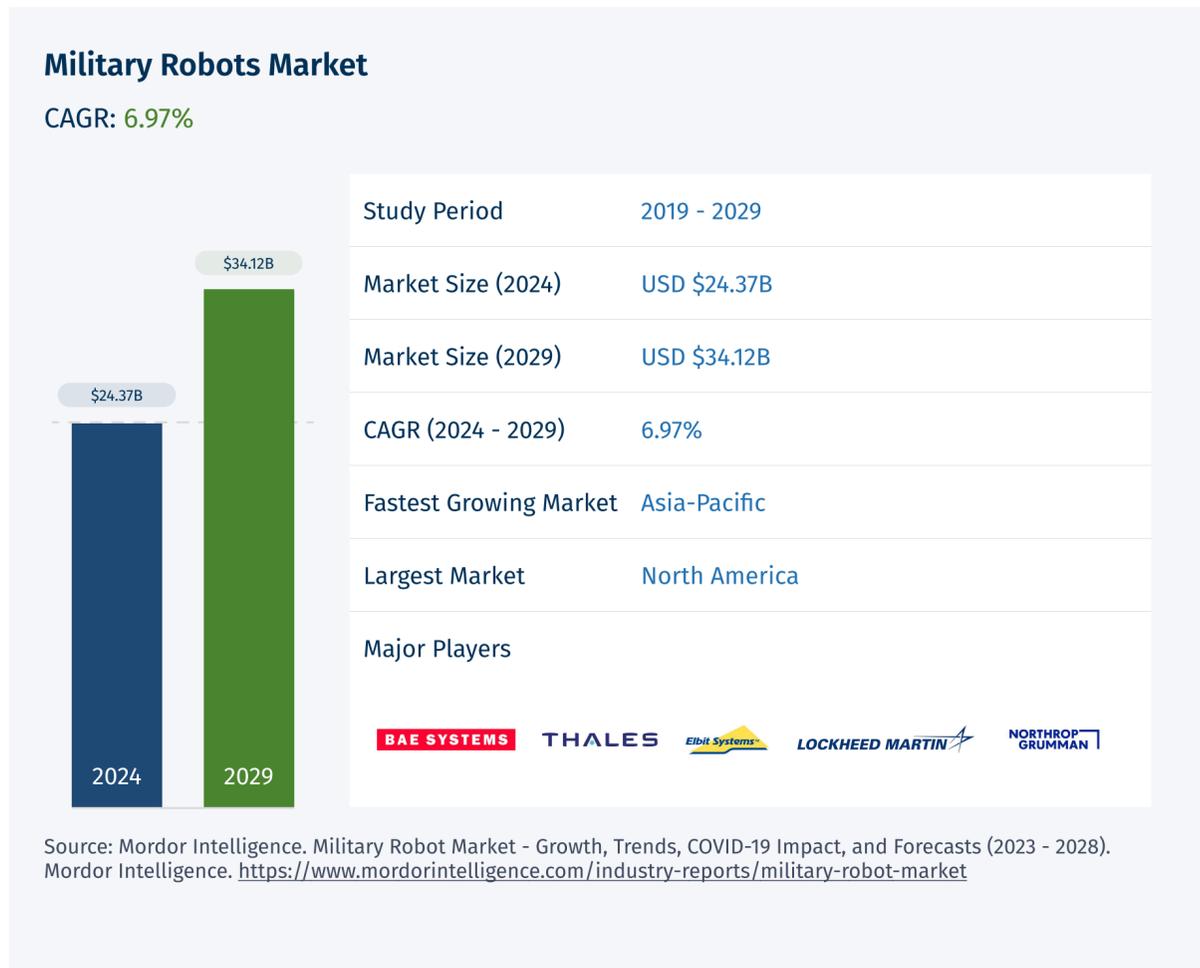
Median Post Valuation vs Median Deal Size



Source: PitchBook Data, Inc.; *Data has not been reviewed by PitchBook analysts.

Rapid Growth Driven by Autonomous Systems

Continued investment in defense tech underscores the sector's resilience. Robotics, AI, space tech, and cybersecurity are key innovation areas, with countries developing advanced robotics for future warfare. In the Asia-Pacific, increased defense spending fuels the growth of unmanned systems, enhancing combat capabilities. Rising regional tensions are expected to boost the military robotics market.



Notable M&As in the Military/Defense Robotics Sector Over the Past Year

| | | | |
|---|---|--|---|
| Acquired by: LIG Nex1 Deal Value: \$240M | Acquired by: Rockwell Automation Deal Value: Over \$600M | Acquired by: Lockheed Martin Deal Value: \$600M | Acquired by: Hensoldt Deal Value: \$732.6M |
|---|---|--|---|

Favoritism Toward Big Players

NATSEC100

The Silicon Valley Defense Group (SVDG) publishes the annual NATSEC100 list, highlighting top venture-funded national security startups. This year, 44 new companies are featured, reflecting nearly 50% turnover due to broader eligibility criteria and the rapid emergence of new ventures.

Funding Disparities in National Security Startups

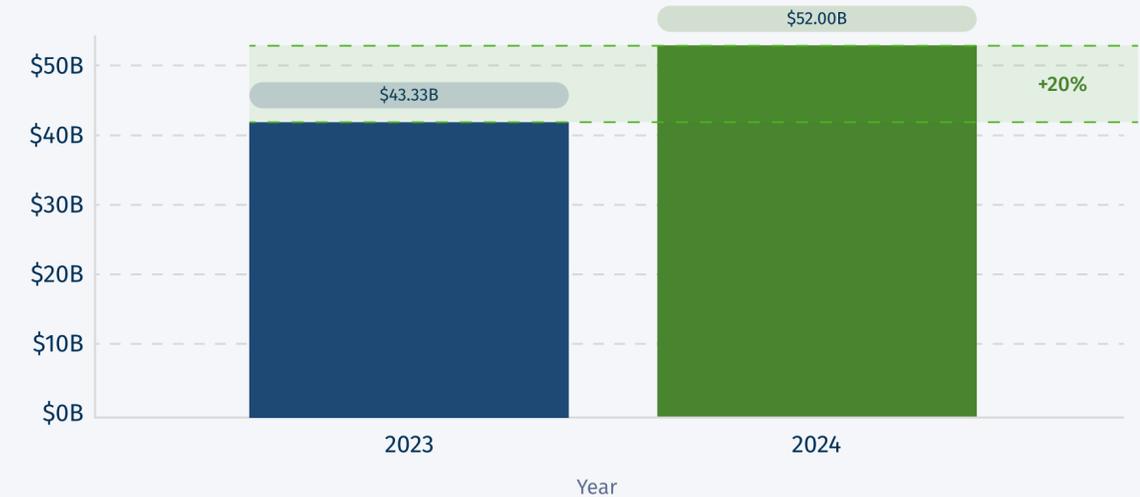
Despite a significant increase in private funding for the listed companies, federal funding remains limited. This funding gap indicates weak government support for startups.

Key impacts include:

- ◆ **Discouraged Innovation:** Reduced participation in the national security market.
- ◆ **Hindered Tech Development:** Allows big players to dominate and stifle competition.
- ◆ **High Entry Barriers:** Makes it more cost-effective for companies and investors to support established entities already recognized by the government.

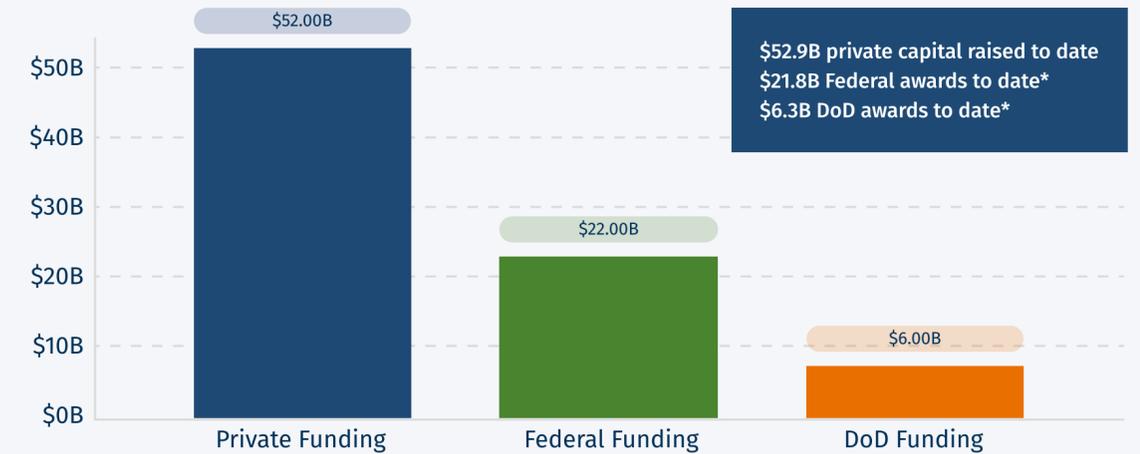
Source: Silicon Valley Defense Group. NATSEC100 List. <https://natsec100.org/>

Private Funding Raised by Listed Companies



Source: Silicon Valley Defense Group. NATSEC100 List. <https://natsec100.org/>

Funding for NATSEC100 Companies in 2024



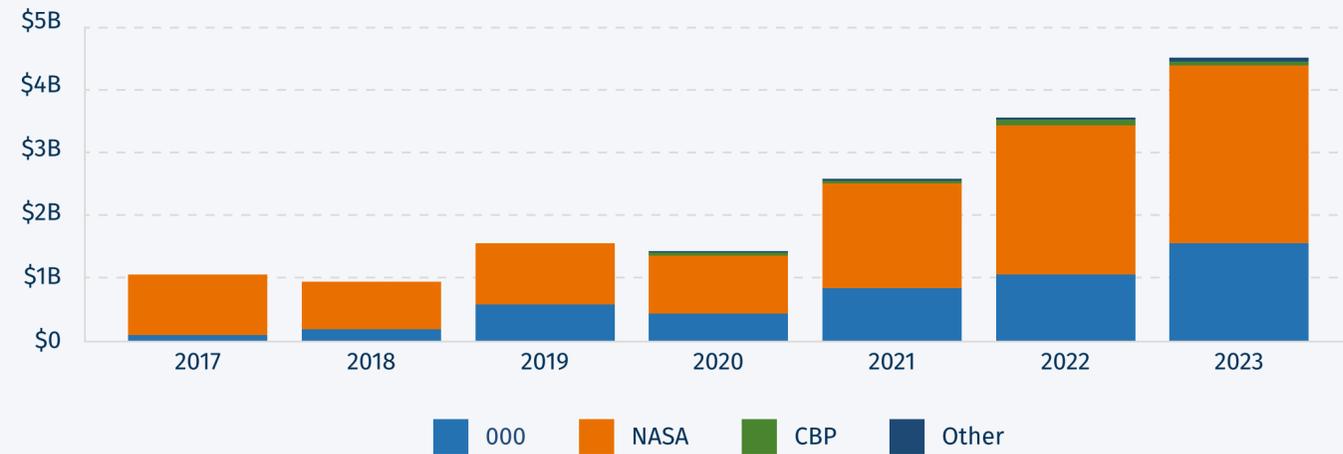
*SpaceX accounts for 81% of all Federal awards

*SpaceX accounts for 65% of all DoD awards

Source: Silicon Valley Defense Group. NATSEC100 List. <https://natsec100.org/>

Federal Government Awards to All NATSEC100 Companies

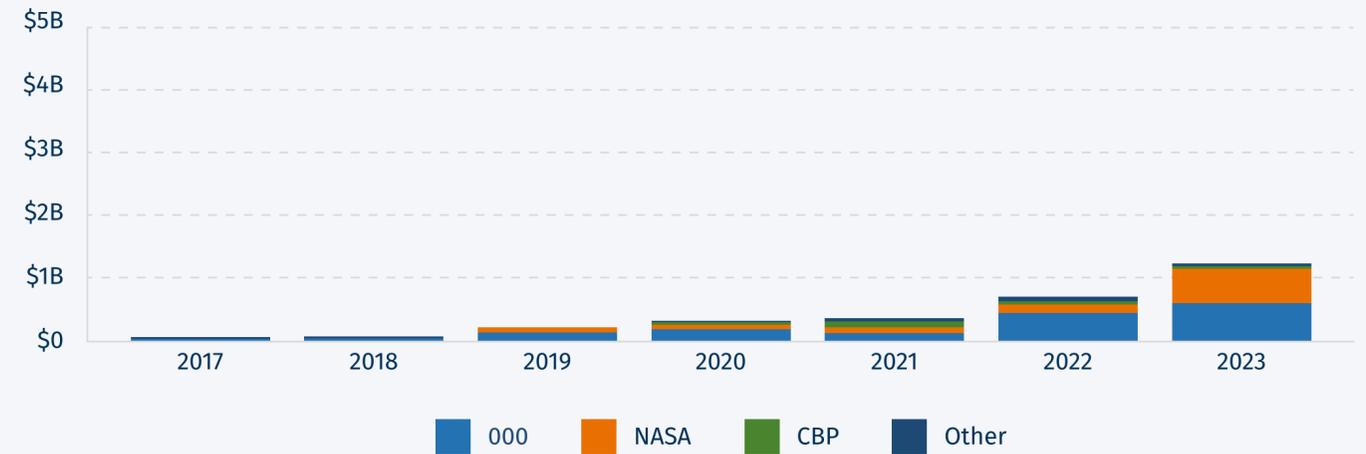
Excluding SpaceX **Including SpaceX**



Source: Silicon Valley Defense Group. NATSEC100 List. <https://natsec100.org/>

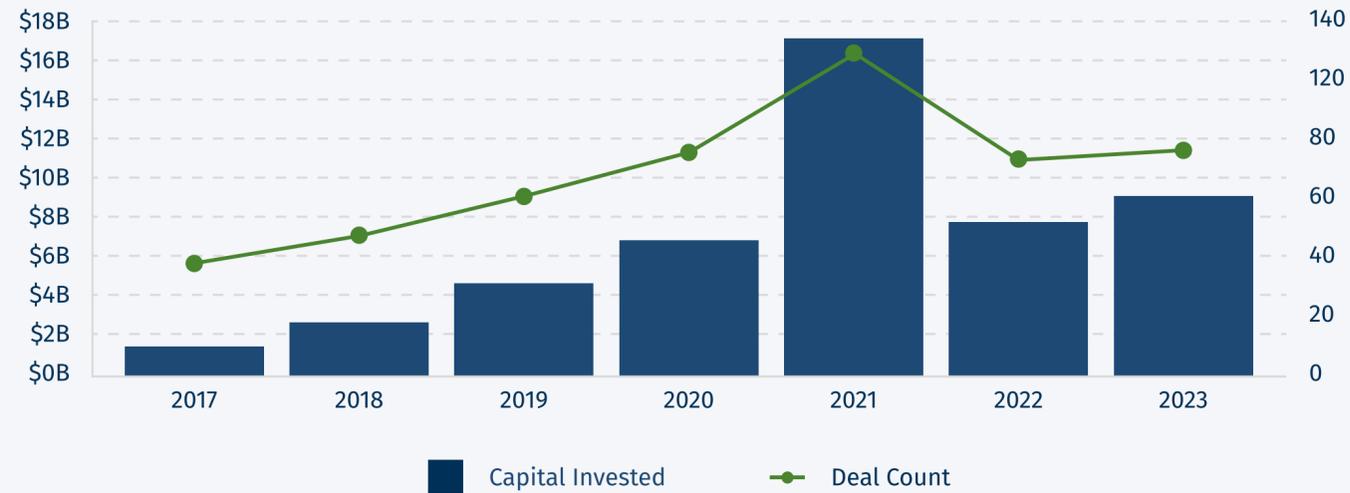
Federal Government Awards to All NATSEC100 Companies

Excluding SpaceX Including SpaceX



Source: Silicon Valley Defense Group. NATSEC100 List. <https://natsec100.org/>

2024 NATSEC100 Deal Count and Capital Invested by Year



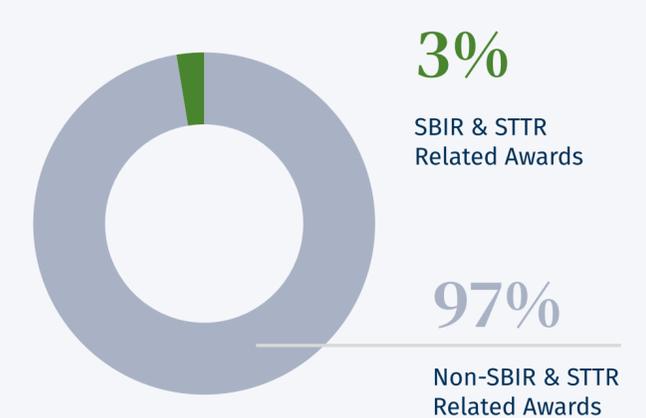
Source: Silicon Valley Defense Group. NATSEC100 List. <https://natsec100.org/>

SBIR & STTR Related Awards by Phase



Source: Silicon Valley Defense Group. NATSEC100 List. <https://natsec100.org/>

2024 NATSEC100 Award Composition





Conclusion

End Notes & Methodology

As investment in the defense tech sector shifts from stigma to opportunity, Stifel Bank's team is here to support innovators and investors as they break new ground, helping them capitalize on growth while navigating the unique challenges of this evolving space.



Matt Trotter

Managing Director
Stifel Bank Venture Banking

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Methodology

Data comes from PitchBook Data, Inc. Data has not been reviewed by PitchBook analysts.

Deal Date: Through June 30, 2024

Deal option: Search on a full transaction

Deal status: Completed

Location: Global

Deal Types: Seed, Early Stage VC, Later Stage VC, Restart early stage VC, Restart later stage VC

About Us

Meet Stifel Bank

Based in St. Louis, Missouri, Stifel Bank serves growth and middle-market businesses and their owners with a full range of lending, deposit, treasury, and private banking services.

We have the flexibility and resources to offer our customers the banking and lending services they require, with the legacy of Stifel, a leading Wealth Management and Investment Banking firm established in St. Louis in 1890.

We are known for our superior customer service, flexibility, and entrepreneurial approach to banking. Our success is built upon the strong relationships we develop with clients and our deep knowledge of their businesses, financial markets, and access to a wide array of lending and liquidity tools. This empowers us to provide the financial resources required to meet our clients' ever-changing needs.

Disclosures

North Atlantic Capital Management, LLC, doing business as North Atlantic Capital, a Stifel Company, is a wholly owned subsidiary of Stifel Financial Corp.

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Stifel Bank provides the financial resources required to meet our clients' ever-changing needs.

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[!\[\]\(6d4cdef06d803dcd63aa9aa8840a2ace_img.jpg\) bankwithstifel.com](#)

