

RAYMOND JAMES

INVESTMENT BANKING

Defense & Space Quarterly Market Report

Q3 2023

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Industry Experience ⁽¹⁾

 has been acquired by ARCFIELD™ a portfolio company of 	 has been acquired by iNovex a portfolio company of 	 has been acquired by iNovex a portfolio company of 	 has been acquired by eclipse a portfolio company of 	 has been acquired by CYDECOR	 has been acquired by to form eclipse
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 has been acquired by Booz Allen Hamilton	 a portfolio company of & has been acquired by 	 has been acquired by maximus	 has been acquired by 	 has been acquired by CARLYLE	 a portfolio company of has been acquired by PAE
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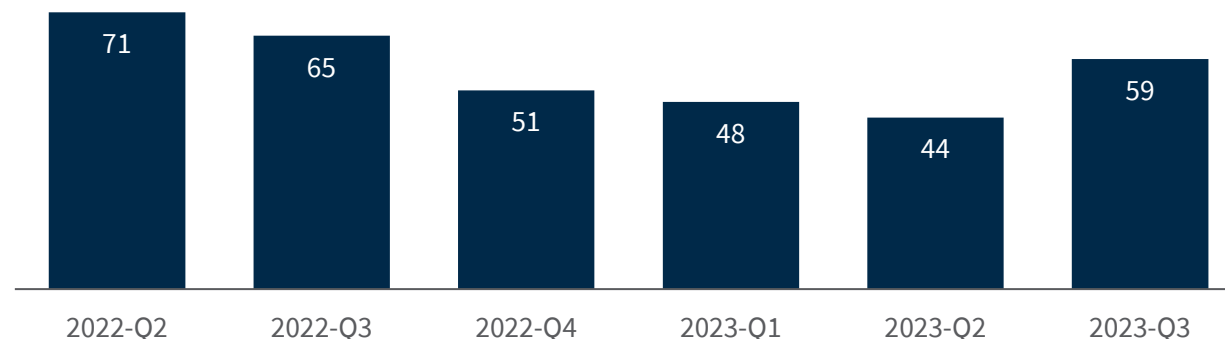
Sector-focused equity research coverage ⁽²⁾

APTIV			Booz Allen Hamilton
			COGNEX
ECHOSTAR			
iRobot	Jacobs	KROTOS DEFENSE & SECURITY SOLUTIONS	
	maximus	mercury	
	V2X	Viasat	

Notes: (1) Transactions occurred between March 2019 and September 2023
 (2) The public companies displayed are actively covered by Raymond James Equity Research analysts

Defense & Space industry update

Recent Defense & Space transaction activity ⁽¹⁾



Recent representative M&A transactions ⁽²⁾

Target	Acquirer	Target	Acquirer

M&A activity summary

- The number of M&A transactions in the Defense & Space industry increased quarter-over-quarter in Q3 2023, as market activity begins to ramp up after experiencing over a year in decline
- M&A activity focused on aerospace technologies and propulsion systems continued to be a strong theme in Q3 2023. Examples include BAE Systems’ acquisition of Ball Aerospace; Thales’ acquisition of Cobham’s Aerospace Communications Business; and L3Harris’ acquisition of Aerojet Rocketdyne
- Private equity closed various platform and add-on investments in Q3 2023, led by activity from Veritas Capital, who bolstered its portfolio company, Frontgrade, via the acquisition of Aethercomm, strengthening Frontgrade’s position in RF technology capabilities. TA Associates also bolstered its portfolio company, LeadsOnline, via the acquisition of Ultra Electronics’ Forensic Technology Business, adding its forensic technologies capabilities to its portfolio of crime investigation services

Industry news

- In Early October, the Pentagon urgently notified Congress about a shortage of funds for replacing weapons sent to Ukraine, forcing a slowdown in resupplying troops. In late September, Congress passed a short-term funding bill that excluded assistance for Ukraine, jeopardizing ongoing support. Pentagon Comptroller Michael McCord informed House and Senate leaders that only \$1.6 billion remains of the \$25.9 billion allocated to replenish U.S. military stocks provided to Ukraine. Despite largely bipartisan support for additional Ukraine funding, as well as funding for Israel and Taiwan, continued dysfunction in the House will likely prove as a near-term headwind. Additionally, \$5.4 billion is left for equipment from U.S. stockpiles. Without prompt replenishment, the U.S. may have to delay critical military provisions like air defense weapons and ammunition, impacting readiness.
- On September 14th, the DoD submitted a report to Congress explaining how it intends to keep satellites in orbit safe from aggression — and ensure that services like GPS navigation and space-based communications are always available. Key priorities include bolstering resilient satellite networks for military operations and enhancing space domain awareness.

Sources: Aviation Week, DACIS, Defense News

Notes: (1) Totals include all closed transactions reported by DACIS / Infobase as of 9/30/2023

(2) Transactions were announced or completed between July 2023 and September 2023 and are organized alphabetically

Spotlight: Electronic warfare

Electronic warfare encompasses various tactics and techniques



Jamming

Sending powerful radio signals on the same frequency as the target's communication system, drowning out the intended signals



Deception

Transmitting false information to confuse or mislead the enemy's electronic systems



Spoofing

A subset of deception, spoofing involves generating counterfeit signals to trick enemy systems into misinterpreting data



Signals Intelligence

Intercepting and analyzing enemy communications, including radio, radar, and other signals, to gather information about their intentions and capabilities



Electronic Counter-Countermeasures

The defensive side of electronic warfare, where measures are taken to protect friendly systems from jamming and other forms of electronic attack

Electronic warfare (“EW”) tools and tactics have experienced heightened utilization in contemporary conflicts, exemplified by the Russia-Ukraine and Israel-Hamas conflicts

“This is a war of technologies”

Col. Ivan Pavlenko, Chief of the Ukrainian General Staff's electronic and cyber warfare department

In recent years, Russia has developed a range of jamming tech:



Krasukha-4
targets airborne & air defense radars



Zhitel
suppresses satellite signals

Reports of electronic warfare use increasing as the Israel-Hamas conflict continues

“Israel Ramps Up GPS Jamming to Thwart Hezbollah, Hamas Drone Attacks”

October 17, 2023



“GPS Jamming Escalates Amid Israel-Hamas Conflict”

October 10, 2023



“How Hamas Duped Israel as it Planned Devastating Attack”

October 10, 2023



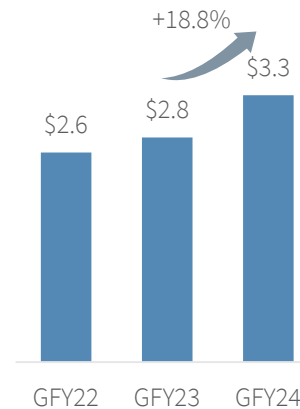
DoD Prioritization

“As we get ready for China, we better be able to fight and dominate in this space... Investments from what I've seen are sufficient now, but this is something I'm going to bird-dog very carefully from my office, particularly as we see the services starting to regenerate electronic warfare and other capabilities both to put the enemy back on their heels”




John Sherman,
Pentagon CIO to Congress on March 9, 2023

DoD EW Investment (\$B)



DoD Adoption

 U.S. Navy arming the EW-18A growler electronic attack jet on USS Ronald Reagan in the East China Sea
October 16, 2023

 U.S. Army to build electronic warfare training ground at Fort Gordon
October 13, 2023

 U.S. Space Force conducts its biggest electronic warfare exercise ever
October 6, 2023

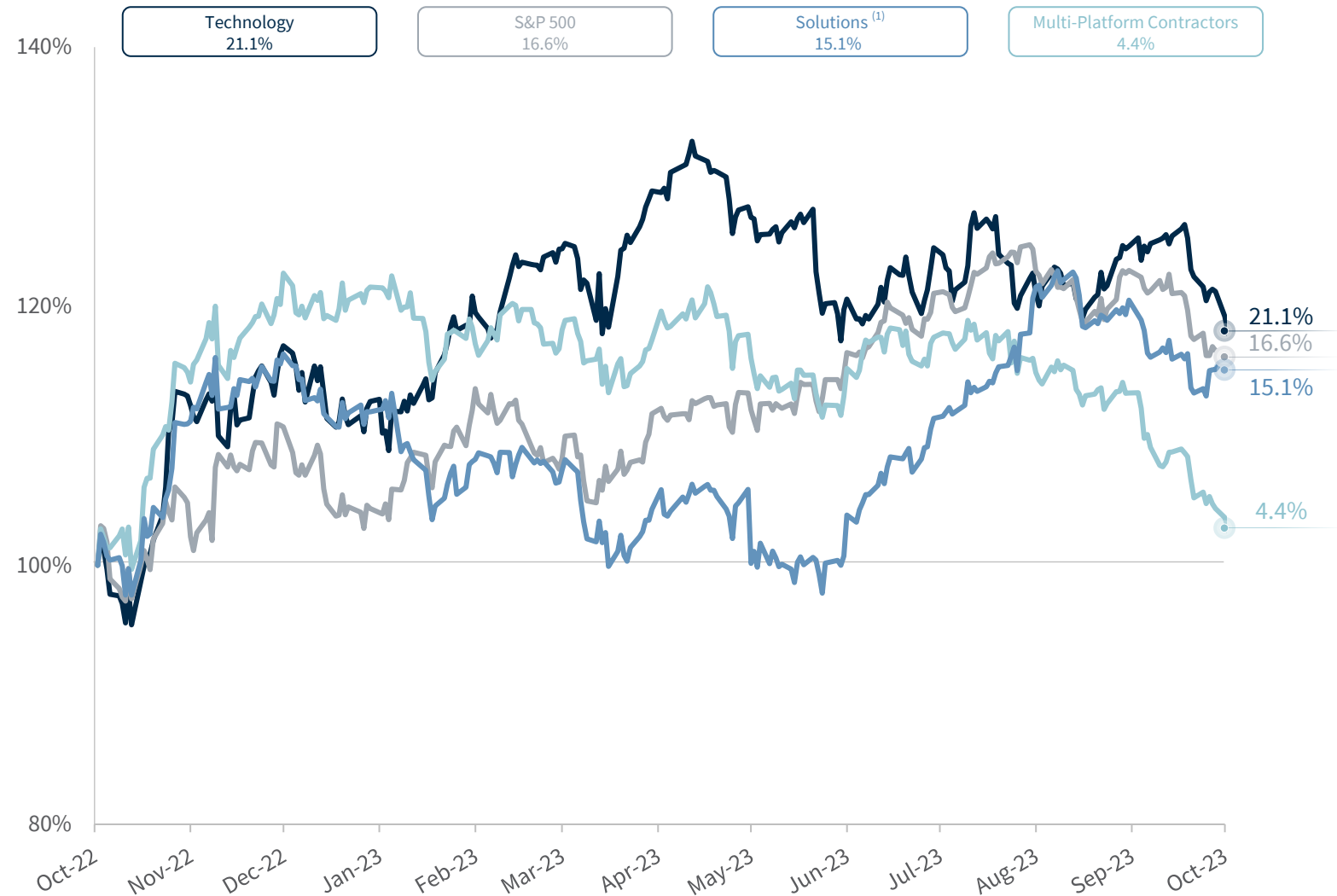
 U.S. Air Force has received its first EC-37B Compass Call electronic warfare aircraft
September 12, 2023

Public Defense & Space market performance

MARKET COMMENTARY

- The defense technology index surged at the beginning of this quarter, surpassing the S&P 500 before the entire market took a hit during the month of September
- Additionally, defense technology companies are outperforming services and solutions firms and multi-platform contractors as the DoD remains focused combating rising threats throughout the globe, including in Eastern Europe, Eastern Asia, and the Middle East

LTM Defense & Space index performance



Source: Capital IQ; data as of 9/30/2023

Note: Companies included are those tracked internally by Raymond James individual assets disclosed on next page

(1) Palantir excluded due to outlier nature of stock returns compared to index average

Publicly traded Defense & Space companies

(\$ in millions except for stock price)

	Market Data						Financial Performance				Valuation Multiples		Valuation Multiples		Valuation Multiples		
	Company Name	Ticker	Price at 9/30/2023	% of 52-Week High	Equity Value	Total Debt	Enterprise Value	LTM				TEV / LTM		TEV / CY 2023 (E)		TEV / CY 2024 (P)	
								Total Sales	EBITDA	EBITDA Margin	Debt / EBITDA	Total Sales	EBITDA	Total Sales	EBITDA	Total Sales	EBITDA
Technology	AeroVironment, Inc.	NasdaqGS:AVAV	\$111.53	89.7%	\$2,912	\$156	\$2,962	\$584	\$97	16.5%	1.4x	N.M.	N.M.	4.4x	21.0x	4.0x	19.9x
	Comtech Telecommunications Corp.	NasdaqGS:CMTL	\$8.75	51.9%	\$244	\$215	\$543	\$550	\$40	7.2%	3.9x	1.0x	13.7x	0.9x	10.6x	0.8x	8.7x
	Kratos Defense & Security Solutions, Inc.	NasdaqGS:KTOS	\$15.02	86.8%	\$1,923	\$341	\$2,229	\$967	\$42	4.3%	6.1x	2.3x	N.M.	2.2x	25.3x	2.0x	20.9x
	Mercury Systems, Inc. ⁽¹⁾	NasdaqGS:MRCY	\$37.09	62.7%	\$2,199	\$589	\$2,717	\$974	\$132	13.6%	4.0x	2.8x	20.6x	2.8x	20.8x	2.7x	14.3x
	Teledyne Technologies Incorporated	NYSE:TDY	\$408.58	91.1%	\$19,234	\$3,353	\$22,227	\$5,590	\$1,354	24.2%	2.5x	4.0x	16.4x	3.9x	16.1x	3.7x	15.0x
	Thales S.A.	ENXTPA:HO	\$140.88	92.3%	\$29,369	\$6,297	\$30,426	\$19,682	\$2,509	12.7%	2.3x	1.5x	12.1x	1.6x	10.1x	1.4x	9.2x
	Median:			88.3%	\$2,556	\$465	\$2,840	\$970	\$114	13.2%	3.2x	2.3x	15.1x	2.5x	18.4x	2.4x	14.6x
Average:			79.1%	\$9,314	\$1,825	\$10,184	\$4,724	\$695	13.1%	3.4x	2.3x	15.7x	2.6x	17.3x	2.4x	14.7x	
Solutions	Booz Allen Hamilton Holding Corporation	NYSE:BAH	\$109.27	87.3%	\$14,319	\$3,119	\$17,215	\$9,664	\$1,068	11.1%	2.7x	1.8x	16.1x	1.7x	15.7x	1.6x	14.6x
	CACI International Inc	NYSE:CACI	\$313.93	87.4%	\$7,113	\$2,072	\$9,069	\$6,703	\$716	10.7%	2.6x	1.4x	12.7x	1.3x	12.2x	1.2x	11.2x
	Jacobs Solutions Inc.	NYSE:J	\$136.50	99.0%	\$17,188	\$3,925	\$20,715	\$15,945	\$1,402	8.8%	2.5x	1.3x	14.8x	1.3x	13.5x	1.2x	12.5x
	Leidos Holdings, Inc.	NYSE:LIDOS	\$92.16	83.1%	\$12,658	\$5,442	\$17,827	\$14,842	\$1,535	10.3%	3.2x	1.2x	11.6x	1.2x	11.5x	1.1x	10.8x
	Palantir Technologies Inc.	NYSE:PLTR	\$16.00	79.1%	\$34,429	\$246	\$31,652	\$2,045	N.M.	N.M.	N.M.	N.M.	N.M.	N.M.	N.M.	N.M.	N.M.
	Parsons Corporation	NYSE:PSN	\$54.35	94.5%	\$5,701	\$937	\$6,530	\$4,767	\$410	8.6%	1.9x	1.4x	15.9x	1.3x	15.1x	1.2x	14.1x
	Science Applications International Corporation	NYSE:SAIC	\$105.54	85.4%	\$5,587	\$2,415	\$7,620	\$7,689	\$704	9.2%	3.2x	1.0x	10.8x	1.1x	11.3x	1.1x	11.1x
Median:			87.3%	\$12,658	\$2,415	\$17,215	\$7,689	\$892	9.7%	2.6x	1.3x	13.7x	1.3x	12.9x	1.2x	11.9x	
Average:			88.0%	\$13,856	\$2,594	\$15,804	\$8,808	\$973	9.8%	2.7x	1.3x	13.7x	1.3x	13.2x	1.2x	12.4x	
Multi-Platform Contractors	BAE Systems plc	LSE:BA.	\$12.18	93.7%	\$36,950	\$8,400	\$41,354	\$28,613	\$3,528	12.3%	2.2x	1.4x	11.7x	1.4x	10.5x	1.3x	9.7x
	The Boeing Company	NYSE:BA	\$191.68	78.8%	\$115,622	\$52,268	\$154,152	\$73,608	\$1,075	1.5%	N.M.	2.1x	N.M.	2.0x	N.M.	1.7x	18.5x
	General Dynamics Corporation	NYSE:GD	\$220.97	86.0%	\$60,226	\$11,485	\$70,557	\$40,859	\$5,081	12.4%	2.1x	1.7x	13.9x	1.7x	13.2x	1.6x	11.7x
	Honeywell International Inc.	NasdaqGS:HON	\$184.74	83.6%	\$122,660	\$22,364	\$136,857	\$36,147	\$8,656	23.9%	2.5x	3.8x	15.8x	3.7x	14.4x	3.5x	13.4x
	L3Harris Technologies, Inc.	NYSE:LHX	\$174.12	68.3%	\$32,932	\$9,524	\$42,193	\$17,988	\$2,760	15.3%	3.3x	2.3x	15.3x	2.2x	12.2x	2.0x	10.7x
	Lockheed Martin Corporation	NYSE:LMT	\$408.96	80.5%	\$102,989	\$17,389	\$116,861	\$67,688	\$10,262	15.2%	1.7x	1.7x	11.4x	1.8x	11.8x	1.7x	11.4x
	Northrop Grumman Corporation	NYSE:NOC	\$440.19	79.1%	\$66,601	\$17,444	\$80,327	\$37,881	\$7,243	19.1%	2.3x	2.1x	11.1x	2.1x	15.0x	2.0x	13.9x
RTX Corporation	NYSE:RTX	\$71.97	66.1%	\$104,506	\$36,783	\$137,645	\$67,086	\$12,088	18.0%	2.9x	2.1x	11.4x	1.9x	10.6x	1.7x	9.7x	
Median:			79.8%	\$84,795	\$17,417	\$98,594	\$39,370	\$6,162	15.3%	2.3x	2.1x	11.7x	1.9x	12.2x	1.7x	11.6x	
Average:			79.5%	\$80,311	\$21,957	\$97,493	\$46,234	\$6,337	14.7%	2.4x	2.2x	12.9x	2.1x	12.5x	1.9x	12.4x	

Source: Capital IQ; data as of 9/30/2023

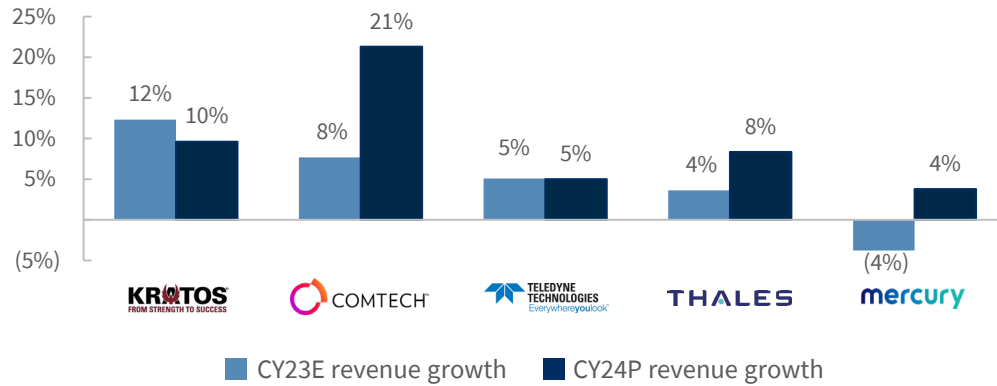
Notes: Financial projections are sourced from Capital IQ consensus estimates; foreign traded companies are listed in U.S. dollars at 9/30/2023 spot exchange rate; TEV / EBITDA valuation multiples less than 0.0x or greater than 30.0x and TEV / Total Sales multiples less than 0.0x or greater than 5.0x are considered not meaningful ("N.M."); Debt / LTM EBITDA figures represent total debt divided by LTM EBITDA, which includes a lease adjustment

(1) On January 31, 2023, Mercury Systems, Inc. announced the Company's Board of Directors has launched a strategic review, which resulted in significant corporate reorganization

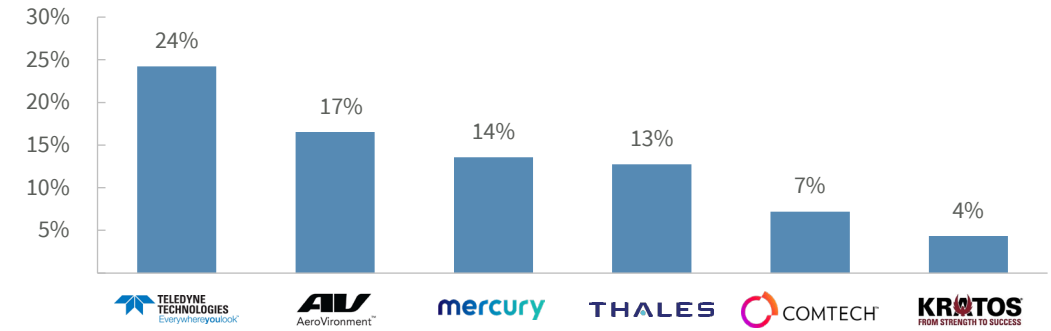
Defense & Space benchmarking

Technology-focused companies within Defense & Space

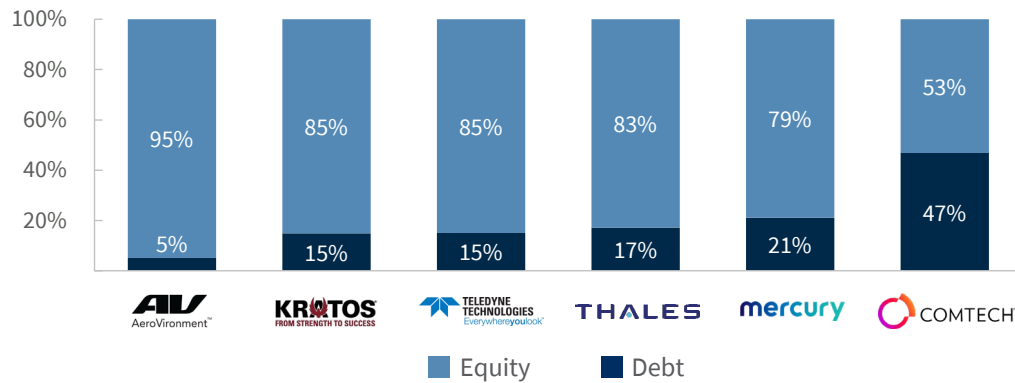
Revenue growth: CY23E & CY24P ⁽¹⁾



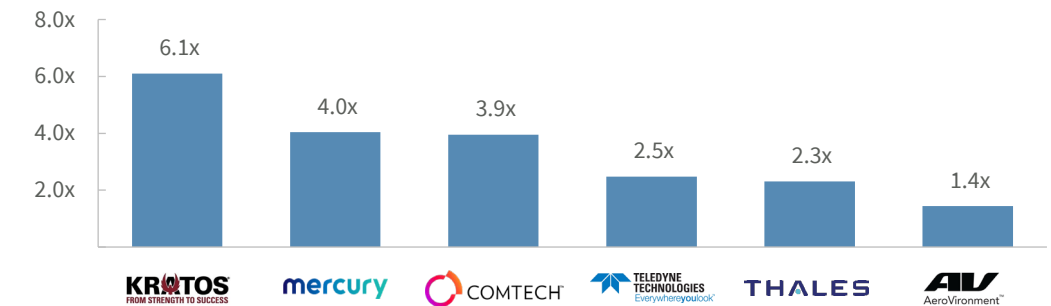
LTM EBITDA margin



Capital structure



Total debt to LTM EBITDA ratio



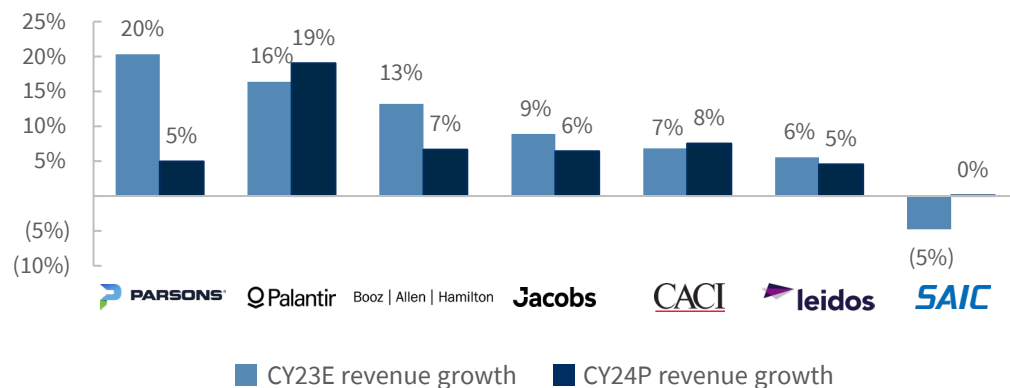
Sources: Capital IQ; data as of 9/30/2023

Notes: (1) AeroVironment excluded due to projections exhibiting outsized revenue growth and therefore is not comparable to the other companies included in the index

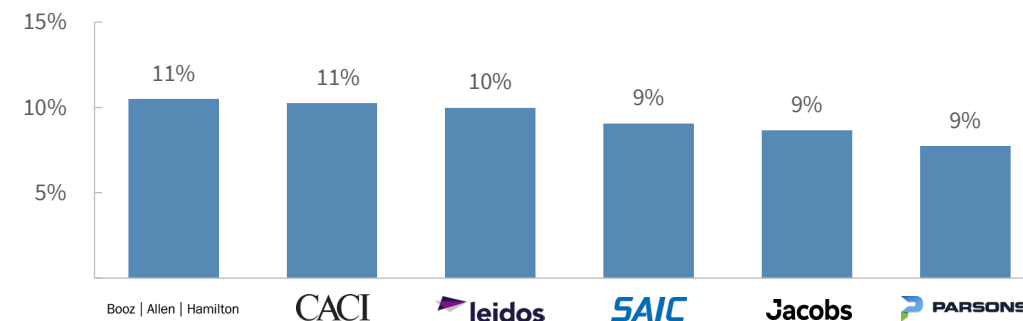
Defense & Space benchmarking (cont.)

Solutions-focused companies within Defense & Space

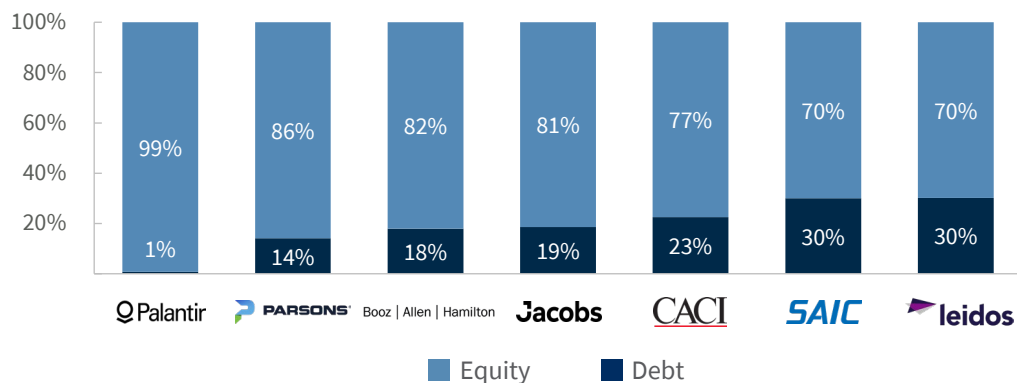
Revenue growth: CY23E & CY24P



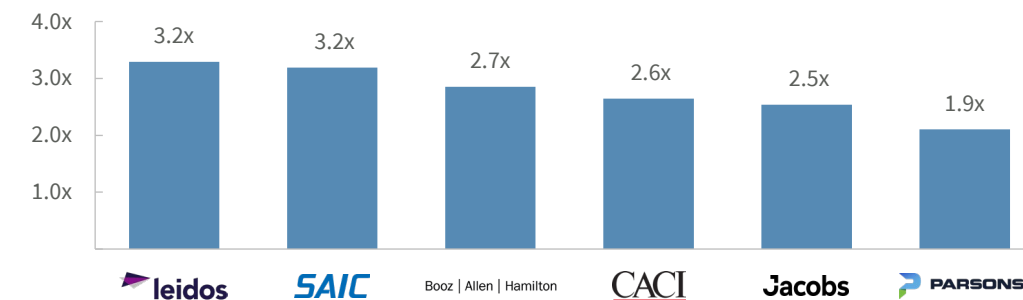
LTM EBITDA margin ⁽¹⁾



Capital structure



Total debt to LTM EBITDA ratio ⁽¹⁾



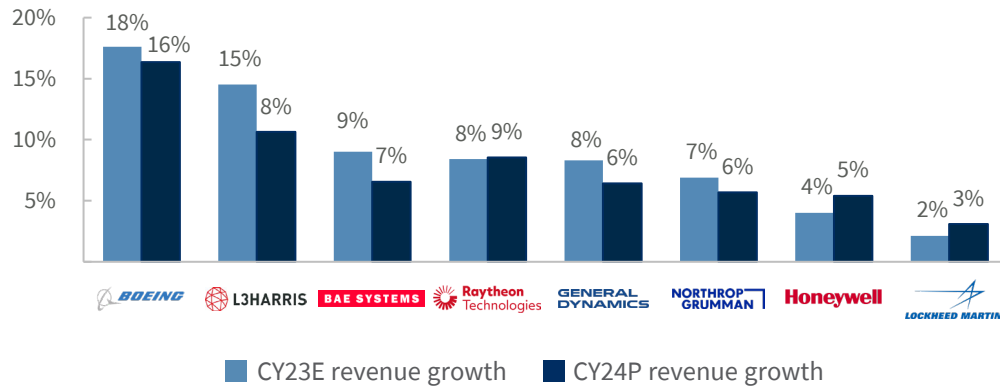
Sources: Capital IQ; data as of 9/30/2023

Notes: (1) Palantir excluded due to a non-meaningful LTM EBITDA

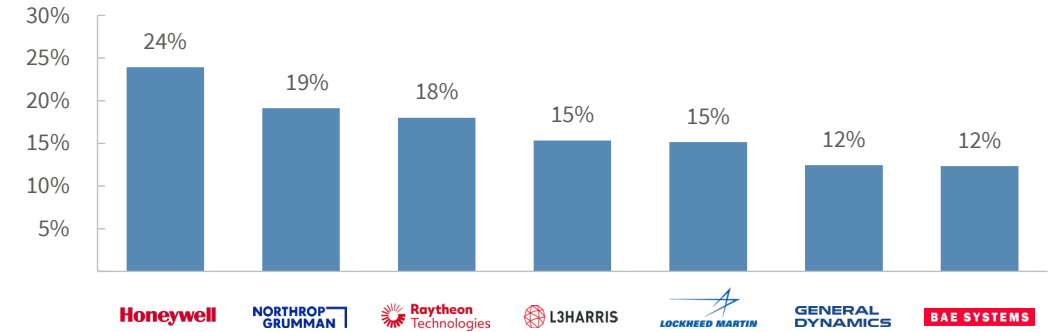
Defense & Space benchmarking (cont.)

Multi-platform contractors within Defense & Space

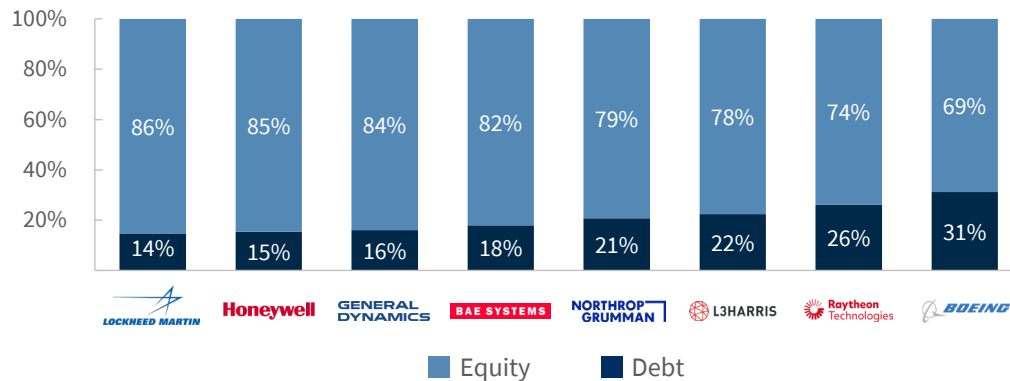
Revenue growth: CY23E & CY24P



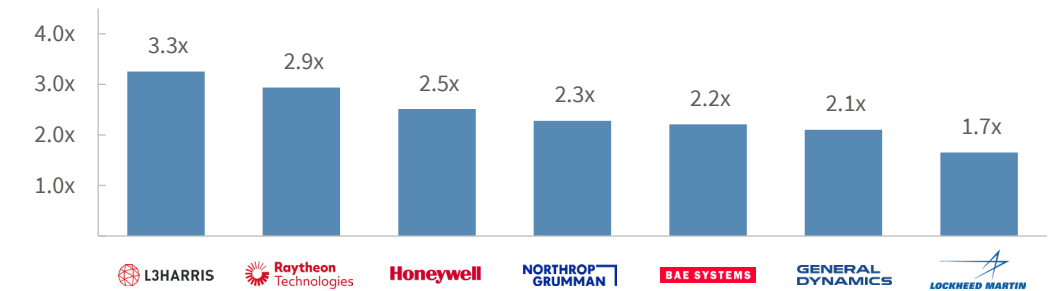
LTM EBITDA margin ⁽¹⁾



Capital structure


















Total debt to LTM EBITDA ratio ⁽¹⁾



Sources: Capital IQ; data as of 9/30/2023
 Notes: (1) Boeing excluded due to a non-meaningful LTM EBITDA

Recent Defense & Space transactions

	Pending	Pending	September 2023
Capabilities	<p> Ball Aerospace</p> <p>Has been acquired by</p> <p> BAE SYSTEMS</p> <p>\$5.6 billion</p> <ul style="list-style-type: none"> • Aerospace technologies and components • Antennas and microwave systems • Satellites and spacecraft • Tactical instruments and sensors 	<p> COBHAM AEROSPACE COMMUNICATIONS</p> <p>Has been acquired by</p> <p> THALES</p> <p>\$1.1 billion</p> <ul style="list-style-type: none"> • Aircraft avionics systems • Antenna systems • Communications systems • Engineering and design 	<p> EO Vista</p> <p>Has been acquired by</p> <p> GENERAL ATOMICS</p> <p>N.D.</p> <ul style="list-style-type: none"> • Airborne and spaceborne sensor systems • Electric-optical development • Hyper-spectral imaging • LIDAR and photogrammetric
Customers	  	  	  
Buyer perspective	<p>The CEO of BAE Systems stated, “The proposed acquisition of Ball Aerospace is a unique opportunity to add a high-quality, fast-growing technology focused business with significant capabilities to our core business that is performing strongly and well positioned for sustained growth.”</p>	<p>The EVP of Thales Avionics stated, “With the acquisition of Cobham Aerospace Communications and its highly skilled team of aerospace communications experts, and combined with our own critical avionics experts, Thales will establish a game changer in the very attractive and fast-growing communications and connectivity market to the benefit of a more sustainable aerospace future.”</p>	<p>The President of General Atomics Electromagnetic Systems stated, “We look forward to bringing EO Vista’s unique capabilities on-board as we continue to expand our weather and science programs and our growing portfolio of sensor system payload designs to support a wide range of customer requirements, including Intelligence, Surveillance, and Reconnaissance missions.”</p>

Sources: Capital IQ, Deltek GovWin, DACIS, and publicly available information; “N.D.” stands for “not disclosed”

Recent Defense & Space transactions (cont.)

- Capabilities
- Customers
- Buyer perspective

September 2023



Has been acquired by




N.D.

- Advanced rapid prototyping system
- Concept development and analysis
- Structural design and analysis




A spokesperson for Anduril stated, “This transaction will expand Anduril’s existing unmanned fleet to now include large high performance, group 5 aircraft and significantly increases Anduril’s reach and impact within the Department of Defense. These new capabilities are critical to maintaining deterrence in an era of strategic competition.”

September 2023




Advent International
GLOBAL PRIVATE EQUITY

Has been acquired by




A portfolio company of



N.D.

- Automated ballistic identification solutions
- Data analytics
- Forensic technology



A Director from TA Associates stated, “We believe LeadsOnline and Forensic Technology, together, are uniquely positioned to make the world a safer place by creating an end-to-end solution for gun crime investigations. We are excited to continue investing in the combined business to grow its suite of investigative solutions.”

August 2023



Has been acquired by



A portfolio company of



N.D.

- Custom design and development
- Environmental testing
- High-power RF amplifier manufacturer
- High volume manufacturing



The President & CEO of Frontgrade stated, “Aethercomm’s RF technologies have an excellent reputation for reliability and are very complementary to Frontgrade’s current portfolio of processing, power, and propulsion solutions... We anticipate that the end-to-end range of products we now offer will provide significant advantages to our customers.”

Recent Defense & Space transactions (cont.)

August 2023



A portfolio company of



Has been acquired by



\$740 million

- Aero-engine component manufacturing
- Sub-assembly kits
- Supply chain management



Commercial Customers

The President of Barnes Aerospace stated, "We're excited to welcome MB Aerospace and its talented workforce to Barnes Aerospace. The significant growth opportunities provided by this combination will enhance our ability to deliver value-add solutions across the aero-engine value chain."

July 2023



Has been acquired by



\$4.7 billion

- Air breathing engines & hypersonics
- Nuclear propulsion
- Power & propulsion systems
- Tactical and long-range armament systems



Tier 2 Prime Contractors

The CEO & Chairman of L3Harris stated, "With this acquisition, we will use the combined talents of more than 50,000 employees to drive continuous process improvement, enhance business operations and elevate the performance of this crucial national asset."

July 2023



Electrical Wiring Interconnection System Business

A portfolio company of



Has been acquired by



N.D.

- Avionic racks and test benches
- Electrical wiring systems

Commercial Customers

Foreign Militaries

The EVP of Manufacturing and IT stated, "The Bombardier team is pleased to complete this strategic and mutually beneficial acquisition. This agreement allows Bombardier to continue to strengthen its position as an industry leader in Querétaro, Mexico, and to confirm its position as a flagship company of the Mexican aerospace industry."

Capabilities

Customers

Buyer perspective

Recently awarded Defense & Space contracts

DATE	CUSTOMER(S)	WINNING BIDDER(S)	AMOUNT (\$M)	DESCRIPTION
9/28/23	U.S. Naval Air Systems Command ("NAVAIR")	Pratt & Whitney Military Engines [RTX Corporation]	\$7,000	Low-rate initial production and associated support of over 100 F-35 propulsion systems in Lot 18 and over 140 F-35 propulsion systems in Lot 19
8/24/23	NAVAIR	Sikorsky Aircraft Corp.	\$2,775	Production of 35 CH-53K lots 7/8 full-rate production aircraft
9/29/23	U.S. Navy Strategic Systems Programs ("Navy SSP")	Charles Stark Draper Laboratory, Inc.	\$2,184	Technical and engineering support necessary to maintain and sustain the Trident II Strategic Weapon System Mark 6 Guidance Subsystem
7/20/23	NASA Johnson Space Center	KBR Wyle Services, LLC	\$1,930	Mission and flight crew operations support for the International Space Station, Artemis, and low-Earth orbit commercialization amongst other programs
8/21/23	U.S. Space Development Agency	Lockheed Martin Corp. & Northrop Grumman Systems Corp.	\$1,549	Production of 72 satellites for the proliferated warfighter space architecture's tranche 2 transport layer
9/6/23	Navy SSP	Lockheed Martin Corp.	\$1,210	Long lead material and labor, planning, and scheduling necessary to support the fiscal 2024 Trident II missile production schedule
9/29/23	Navy SSP	Lockheed Martin Corp.	\$1,200	Production and deployed system support for the Trident II missile
9/28/23	U.S. Naval Sea Systems Command	Lockheed Martin Corp.	\$1,054	Systems engineering and software integration for the integrated combat system, to be deployed across multiple Surface Combatant ship-classes
7/5/23	U.S. Army Contracting Command – Redstone Arsenal	The Boeing Company	\$793	Production and delivery of 19 CH-47F Block I Chinook helicopters

Locations and disclosure



USA

ATLANTA | BALTIMORE | BOSTON | CHICAGO | DALLAS | DENVER | HOUSTON | LOS ANGELES | MEMPHIS | NASHVILLE | NEW YORK | RALEIGH | SAN FRANCISCO | ST. PETERSBURG | WASHINGTON, D.C.



CANADA

CALGARY | TORONTO | VANCOUVER



EUROPE

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