

# KAL Capital Markets

## Aerospace & Defense Investment Banking

Q4 2023



## INTRODUCTION

Dear Friends,

As we enter a new year, we have spent the last several weeks reflecting on 2023 both from a KAL Capital and market perspective.

For KAL, the year was filled with a few notable milestones. Amazingly, we closed our 50<sup>th</sup> transaction which would not have been possible without our clients and third parties, many of which have become personal friends over the past seven years of the firm's existence. Additionally, with our new colleague, Trevor McKinnon, KAL has launched an Emerging Technology practice to respond to both the changing demands of the warfighter and the surge of new high-tech entrants into the DoD supply-chain. We have been extremely proud of our early success in this area and are thrilled about the new opportunities we are seeing in VC-funded space and DoD businesses.

For the M&A market in general, 2023 was in many ways a disappointment. Transaction value fell by approximately 30% (source dependent) with private equity activity down more significantly. The overwhelming reason was that the cost and availability of debt capital both moved against the sponsor community dramatically, particularly in the 1H 2023. The more interesting question is what 2024 will look like, and we (like many other investment banks) are extremely optimistic. There are few very simple reasons to support that perspective. First, the emergence of private credit can not be overstated. The growth in this sector is astounding as over the past decade AUM has gone from \$373bn to \$1,493bn of which a significant portion will go to support private equity buyouts. Secondly, our good friends in the private equity community continue to have a capital overhang dynamic that has grown by 3.0x over the last decade to \$2,485bn. Compounding this issue is an LP base that saw very limited realizations from many of its alternative asset allocations in 2023 and is undoubtedly wondering when the capital will begin to be returned. Frankly, those drivers are a bit technical and of interest to only some sellers. The more emotionally charged (and important) driver will be the upcoming Presidential elections. The seemingly universal expectation for the election season is for uncertainty at best and chaos at worst which will drive significant transaction activity through the first three quarters of the year.

The remainder of this document will go through brief updates on each of the A&D industry's major sub-sectors. Our reoccurring theme in 2023 had been on how both the "Aerospace" and the "Defense" sides of the industry were doing well simultaneously, and our observation centered on how unusual that alignment was. The most recent issue with the door of the B737 MAX -9 has added significant doubt to that ideal, dual scenario, but nonetheless, we are confident that 2024 will be a robust year with growth in both our core sectors.

Sincerely,

Trevor Bohn  
Partner

Ryan Murphy  
Partner

**KAL**  
**Capital**



## RECENT TRANSACTION ANNOUNCEMENTS



HAS BEEN ACQUIRED BY



SALE OF COMPANY

DECEMBER 2023



HAS BEEN ACQUIRED BY



A PORTFOLIO COMPANY OF



NOVEMBER 2023

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# KAL ADVISES VIAN ENTERPRISES

## VIAN ENTERPRISES ACQUIRED BY CRANE COMPANY



HAS BEEN ACQUIRED BY

**CRANE**

SALE OF COMPANY

- » Founded in 1968, Vian is the industry-leading designer and manufacturer of proprietary multi-stage lubrication pumps and gerotors for aerospace & defense applications
- » The Company's world-class team of engineers and manufacturing professionals have established a reputation for providing complex, highly-engineered flow control products of the utmost reliability going into mission-critical engine/APU systems on land, air, and sea commercial and military platforms

## KEY PRODUCTS OVERVIEW



Machining Tolerances +/- 0.00005"

Superior Size/Weight-to-Performance Ratio

Multi-Stage Machining Process

Unmatched Reliability at Different Pressures / Viscosity

## INVESTMENT HIGHLIGHTS



Trusted Partner of Choice for Complex, Mission-Critical Flow Control Products



Leader Among Limited Number of Aerospace & Defense Pumps Suppliers



Business Model Focused on Supplying Proprietary Products on a Sole Source Basis



Vertical-Integration Allows Vian to Capitalize on the Long Aftermarket Tail

# KAL ADVISES APEX SPACE & DEFENSE SYSTEMS

## APEX ACQUIRES UNITECH COMPOSITES



- » Hayden, ID-based Unitech Composites has a history in aerospace and defense and was the original composite supplier to NASA's Space Shuttle program. With a focus on fixed-wing and rotary aircraft for the defense sector, Unitech demonstrates aptitude in complex composite lamination and machining to extremely tight tolerances
- » Unitech Composites' manufacturing expertise is composite hand layup and filament winding along with composite machining to tight tolerances. This provides Unitech Composites a large product breadth of everything from brackets and ducting to radomes and rotor blades

## PRODUCT OVERVIEW

- » Access Doors
- » Flex Beams
- » Lightweight Armament Support Structures (LASS)
- » Belly Pods
- » Gap Seals
- » Radomes
- » Blade Seals
- » Glare Shields
- » Rotor Blades
- » Brackets
- » Helmet Visors
- » Shims & Spacers
- » Edgebands
- » Housings
- » Weapon Pylons
- » Fairings
- » Panels
- » Winglets










## KEY PROGRAMS



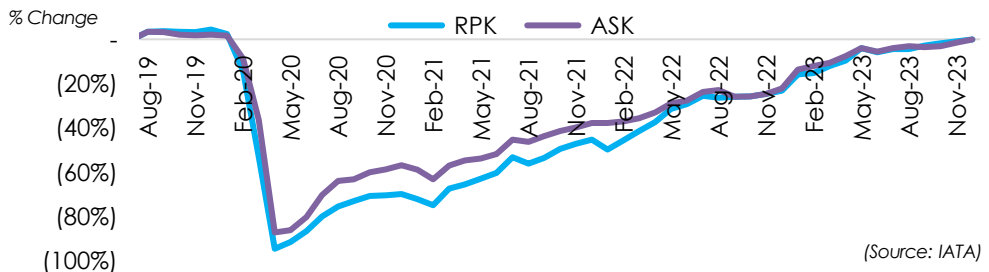
# 2023 YEAR IN REVIEW – COMMERCIAL AEROSPACE

## BOEING & AIRBUS – A STRONG PERFORMANCE

Platform	Deliveries YTD Through Nov- 2023	Build Rate	Net Orders	Backlog
 B737	351	31-38	582	4,543
 A320	490	45	1,136	6,739
 A220	57	6	76	546
 B777/X	22	3	98	516
 B787	62	4	235	744
 A350	50	5	147	501
 A330	26	3	36	225

(Source: Forecast International)

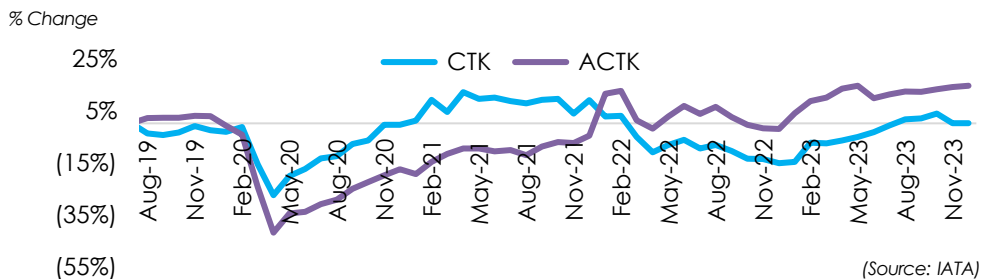
## GLOBAL PASSENGER AIRLINE MARKET



(Source: IATA)

- » **Total global passenger airline traffic was at 98.2% of pre-COVID levels as of October 2023, with expectations of a full recovery by early 2024**
- » Domestic markets remain above pre-COVID levels, while international demand is still recovering, albeit more slowly

## GLOBAL CARGO AIRLINE MARKET



(Source: IATA)

- » **The expansion in global air cargo traffic is supported by steady global trade figures, easing inflation across most major economies, decreasing jet fuel prices, and increasing air freight yields**

Notes: RPK = revenue passenger kilometers; ASK = available seat kilometers; CTK = cargo ton kilometers; ACTK = available cargo ton kilometers

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» For YTD November 2023, Boeing's book-to-bill ratio was 2.05, while Airbus' was a robust 2.24 – both companies received more than two new firm orders for every aircraft they had delivered so far in the year

» Despite overall global demand recovery, the Asia Pacific airline carriers' international demand was 19.5% behind 2019 highs, reflecting the late lifting of COVID restrictions in parts of the region as well as emergent commercial and political tensions

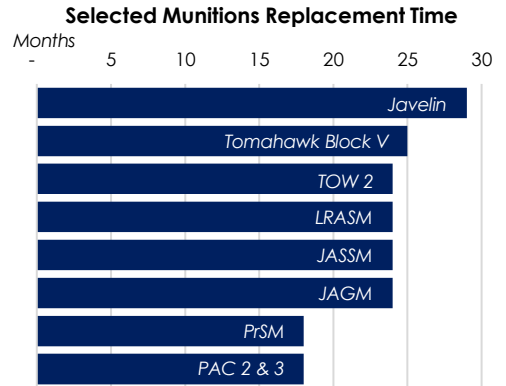


# 2023 YEAR IN REVIEW – DEFENSE INDUSTRY

## STRETCHED STOCKPILES AND AILING PRODUCTION

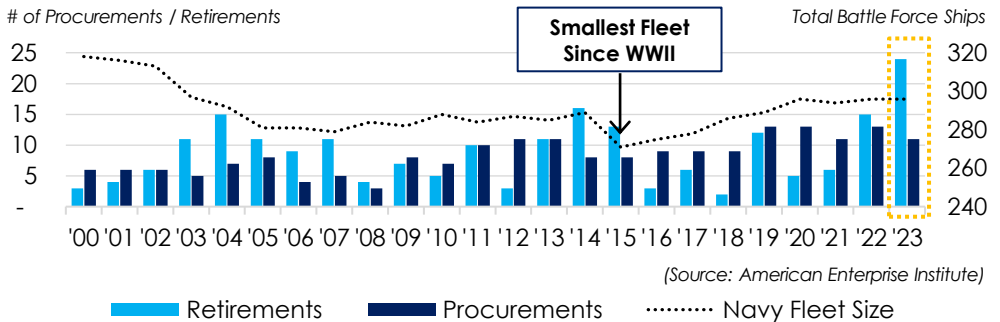
» At present estimates, it would take an average of 8.4 years to replace Major Defense Acquisition Program inventories at surge production rates. Missiles, space-based systems, and shipbuilding face the longest replacement times

- » The concurrent conflicts between Ukraine/Russia and Israel/Palestine have dragged the US into two regional conflicts and have further strained already stretched US artillery and munitions stockpiles
- » **At present, the US armed forces do not have the munitions needed for a contingency in the Indo-Pacific region, and we certainly aren't producing enough munitions to sustain operations in all three theaters at once**



(Source: Center for Strategic & International Studies)

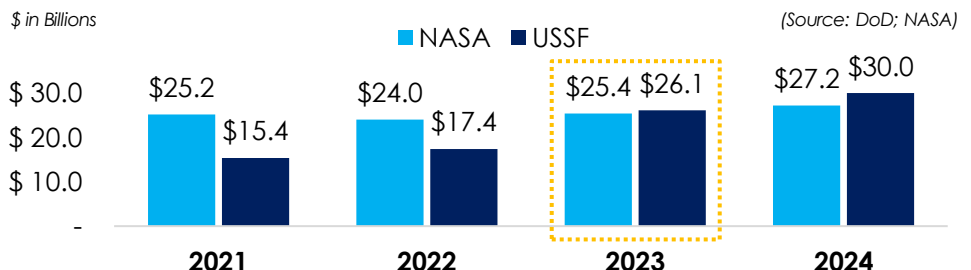
## THE US NAVY'S STALLING FUTURE BATTLE FORCE



(Source: American Enterprise Institute)

- » Since the end of the Cold War, the Navy's total fleet size has been nearly halved from a 526 ships in 1991 to 291 ships today
- » Private industry responded by cutting workforces and closing yards
- » **Owing to the shrunken industrial base, retirements have outpaced new construction as production can't keep pace with procurement**

## SPACE – THE NEXT WARFARE DOMAIN



(Source: DoD; NASA)

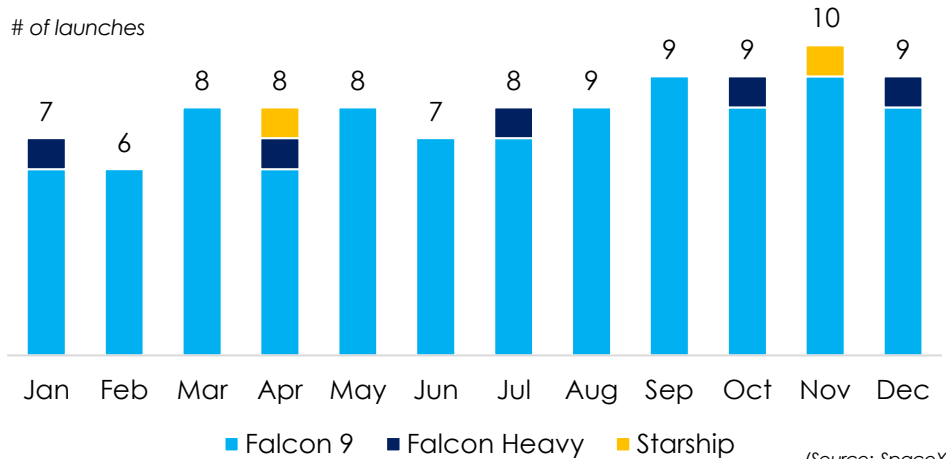
- » **2023 was the first year where the US Space Force budget outpaced the NASA budget, with the gap expected to expand in 2024 and thereafter**

# 2023 YEAR IN REVIEW – SPACE TECHNOLOGY

## A RECORD YEAR FOR SPACEX

- » For 2024, SpaceX seeks to complete more than 150 launches
- » With 98 total launches, including the build out of the company's Starlink network and two test flights for its Starship platform, SpaceX outperformed its 2022 record of 61 launches by a wide margin, and plans to repeat its success in 2024

# of launches



## A LANDMARK YEAR FOR SPACE TECH M&A

- » The largest space deals in 2023 revolved around the take-privates of satellite network providers, as well as the acquisition of satellite and propulsion system primes by other, larger prime contractors
- » 2023 saw significant M&A activity in some of the most influential space OEMs and service providers, radically changing the legacy and emerging space vendor landscape

Date	Buyer	Target	Commentary
May-23	Advent International GLOBAL PRIVATE EQUITY	MAXAR	Provider of satellites, earth imagery, geospatial data and analytics
May-23	Viasat	inmarsat	Provider of global mobile satellite communications services
Jul-23	L3HARRIS™	AEROJET ROCKETDYNE	Developer of specialized power, propulsion, and armament systems
Aug-23	BAE SYSTEMS	Ball Aerospace & Technologies Corp.	OEM for full satellite systems, space missions, and other space-qualified subsystems
Sep-23	EUTELSAT GROUP	OneWeb Technologies	LEO Satellite communications network provider delivering worldwide broadband



## 2024 A&D INDUSTRY M&A OUTLOOK

### ELECTION ANGST TO STALL M&A IN 2<sup>ND</sup> HALF

- » Uncertainty regarding the outcome of the 2024 U.S. election and its effects on foreign policy and DoD funding will be a driving force in the decision to pursue M&A activity, especially in the first half of the year

» **KAL expects a surge of A&D companies going to market in 1H 2024, peaking in the second quarter before transaction activity begins stalling in the second half as owners wait to understand the election outcomes and its ramifications**

### CONTINUED AGGRESSIVE ANTITRUST ENFORCEMENT

- » In 2023, antitrust authorities in the US and internationally made good on their promises to increase scrutiny of acquisitions
- » This is expected to continue as a new HSR form and recently revised merger guidelines lead to more deals subject to regulatory scrutiny, more time and effort for merger filings, monitoring of settlements, if accepted, and the potential for protracted litigation after closing

» **KAL expects that increased regulatory scrutiny could limit large M&A deals in 2024, driving both strategic buyers and financial sponsors to pursue smaller M&A assets in key, high growth, critical technology areas including unmanned systems, hypersonics, cyber, and space**

### PRIVATE EQUITY BUYER DOMINANCE IN M&A MARKET

- » With PE exit activity at 10-year low and sponsors significantly behind on capital deployment of its \$2 trillion in dry powder, private equity buyers are expected to make a resurgence after a 2023 dominated by marquee strategic acquisitions

» **KAL expects private equity firms to continue innovating with their funding and leveraging structures, but return to an aggressive bidding stance**

### PRIVATE CREDIT DOMINATES DESPITE LENDING MARKET

- » Borrowers and private equity sponsors have adjusted to the higher-for-longer interest rate environment, raising hopes for more robust origination volume to continue in 2024
- » An estimated 40% of the direct lending market is maturing in 2024-25

» **Private credit investors, looking ahead to 2024, can expect a resurgence of deal activity, tighter spreads, and a renewed focus on private debt recovery levels as defaults rise**

» *Equity returns, a leading indicator to M&A demand, tend to display a more muted performance leading up to a presidential election cycle*

» *Financial sponsors are under pressure to monetize portfolio companies and deploy dry powder*



# CRITICAL TECHNOLOGIES UPDATE

## KEY DEALS IN CRITICAL TECH – 2023 SNAPSHOT

		Space Tech Infrastructure	Defense Production & Propulsion	Uncrewed Systems & Autonomy	Applied AI/ML (NatSec)
Venture Stage	Seed	Seed \$4.2M Series A \$45M	Seed \$14.2M Seed \$16.3M Seed \$5M	Seed Unknown Series A \$14M	Seed \$10.5M Seed \$2.8M
	Early VC	Series A+ \$17M Series B \$290M Series B \$100M	Series A+ \$27M Series A+ \$19M Series B \$33M	Series B \$35M Series C \$30.5M	Series B \$75M Series B \$12.5M Series C \$37.1M
	Late VC / Growth	Series C \$300M Series D \$218M	Series D \$300M	Series E \$230M Series F \$300M	
	M&A				
Commentary		<ul style="list-style-type: none"> <li>» 103 funding rounds closed in Q3 '23 alone; highest in five quarters</li> <li>» 24% of global space deals went to Series A</li> <li>» Infrastructure – launch and spacecraft systems and components – attracted over 70% of space VC investment, anchored by parallel government funding</li> </ul>	<ul style="list-style-type: none"> <li>» Seed and Series A flourish as national security demands to replenish US munitions supply</li> <li>» New solid rocket motors suppliers seek to displace longstanding OEM grips via vertically-integrated, advanced manufacturing technologies</li> </ul>	<ul style="list-style-type: none"> <li>» Early VC dollars tend towards platform-agnostic software solutions in the autonomy stack</li> <li>» Late stage / growth VC companies pursue aggressive M&amp;A strategies to integrate software IP with existing customer-validated platforms</li> </ul>	<ul style="list-style-type: none"> <li>» DoD customers seek predictive analysis tools to enhance battlespace management, common operating picture, and C2 functions</li> <li>» Situational awareness and threat detection capabilities spawn a new generation of AI companies for multi-domain operations</li> </ul>

# COMMERCIAL AEROSPACE SECTOR OVERVIEW

## PUBLIC MARKET PERFORMANCE

Company	Share Price	52-Wk.High	Market Cap. (\$bn)	EV/Revenue		EV/EBITDA	
				NTM	LTM	NTM	LTM
<b>BOEING</b>	262.9	267.5	157.7	2.3x	2.6x	32.6x	59.7x
<b>AIRBUS</b>	152.6	157.0	120.7	1.5x	1.7x	11.1x	14.4x
<b>SPIRIT</b> AERO SYSTEMS	32.0	32.4	3.7	1.0x	1.3x	7.6x	n/a
<b>HEICO</b>	171.9	190.9	21.7	6.4x	8.3x	25.5x	30.8x
<b>MTU</b> Aero Engines	211.7	245.1	10.5	1.6x	2.2x	9.4x	n/a
<b>TRANS</b> DIGM GROUP INC	1017.1	1018.6	56.0	9.5x	11x	18.2x	22.3x
<b>Parker</b>	462.3	464.0	59.2	3.5x	3.6x	14.8x	14.5x

## NOTABLE TRANSACTIONS

Target	Acquirer	Description
<b>VOTAW</b> <small>MISSION SUCCESS STARTS HERE</small>	<b>TECHPRECISION</b> CORPORATION	» Votaw Precision is provider of precision machining, tooling, and fabrication services for the aerospace and commercial industries
<b>L3HARRIS™</b> Commercial Aviation Solution	<b>TJC</b>	» L3 Harris' Commercial Aviation Solutions business includes an Avionics unit which and the Commercial Training Solutions ("CTS") unit which employs approximately 1,450 people.

## GENERAL AVIATION M&A ROLL-UPS

» The General Aviation market has been dominated by two private-equity backed roll-ups looking to capitalize on long-term GA market growth



Apr-23 **TEMPEST AERO**  
GROUP





Jun-22 **AIRFORMS**









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# DEFENSE & GOVERNMENT SERVICES OVERVIEW

## PUBLIC MARKET PERFORMANCE

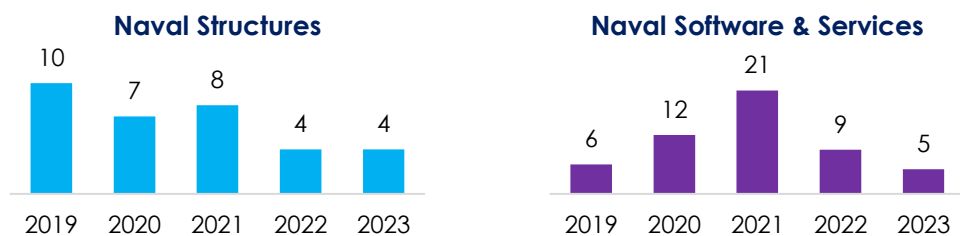
Company	Share Price	52-Wk.High	Market Cap. (\$bn)	EV/Revenue		EV/EBITDA	
				NTM	LTM	NTM	LTM
 <b>RTX</b>	84.8	106.0	120.7	2.0x	2.3x	10.9x	16.2x
 <b>LOCKHEED MARTIN</b>	455.4	497.8	112.5	1.9x	1.9x	11.9x	12.9x
 <b>NORTHROP GRUMMAN</b>	467.3	541.9	70.6	2.1x	2.2x	15x	11.1x
 <b>GENERAL DYNAMICS</b>	261.4	261.4	70.7	1.8x	1.9x	13.3x	15.5x
 <b>L3HARRIS™</b>	212.6	214.3	39.9	2.5x	2.9x	13.7x	18.2x
 <b>BAE SYSTEMS</b>	12.2	12.3	36.8	1.5x	1.7x	10.9x	11.7x
 <b>leidos</b>	108.3	111.0	14.9	1.2x	1.3x	11.0x	11.7x

## NOTABLE TRANSACTIONS

Target	Acquirer	Description
 <b>Superior Technical Ceramics</b> <small>Circuitry · Pottery · Solids</small>	 <b>IDEX CORPORATION</b>	» STC is a provider of technical ceramic solutions to private sector and U.S. federal government aerospace, defense, analytical instrumentation, energy, oil and gas, and semiconductor markets
 <b>NI</b>	 <b>EMERSON</b>	» National Instruments is a developer of instruments for the design, prototyping, and deployment of systems for test, control, and embedded design applications
 <b>CEPA</b> <small>C.E. Precision Assemblies, Inc.</small>	 <b>TREXON</b> Audax Private Equity	» CEPA is a value-added manufacturer of RF/microwave build-to-print flexible and semi-rigid cable assemblies, as well as molded, and braided wire harnesses

## NAVY SUPPLY-CHAIN ECOSYSTEM M&A







































» While deal volume has been scarce, robust government funding and a prolific supply chain make the naval ship ecosystem ripe for M&A



» Public companies in the defense sector are trading near 52-week highs, bolstered by improved 2024 budgetary provisions and ongoing geopolitical tensions

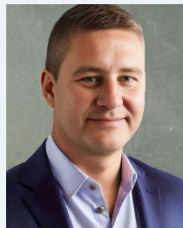
» Defense M&A continues to thrive despite higher cost of capital, with interest especially strong in earlier stage companies operating in the DoD's identified critical technology areas

# RECENT TRANSACTIONS

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