



PROCEED  
WITH  
CERTAINTY

NASDAQ: AVAV



# AEROVIRONMENT, INC.

---

Scott Newbern, Vice President & CTO

Jonah Teeter-Balin, Sr. Dir. Corporate Development & Investor Relations



# Safe Harbor Statement

Certain statements in this presentation may constitute "forward-looking statements" as that term is defined in the Private Securities Litigation Reform Act of 1995. Forward-looking statements include, without limitation, any statement that may predict, forecast, indicate or imply future results, performance or achievements, and may contain words such as "believe," "anticipate," "expect," "estimate," "intend," "project," "plan," or words or phrases with similar meaning. Forward-looking statements are based on current expectations, forecasts and assumptions that involve risks and uncertainties, including, but not limited to, economic, competitive, governmental and technological factors outside of our control, that may cause our business, strategy or actual results to differ materially from the forward-looking statements.

Factors that could cause actual results to differ materially from the forward-looking statements include, but are not limited to, the impact of our ability to successfully close and integrate acquisitions into our operations and avoid disruptions from acquisition transactions that will harm our business, including the pending acquisition of Tomahawk Robotics; the recording of goodwill and other intangible assets as part of acquisitions that are subject to potential impairments in the future and any realization of such impairments; any disruptions or threatened disruptions to our relationships with our distributors, suppliers, customers and employees, including shortages in components for our products; the ability to timely and sufficiently integrate international operations into our ongoing business and compliance programs; reliance on sales to the U.S. government, including uncertainties in classification, pricing or potentially burdensome imposed terms for certain types of government contracts; availability of U.S. government funding for defense procurement and R&D programs; changes in the timing and/or amount of government spending, including due to continuing resolutions; adverse impacts of a U.S. government shutdown; our reliance on limited relationships to fund our development of HAPS UAS; our ability to perform under existing contracts and obtain new contracts; risks related to our international business, including compliance with export control laws; potential need for changes in our long-term strategy in response to future developments; the extensive and increasing regulatory requirements governing our contracts with the U.S. government and international customers; the consequences to our financial position, business and reputation that could result from failing to comply with such regulatory requirements; unexpected technical and marketing difficulties inherent in major research and product development efforts; the impact of potential security and cyber threats or the risk of unauthorized access to and resulting misuse of our, our customers' and/or our suppliers' information and systems; changes in the supply and/or demand and/or prices for our products and services; increased competition; uncertainty in the customer adoption rate of commercial use unmanned aircraft systems; failure to remain a market innovator, to create new market opportunities or to expand into new markets; unexpected changes in significant operating expenses, including components and raw materials; failure to develop new products or integrate new technology into current products; any increase in litigation activity or unfavorable results in legal proceedings, including pending class actions; our ability to respond and adapt to unexpected legal, regulatory and government budgetary changes, including those resulting from the COVID-19 pandemic or future pandemics, such as supply chain disruptions and delays, potential governmentally-mandated shutdowns, travel restrictions and site access, diversion of government resources to non-defense priorities, and other business restrictions affecting our ability to manufacture and sell our products and provide our services; our ability to comply with the covenants in our loan documents; our ability to attract and retain skilled employees; the impact of inflation; and general economic and business conditions in the United States and elsewhere in the world; and the failure to establish and maintain effective internal control over financial reporting. For a further list and description of such risks and uncertainties, see the reports we file with the Securities and Exchange Commission. We do not intend, and undertake no obligation, to update any forward-looking statements, whether as a result of new information, future events or otherwise.

For a further list and description of such risks and uncertainties, see the reports we file with the Securities and Exchange Commission. We do not intend, and undertake no obligation, to update any forward-looking statements, whether as a result of new information, future events or otherwise.

# AeroVironment At-A-Glance

Pureplay unmanned systems company providing air and ground vehicle solutions for defense and commercial markets

 **50+** years of groundbreaking innovation since 1971

 HQ in Arlington, VA

 **~1,300** employees

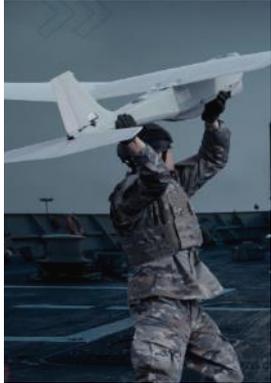
 **\$2.5B+** enterprise value

Global footprint with sales to

**50+ allied nations**

# AVAV Operates Five Business Units in 3 Segments

## UMS



### SUAS

#### Small Unmanned Aircraft Systems

The dominant global supplier of Group 1 unmanned aircraft used for ISR with sales to over 50 allied nations



### MUAS

#### Medium Unmanned Aircraft Systems

A market leading domestic supplier of Group 2 and Group 3 unmanned aircraft and associated ISR COCO services



### UGV

#### Unmanned Ground Vehicles

Leading international supplier of small and medium sized unmanned ground vehicles used for explosive ordnance disposal and handling of hazardous materials



### LMS

#### Loitering Munition Systems

Category innovator and current domestic leader of loitering munitions with recent approvals to sell to over 50 allied nations. Switchblade 300 & 600 are leading products.



### MW

#### MacCready Works

Develops cutting edge technologies to deploy within current portfolio including AI, Machine Learning and Autonomy. Primary U.S. Defense Classified and Unclassified Projects. This also includes our HAPS product a High Altitude Pseudo Satellite for Telecommunications and Defense applications. Explores adjacent market opportunities and incubates potential new business segments.

# AVAV's Inorganic Evolution



JUN  
2019

**VTOL SUAS**

Pulse Aerospace  
Lawrence, Kansas

FEB  
2021

**AI/ML  
Autonomy**

Progeny Systems, ISG  
Manassas, Virginia

FEB  
2021

**MUAS/  
CO-CO Svc.**

Arcturus UAV  
Petaluma, California

MAY  
2021

**UGV/EOD**

Telerob  
Stuttgart, Germany

AUG  
2022

**UAS  
Navigation**

Planck Aerosystems  
San Diego, California

AUG  
2023

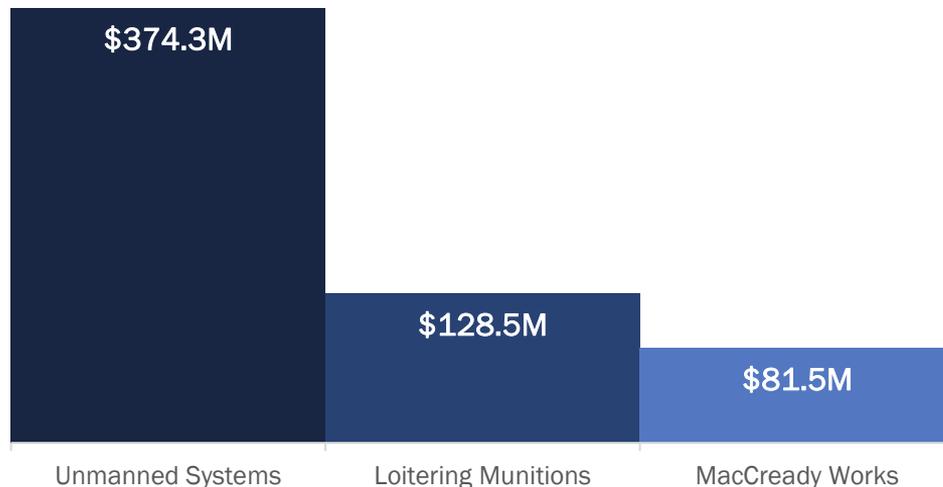
**Common  
Control**

Tomahawk Robotics  
Melbourne, Florida

# Last Twelve Months Results – Through Q1 FY24

Metric	Q2 FY2023 – Q1 FY 2024
Revenue	<b>\$584M</b>
Adj. Gross profit <sup>1</sup>	<b>\$219M</b>
Adj. EBITDA <sup>2</sup>	<b>\$114M</b>
Non-GAAP EPS <sup>3</sup> (diluted)	<b>\$2.41</b>
Funded Backlog	<b>\$540M</b>
R&D Investment	<b>\$65M</b>

## Revenues by Segment



<sup>1</sup> Refer to Reconciliation of Non-GAAP Adjusted Gross Margin on Appendix A

<sup>2</sup> Refer to Reconciliation of Non-GAAP Adjusted EBITDA on Appendix B.

<sup>3</sup> Refer to Reconciliation of Non-GAAP Diluted Earnings Per Share on Appendix D.

**Record funded backlog of \$540 million as of July 29, 2023**

# Guidance

## Fiscal 2024 Outlook

### AeroVironment is Poised for Organic Double-digit Growth in FY24

As of 9/5/2023	Fiscal Year 2023 Results	FY24 Guidance	Expected % Change (to midpoint)
Revenue	\$541 million	\$645 million - \$675 million	22%
Net Income/(Loss)	(\$176 million)	\$51 million – \$59 million	---
Adjusted EBITDA <sup>1</sup>	\$90 million	\$117 million – \$127 million <sup>4</sup>	35%
Earnings/(Loss) Per Share (diluted)	(\$7.04)	\$1.91 – \$2.21	---
Non-GAAP Earnings Per Share (diluted)	\$1.26 <sup>2</sup>	\$2.30 – \$2.60 <sup>3</sup>	94%
R&D as % of Revenues	12%	11%-12%	---
SG&A as % of Revenues <sup>5</sup>	15%	15%-16%	---

<sup>1</sup> Refer to Adjusted EBITDA reconciliation on Appendix B.

<sup>2</sup> Refer to Reconciliation of Non-GAAP Diluted Earnings Per Share on Appendix C.

<sup>3</sup> Refer to Reconciliation of Fiscal Year 2024 Forecast Non-GAAP Diluted Earnings Per Share on Appendix D

<sup>4</sup> Refer to Reconciliation of Non-GAAP Fiscal Year 2024 Adjusted EBITDA Expectations on Appendix E.

<sup>5</sup> Excludes any Acquisition related and Intangible Amortization expenses

# Introducing Scott Newbern



- **Joined AeroVironment in 1997**
  - Vice President & Chief Technology Officer (CTO) since 2018
- **Held multiple leadership positions within AV**
  - VP and GM of SUAS business
  - Founder of MacCready Works Advanced Programs Segment
  - Product development and manufacturing
- **Established industry veteran**
  - BoD for Association for Uncrewed Vehicle Systems International (AUVSI)
  - Member Business Executives for National Security (BENS)
  - Advisory Board of Aviation Unmanned Vehicle Museum (AUVM)
- **B.S. and M.S. in Aerospace Engineering from North Carolina State University**



AUTONOMY AND AI IN SUPPORT OF INTELLIGENT  
ROBOTIC OPERATIONAL CAPABILITY

# Artificial Intelligence

LET'S TRANSFORM OUR ENTIRE BUSINESS USING THE GENERATIVE AI I JUST USED TO WRITE A POEM ABOUT MY DOG.



HOW DID YOU GET BUDGET APPROVAL FOR ALL THIS?



I JUST TOLD THEM THE NAME OF THE PROJECT.

## **artificial (adjective)**

made or produced by human beings rather than occurring naturally

## **intelligence (noun)**

the ability to acquire and apply knowledge and skills

Thus, **Artificial Intelligence (AI)** is the theory and implementation of systems, created by humans, capable of “acquiring knowledge” and applying that knowledge in ways that mimic human intelligence

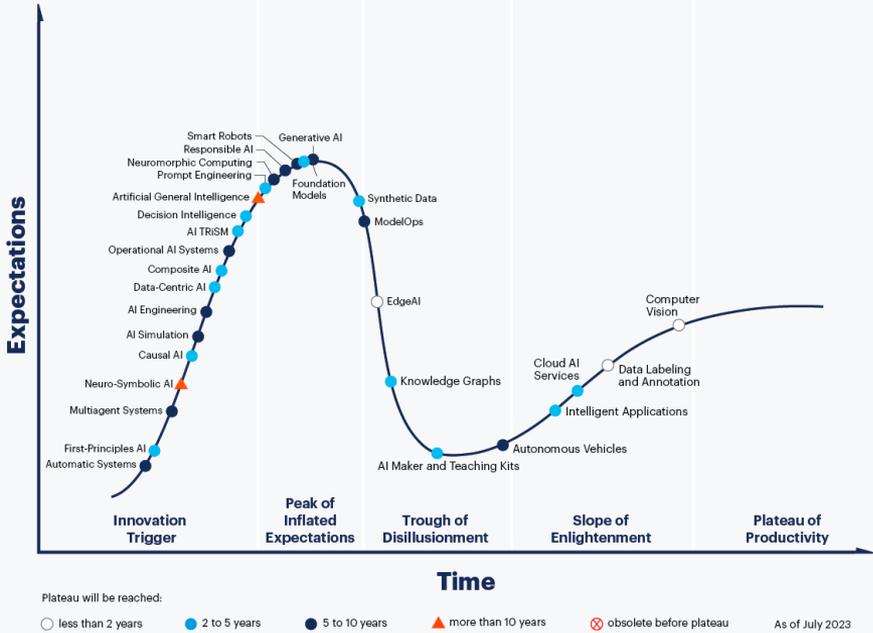
# What Is Artificial Intelligence?

- Currently AI means everything and nothing (and thus makes for a fantastic buzz word)
- Current popular media references to AI are oriented towards data science which leverage artificial neural network methodologies
- AI in autonomous systems can mean Computer Vision (CV), Machine Learning (ML), decision making, natural language processing, and knowledge-based representations of data
- One common thread in AI is that machines *host representations (“models”) of concepts from data*
- A machine uses AI to transform inputs to outputs

AI is a set of data science tools that provide utility and capability for autonomous systems

# AI Hype Cycle - 2023

## Hype Cycle for Artificial Intelligence, 2023

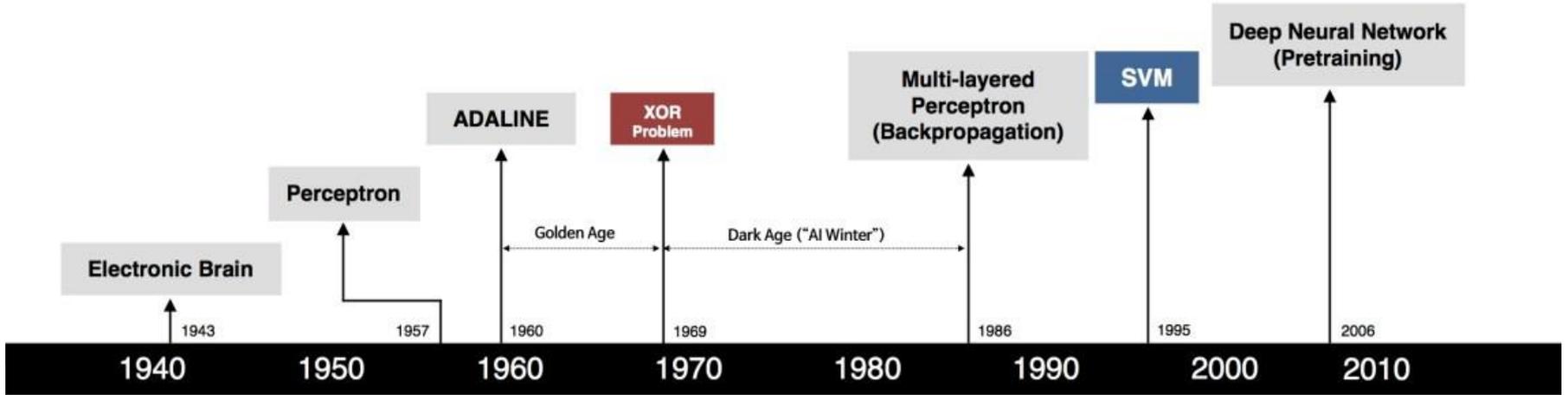


gartner.com

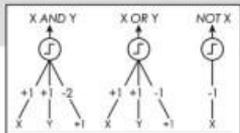
Source: Gartner  
 © 2023 Gartner, Inc. and/or its affiliates. All rights reserved. 2079794



# Notable Moments In How We Got Here



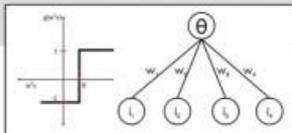
S. McCulloch – W. Pitts



- Adjustable Weights
- Weights are not Learned



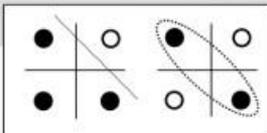
F. Rosenblatt B. Widrow – M. Hoff



- Learnable Weights and Threshold



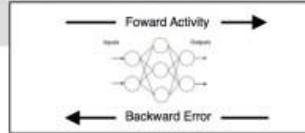
M. Minsky – S. Papert



- XOR Problem



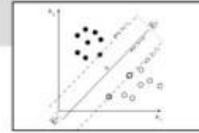
D. Rumelhart – G. Hinton – R. Williams



- Solution to nonlinearly separable problems
- Big computation, local optima and overfitting



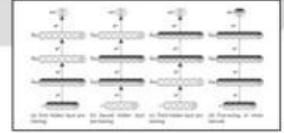
V. Vapnik – C. Cortes



- Limitations of learning prior knowledge
- Kernel function: Human Intervention



G. Hinton – S. Ruslan



- Hierarchical feature Learning

# What is Autonomy and Why Do We Need It?

**Autonomy:** freedom from external control or influence; independence

In the context of unmanned/robotic systems this means:

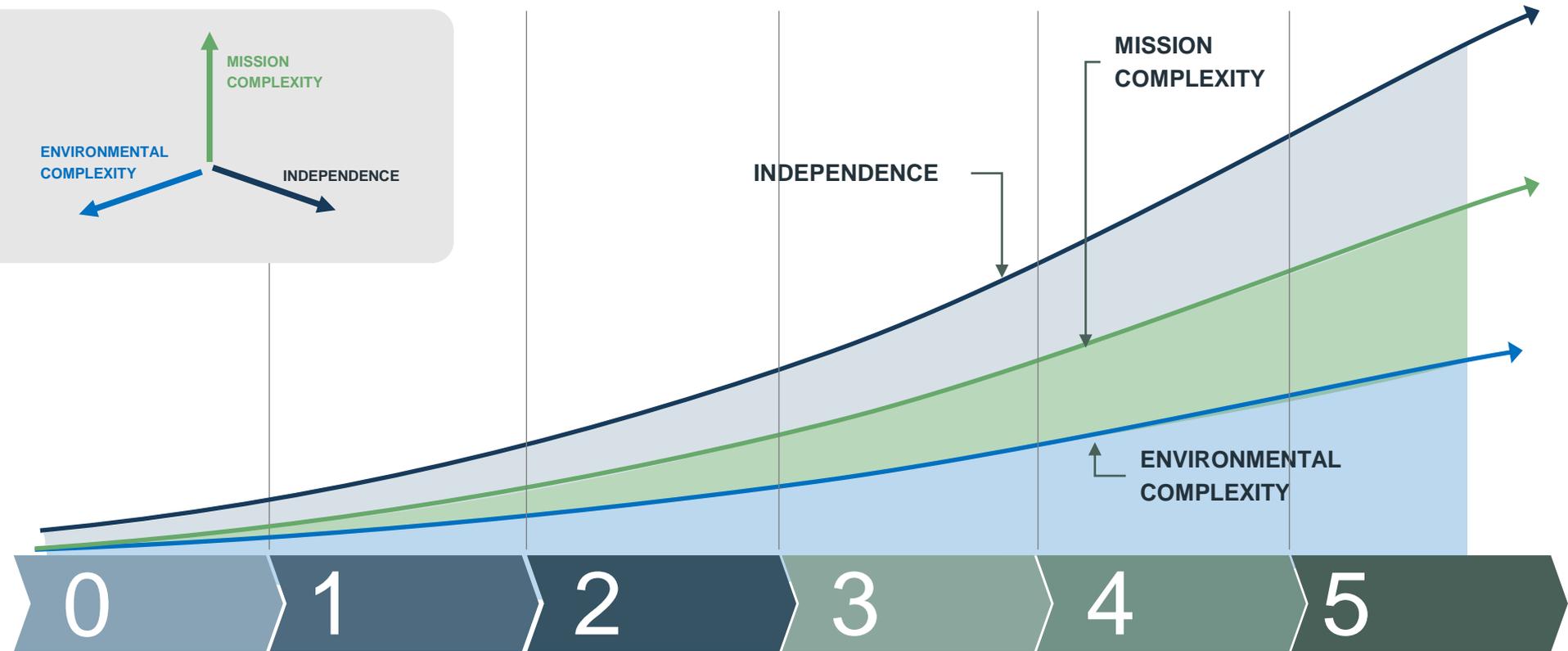
- **Safe:** The system can operate safely without constant oversight and stay within its own limitations
- **Cognitive:** The system understands it's role in the context of the mission and performs that function
- **Dynamic:** The system can adapt to unexpected situations or a change in mission status
- **System:** Autonomy is a system consisting of multiple components that have to work together

**Primary Goal:** Provide a beneficial operational capability that does not add to physical or cognitive load



- **Advanced multi-domain mission operations**
  - Cross-domain
  - All-domain
  - Integrated operations across forces
- **Contested environments**
  - Radio frequency spectrum challenges
  - Assured precision navigation and timing
  - Collaborative mission capability
  - Operator independent mission capabilities
  - Dynamic escalation

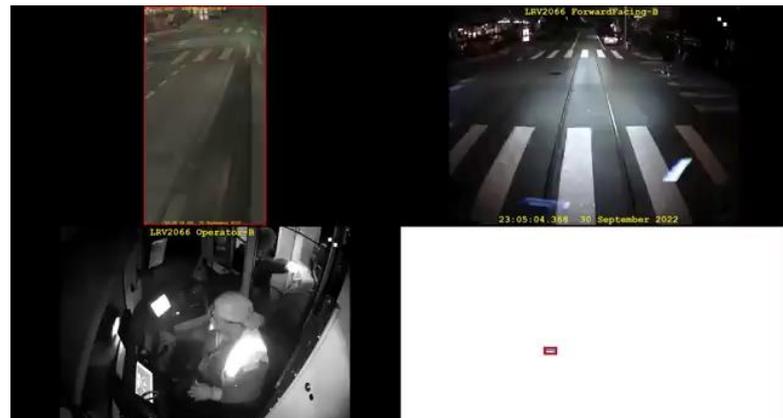
# Progression of Autonomy Levels



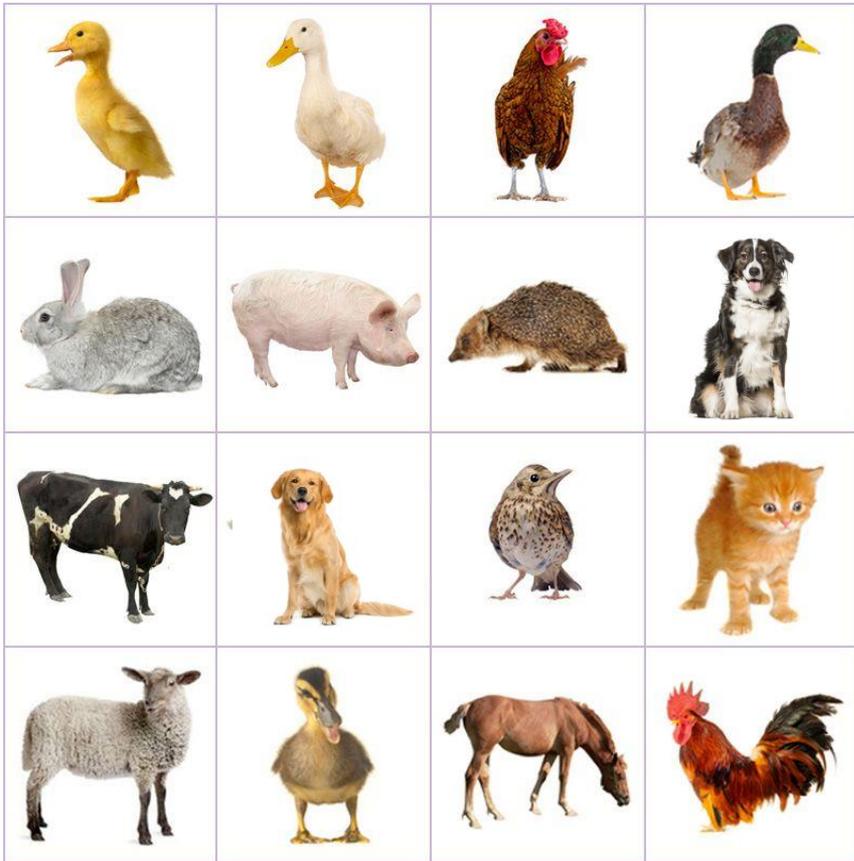


# Wired April 10, 2023 – Driverless Cars Clogging San Francisco

- <https://www.wired.com/story/dashcam-footage-shows-driverless-cars-cruise-waymo-clogging-san-francisco/>



# How Good Does it Need to Be?



# Raven CBDEWS (ca 2008)



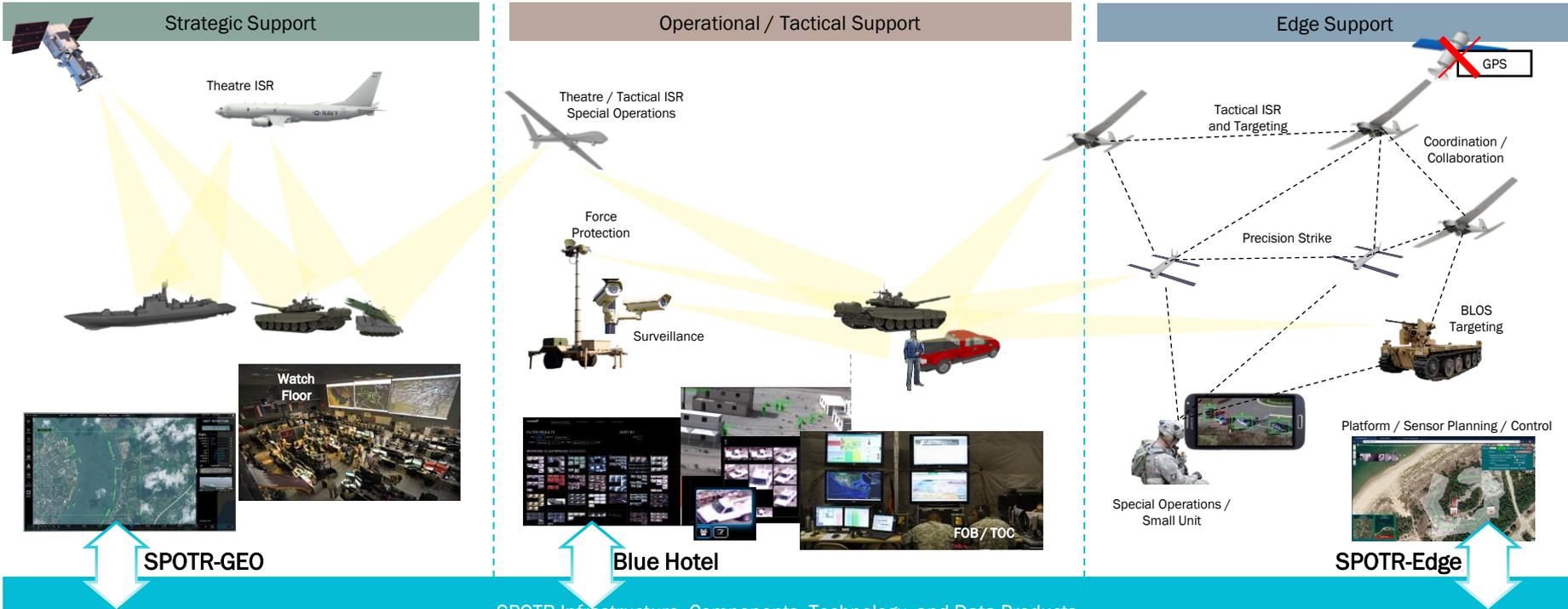
# Quantix-team Demonstration

- Overhead, comms-dark ISR
- Targeted photogrammetry at the edge
- “Carrier pigeon” collection from distributed sensors
- Decoy / distractor





# Importance of Multi-Domain Data Sharing



**SPOTR-Geo**  
High-altitude IMINT / theatre-level ISR for maritime and land applications. Supports detection, classification, ID, mensuration, change detection.

**Blue Hotel**  
Family of interactive analytics and database services for tracking/Re-ID and alerting; designed to scale across nodes for distributed ISR. Supports detection, classification, tracking, Re-ID, pattern of life.

**SPOTR-Edge**  
Edge/embedded integration of SPOTR. Supports onboard detection, classification, tracking. Includes active perception and multi-platform coordination.

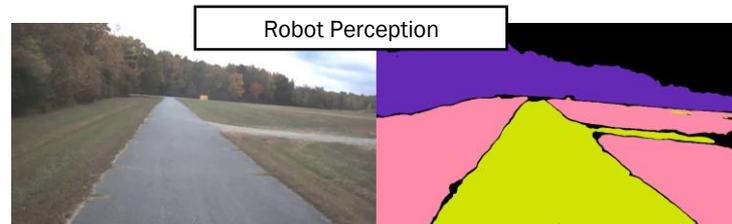
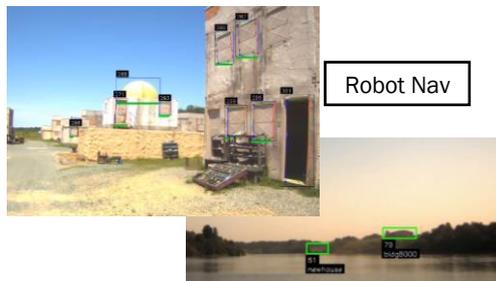
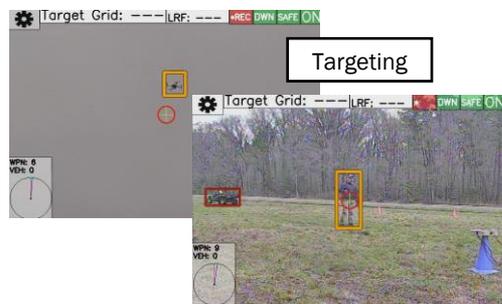
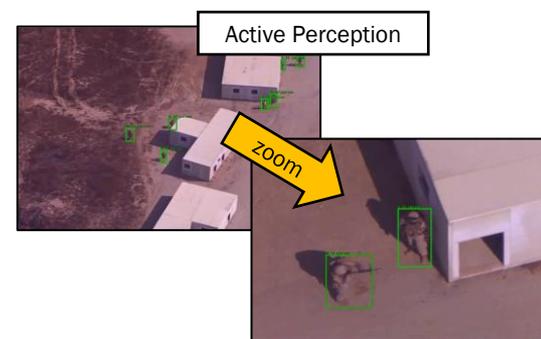
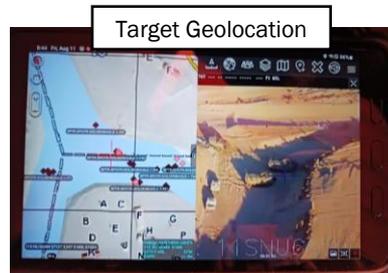
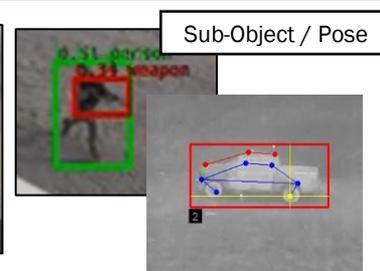
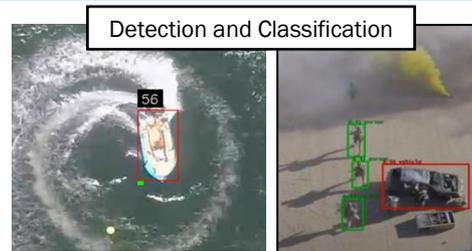
# UxS AI Enabled Software Capabilities

Software augments existing systems and enables novel applications with operationally relevant capabilities:

- Detection / Classification
- Target Geolocation and Tracking
- Other / Advanced Analytics
- Active Perception / Taskable Perception

Applications span multiple domains and roles

- ISR and Targeting
- Guidance / Navigation
- Robot perception



# The Next Level West Vancouver

Gigapixel - 1739 Megapixels



Puma 720p Video

- Why is Intelligence, Surveillance, and Reconnaissance (ISR), the way it is?
- Next level processing and analytics will evolve our platforms to the next phase
- AI / Autonomy provide exponentially more information and effectiveness and transform the operator's role



# The Next Level



# The Next Level





QUESTIONS



FINANCIAL TABLES

# APPENDIX A

## GAAP To NON-GAAP Reconciliation of Adjusted Gross Margin

<i>(in thousands)</i>	<b>FY19</b>	<b>FY20</b>	<b>FY21</b>	<b>FY22</b>	<b>FY23</b>	<b>LTM</b>
<b>Adjusted Gross Margin</b>						
Gross Margin	\$128,403	\$153,102	\$164,558	\$141,236	\$173,513	\$205,460
Intangible Amortization	-	\$2,284	\$4,452	\$18,429	\$13,891	\$13,306
Adjusted Gross Margin	\$128,403	\$155,386	\$169,010	\$159,665	\$187,404	\$218,766
Adjusted Gross Margin % of Revenue	40.9%	42.3%	42.8%	35.8%	34.7%	37.4%

# APPENDIX B –

## GAAP TO NON-GAAP RECONCILIATION OF ADJUSTED EBITDA

	FY19	FY20	FY21	FY22	FY23	LTM
Net income (loss) from continued operations (1)	\$ 41,912	\$ 41,339	\$ 23,331	\$ (4,188)	\$ (176,212)	\$ (145,922)
Interest Expense (Income)/net	(4,672)	(4,828)	618	5,440	9,368	9,773
Tax provision / (benefit)	4,641	5,848	539	(10,369)	(14,665)	(15,955)
Depreciation and amortization	7,669	9,888	19,262	60,825	99,999	92,950
EBITDA (Non-GAAP)	\$ 49,550	\$ 52,247	\$ 43,750	\$ 51,708	(81,510)	(59,155)
FV Step-up amortization incl. in loss of disposal of PP&E	-	-	-	1,280	192	77
Cloud amortization	-	-	-	339	561	637
Stock-based compensation	6985	6,227	6,932	5,390	10,765	11,752
Acquisition-related expenses	-	1,049	7,982	4,853	1,386	1,724
Arcturus Goodwill Impairment	-	-	-	-	156,017	156,017
Equity method investment activity	3,944	5,487	10,481	(4,589)	2,583	3,118
Non-controlling interest	(19)	(4)	14	3	45	39
One-time (gains)/losses, net	(3,602)	-	-	-	-	-
Legal accrual related to our former EES business	-	-	9,300	10,000	-	-
Sale of ownership in HAPSMobile JV	-	-	-	(6,383)	-	-
Adjusted EBITDA (Non-GAAP)	\$ 56,858	\$ 65,006	\$ 78,459	\$ 62,601	\$ 90,039	\$ 114,209

(1) Q4 FY23 depreciation and amortization includes \$34,149 of accelerated intangible amortization and \$14,000 of accelerated depreciation

# APPENDIX C – GAAP TO NON-GAAP EPS Reconciliation Table

	FY19	FY20	FY21	FY22	FY23	LTM
Earnings (loss) per diluted shares from continuing operations	\$ 1.74	\$ 1.72	\$ 0.96	\$ (0.17)	\$ (7.04)	\$ (5.75)
Acquisition-related expenses	-	0.04	0.26	0.18	0.05	0.02
Amortization of acquired intangible assets and other purchase accounting adjustments	-	0.08	0.24	1.17	1.97	1.87
Arcturus Goodwill Impairment	-	-	-	-	6.18	6.14
Sale of ownership in HAPSMobile JV	-	-	0.00	(0.25)	-	-
HAPSMobile JV impairment of investment in Loon LLC	-	-	0.34	-	-	-
Legal accrual related to our former EES business	-	-	0.30	0.32	-	-
One-time gain from a litigation settlement	(0.26)	-	-	-	-	-
Equity method and equity security investment activity	0.16	0.23	0.09	(0.19)	0.10	0.12
Earnings (loss) per diluted shares as adjusted (Non-GAAP)	\$ 1.64	\$ 2.07	\$ 2.19	\$ 1.06	\$ 1.26	\$ 2.41

## APPENDIX D -

# RECONCILIATION OF FISCAL YEAR 2024 NON-GAAP DILUTED EARNINGS PER SHARE EXPECTATIONS (UNAUDITED)

	<u>Fiscal Year</u> <u>Ending</u> <u>April 30, 2024</u>
Forecast earnings per diluted share	\$ 1.91 - 2.21
Acquisition-related expenses	0.01
Amortization of acquired intangible and FV assets	0.34
Equity method and equity securities investments activity, net	0.04
Forecast earnings per diluted share as adjusted (Non-GAAP)	<u>\$ 2.30 - 2.60</u>

# APPENDIX E

## RECONCILIATION OF NON-GAAP FISCAL YEAR 2024 ADJUSTED EBITDA EXPECTATIONS

	<b>Fiscal Year Ending April 30, 2024</b>
<i>(in millions)</i>	
Net income	\$ 51 - 59
Interest expense, net	8
Benefit from income taxes	3 - 5
Depreciation and amortization	35
EBITDA (Non-GAAP)	97 - 107
Cloud amortization	1
FV step-up amortization included in loss on disposal of PP&E	0
Equity method and equity security investments activity, net	1
Deal and integration costs	1
Stock-based compensation	17
Adjusted EBITDA (Non-GAAP)	<u>\$ 117 - 127</u>