GATEWAY TO TECHNOLGY - PERU

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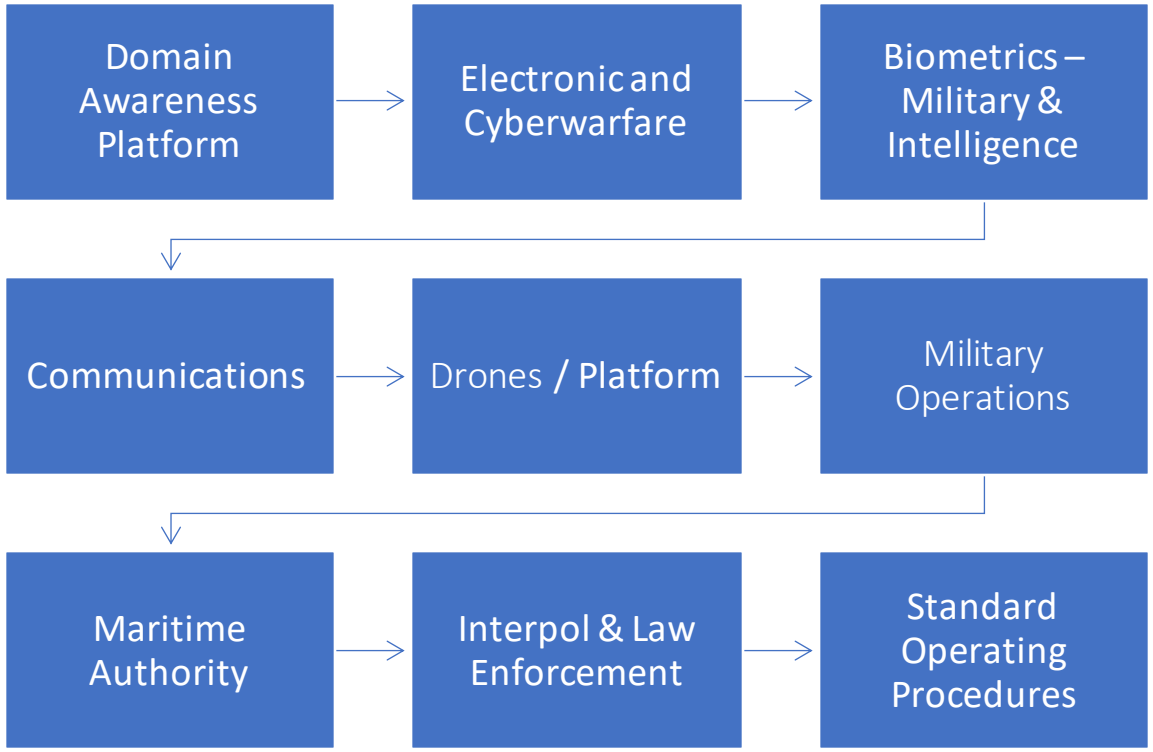
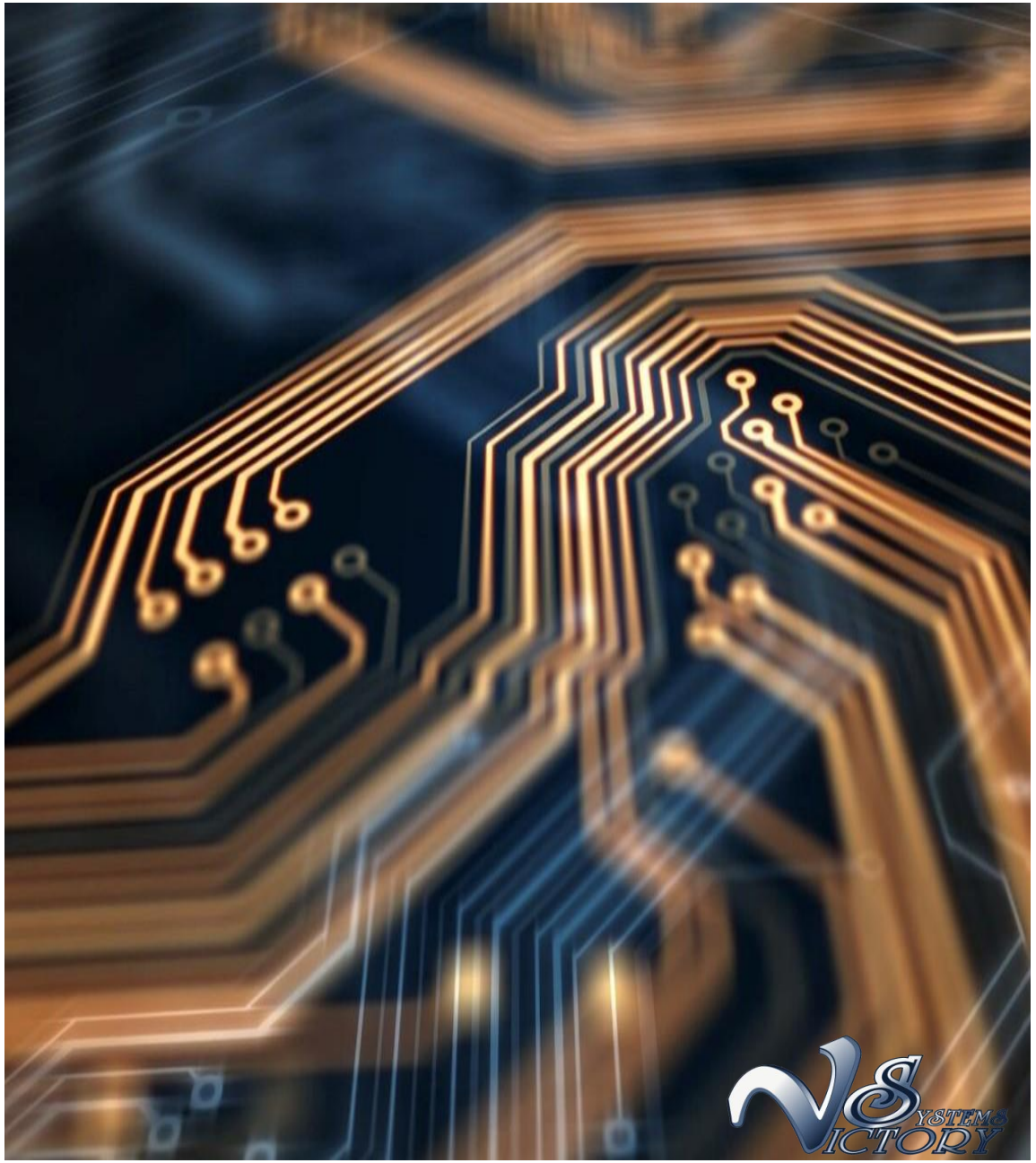
SYSTEMS INTEGRATION





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Four Pillars of Integration

Productivity | Data Accuracy | Faster Decision Making | Cost-Effectiveness

The primary reason companies leverage system integration is to boost the productivity and performance of the business. When all technology and tools can work in alignment, leveraging the same data, the business thrives.

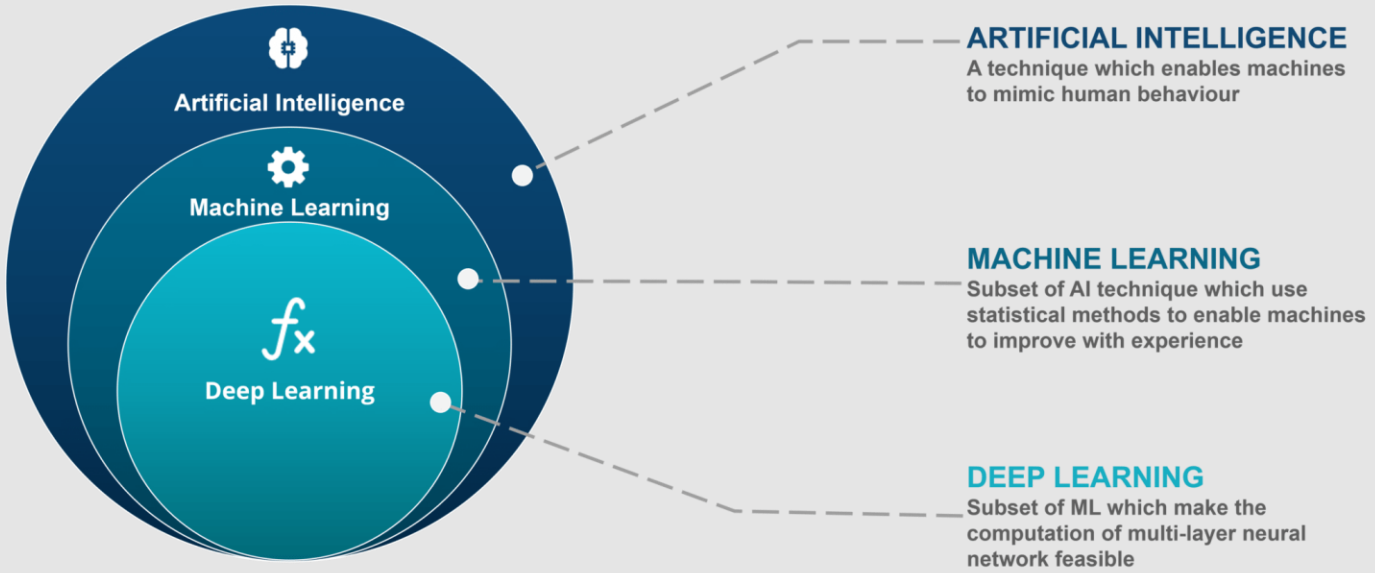
- Knowledge base
- Creativity
- Speed
- Budget Control

Artificial Intelligence

AI Introduction

- **Machine Learning Overview**
- **What is data?**
- **AI Terminology**
- **What makes AI important to the military?**
- **Building AI**
- **AI Teams**
- **AI Transformation**
- **Class Case Study – Specific to Peru**
- **Discrimination and Bias with AI**

Continuous Education & Training



- Virtual Reality
- Augmented Reality – simulations
- 3D Printing
- Coding – machine learning
- Tactical Electronic & Cyberwarfare

HUMAN TRAFFICKING & SEXUAL EXPLOITATION

How is artificial intelligence used in trafficking?

Criminals can order an underaged girl to their house as easily as they can order food delivery – on their cellphone.

Technology has made it easier for human traffickers to search for and groom potential victims. If perpetrators are on the internet, even the deep dark web, we will find them.

We use the same technology that human traffickers use to grow their business. Instead, we use it to tear down their networks. We equip, train, and advise law enforcement partners with state-of-the-art technology and artificial intelligence platforms.

It takes Partnerships

LIMA, Peru – An international law enforcement operation culminated with the arrests of six individuals involved in sex trafficking and the rescue of 36 sex trafficking victims, including 11 minors, including a 4-year-old.

U.S. Immigration and Customs Enforcement's (ICE) Homeland Security Investigations (HSI) Attaché Office covering the Andean region and the Peruvian National Police (PNP) conducted the binational law enforcement operation leading up to the arrests.

Poverty

HERAT, Afghanistan—Desperate to feed her family, Saleha, a housecleaner here in western Afghanistan, has incurred such an insurmountable debt that the only way she sees out is to hand over her 3-year-old daughter, Najiba, to the man who lent her the money. The debt is $550.

Saleha, a 40-year-old mother of six who goes by one name, earns 70 cents a day cleaning homes in a wealthier neighborhood of Herat. Her much older husband doesn't have any work.

2021

VOCABULARY

- **Involuntary Servitude**
- **Debt bondage**
- **Commercial Sex Act**
- **Sex Trafficking**

Types of Human Trafficking

- **Sexual exploitation**
- **Child prostitution**
- **Forced labor**
- **Child soldiers**
- **Indentured servants**
- **Organ harvesting**

Human trafficking victimizes over 40 million people per year – 25% are children.

What are the reasons for human trafficking?

- Poverty
- Substance Abuse
- Migration
- Runaways
- Homeless
- Mental illness

What can we do?

- Educate
- Use social media
- Use technology to track perpetrators
- Work with law enforcement
- Identify groups and patterns
- Create environment to prosecute
- Identify and rescue child victims.
- Identify and apprehend offenders.
- Prevent transnational child sexual abuse.

To save succeeding generations from the scourge of war, which twice in our lifetime has brought untold sorrow to mankind, and to reaffirm faith in ***fundamental human rights, in the dignity and worth of the human person****, in the equal rights of men and women and of nations large and small, and to establish conditions under which justice and respect for the obligations arising from treaties and other sources of international law can be maintained, and to promote social progress and better standards of life in larger freedom.*

United Nations

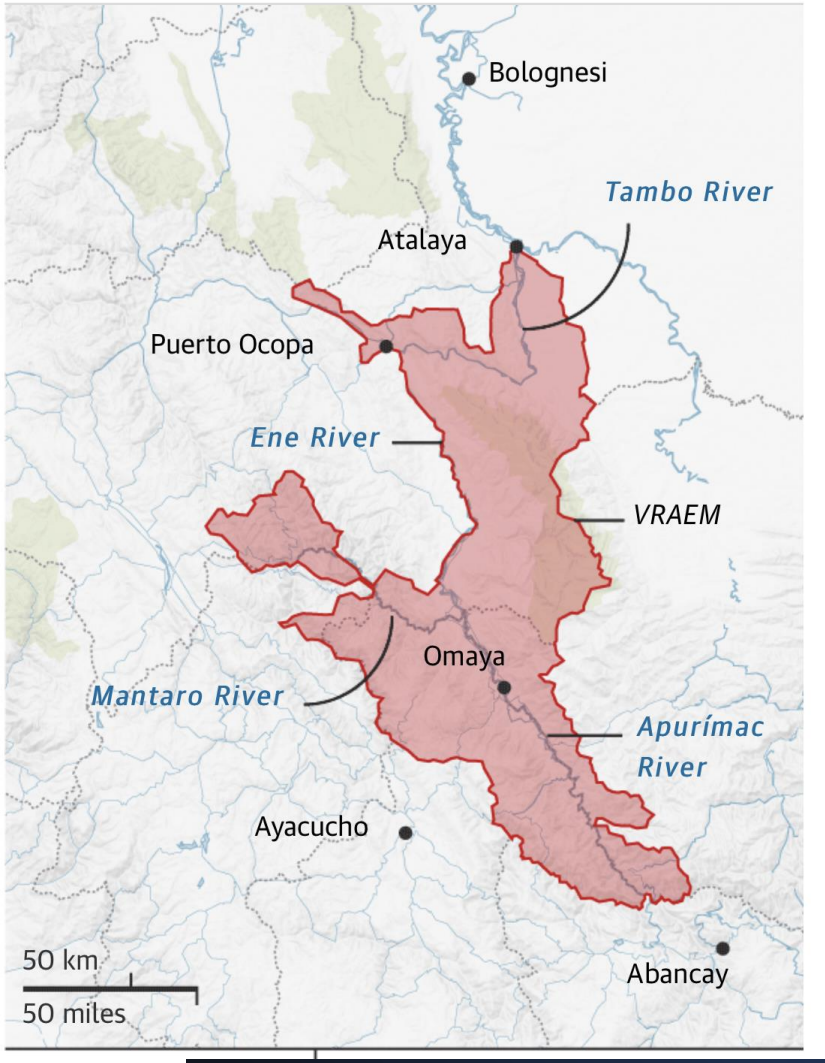
DRUG TRAFFICKING

Partnerships to disrupt Drug Trafficking

Vizcatán / VRAEM (an acronym for the valley of the Apurimac, Ene and Mantaro rivers), and the centre of Peru's drugs trade. Ucayali, Huánuco and Loreto regions are increasingly under threat as traffickers invade their lands and influence more Peruvians.

Use of drones and integrated systems to disrupts trafficking along Peru's 10,000km land and sea border.

Use of elecronic and cyberware intelligence teams to counter their counterintelligence.



ILLEGAL FISHING & POACHING

- Existing Programs
- Laws
- Policy
- Maritime Authority

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Existing fishing programs in Peru

Walton Family Reseach

“Por la Pesca” is the result of a joint effort between the Walton Family Foundation, which contributes $12.5 million; the United States Agency for International Development (USAID), which is initially providing $5.7 million, and whose execution will be led by the NGO Peruvian Society for Environmental Law (SPDA), in alliance with Redes Sustainability Pesquera, Pro Delphinus, Environmental Defense Fund (EDF), Future of Fish, Sustainable Fisheries Partnership (SFP), The Nature Conservancy Peru, WWF – Peru and WildAid.

MARITIME DRONES

- **Barracuda Speed Boat**
- **Surface Drones / Sensors**
- **Subsea – 90 days submerged**
- **Fixed-Wing Drones – 7 days at sea**

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Maritime Platforms

Drug and Human Trafficking | Illegal Fishing | Defense & Homeland Security | Environment

SURFACE
Noetic has teamed together with partners for an autonomous state-of-the-art maritime sensing system that can be deployed in support of strategic maritime operations.

We provide continuous domain awareness to identify vulnerabilities of strategic assets to potential adversaries. Continuously harvesting wave and solar energy, we provide an integration for a capable acoustic sensor package at the depths required for successful detection and classification. This option can operate independently for 90+ days in the harshest ocean environments without any external maintenance. Advanced signal processing enables automatic detection, classification, and real-time reporting of maritime targets of interest at a fraction of the cost of legacy systems.

Mounted on a low-observable wave glider platform, this solution deploys a very capable towed acoustic array capable of operating at deep depth -- allowing for long range acoustic detection of surface and sub-surface contacts.

Maritime Platforms

Drug and Human Trafficking | Illegal Fishing | Defense & Homeland Security | Energy | Environment

SUBSEA
Third offering provides a stabilized towed platform with an interferometric synthetic aperture sonar payload, providing approximately 3cm x 3cm resolution over hundreds of meters. With the collaboration of our technology partners and recent advances in navigation, control, and signal processing techniques, we have successfully integrated a complete and highly accessible system leveraging technology once reserved for the defense and research communities.

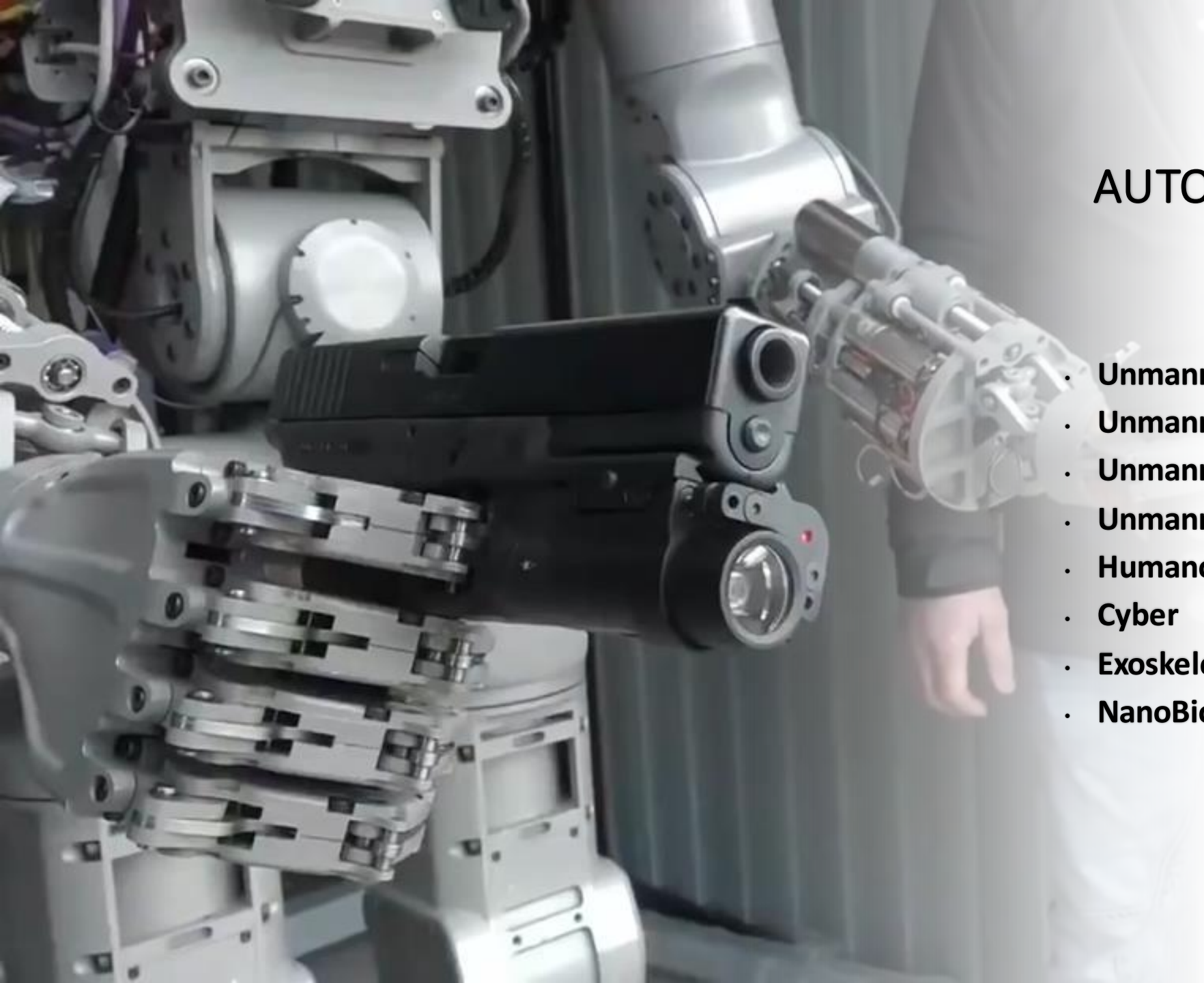
This system streams data in near real-time to the operator. Beamformed, mosaicked, and georeferenced returns are immediately presented onboard the vessel or transmitted over air to the customer's destination of choice. Analysts and team leaders are no longer constrained to the operations area and can maintain situational awareness from anywhere in the world.

This technology allows the client to form a comprehensive understanding of their operational environment, including what they traditionally have not been able to see. The high-fidelity, large-volume surveys of the seafloor and its contents generate the detailed maps needed for ensuring safe navigation, conducting infrastructure assessment, and elevating the situational awareness critical to any security operation.

Maritime Platforms

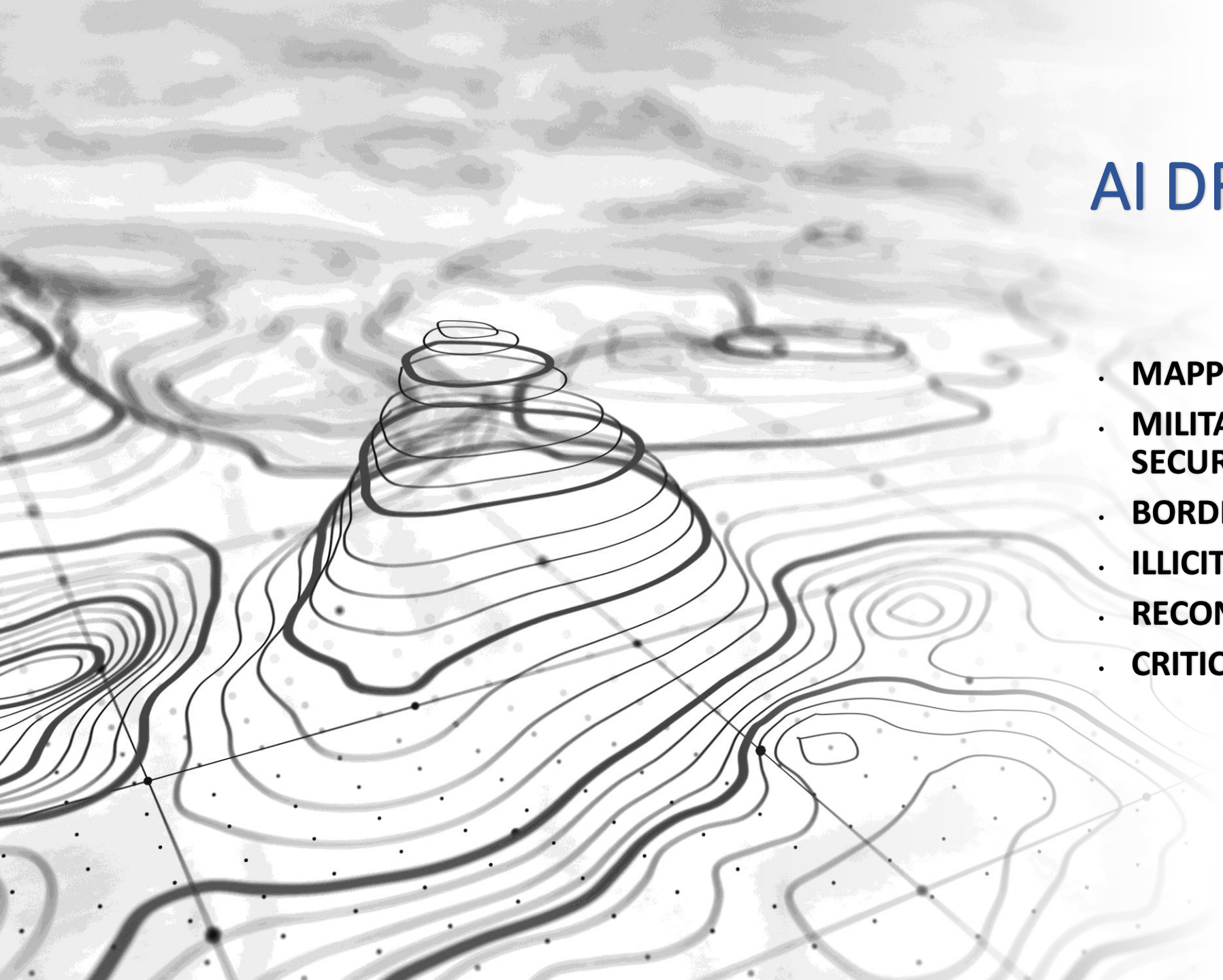
BARRACUDA – Manned or Unmanned

Trafficking | Defense & Homeland Security | Offshore Infrastructure |



AUTONOMOUS SYSTEMS

- **Unmanned Aircraft Systems (UAS)**
- **Unmanned Ground Vehicles (UGV)**
- **Unmanned Underwater Vehicles (UUV)**
- **Unmanned Surface Vessels (USV)**
- **Humanoids**
- **Cyber**
- **Exoskeletons**
- **NanoBiologics**

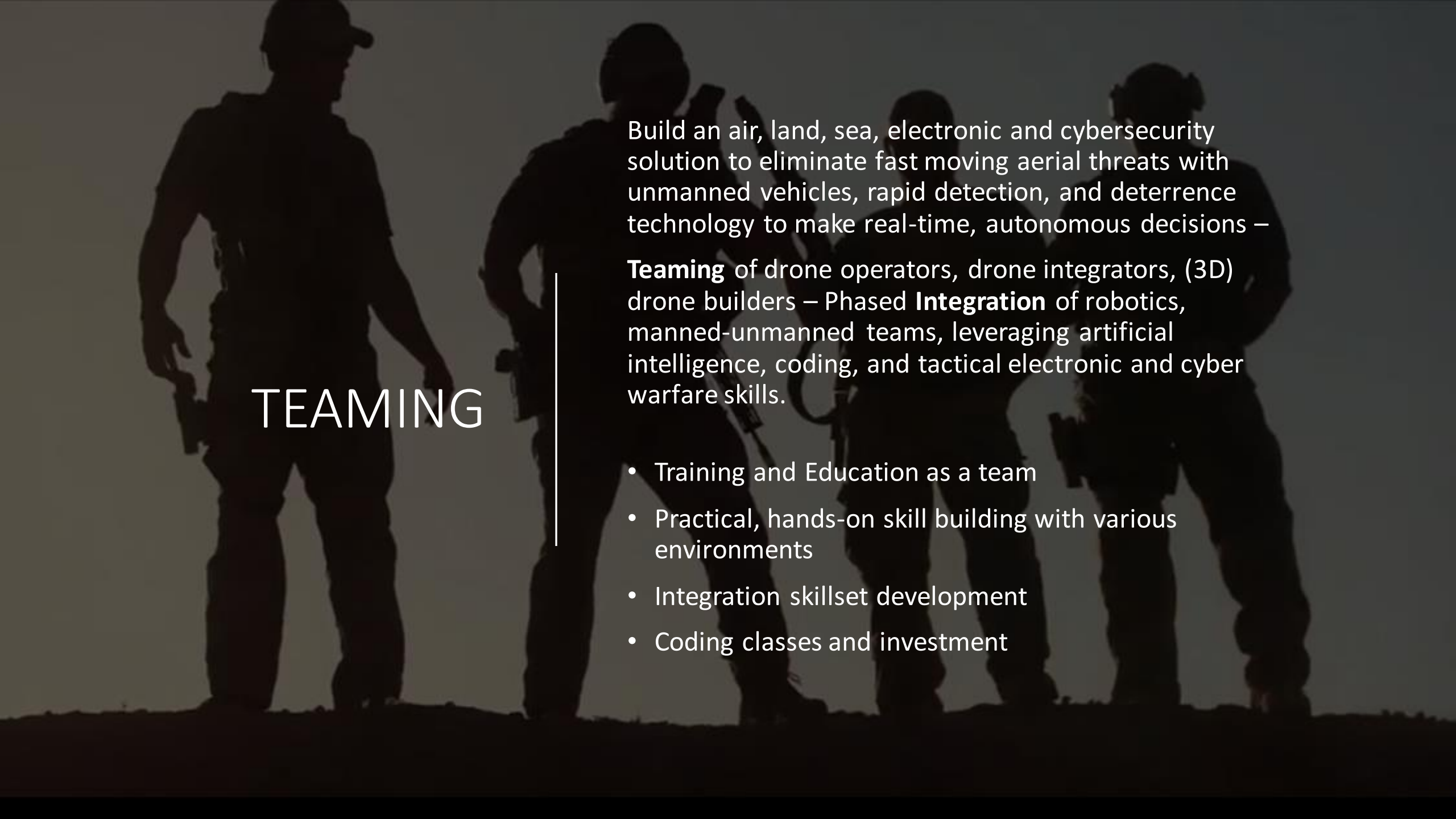


AI DRONES

- MAPPING
- MILITARY / HOMELAND SECURITY
- BORDER SECURITY
- ILLICIT ACTIVITIES
- RECON / SURVEILLANCE
- CRITICAL INFRASTRUCTURE

AI Commercial Drone Use Cases

- Each year, someone finds a new way or new sensor to use with drones.
- Not all drones are the same.
- Determine what is most important to your goals and mission then write the requirement.



TEAMING

Build an air, land, sea, electronic and cybersecurity solution to eliminate fast moving aerial threats with unmanned vehicles, rapid detection, and deterrence technology to make real-time, autonomous decisions –

Teaming of drone operators, drone integrators, (3D) drone builders – Phased **Integration** of robotics, manned-unmanned teams, leveraging artificial intelligence, coding, and tactical electronic and cyber warfare skills.

- Training and Education as a team
- Practical, hands-on skill building with various environments
- Integration skillset development
- Coding classes and investment

The End

Questions?

Thank you for meeting us today.

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