INTERLINK

Results of 34th Annual 2021~2026 Regional Employer Survey

Thank you members of the COG UAS Task Force for the large number of you who participated with this survey.

Today's Discussion

- **Executive Summary of InterLink's 2021-2026 ~ 34th Annual North Central Texas Employer Workforce Demand Survey with emphasis on UAS**

- **Top 13 Regional Demand Occupations identified by employers**

- **Current and Future Use of AI and Robotics**

- **InterLink 2021-2026 Demand Occupations**

- **Emerging and Evolving Occupations**

Employer Survey Responses

▶ **1,114 North Central Texas Employers responded**

▶ **Representing 101,559 North Central Texas Employees**

▶ **Companies sized 1 to 22,000 employees**

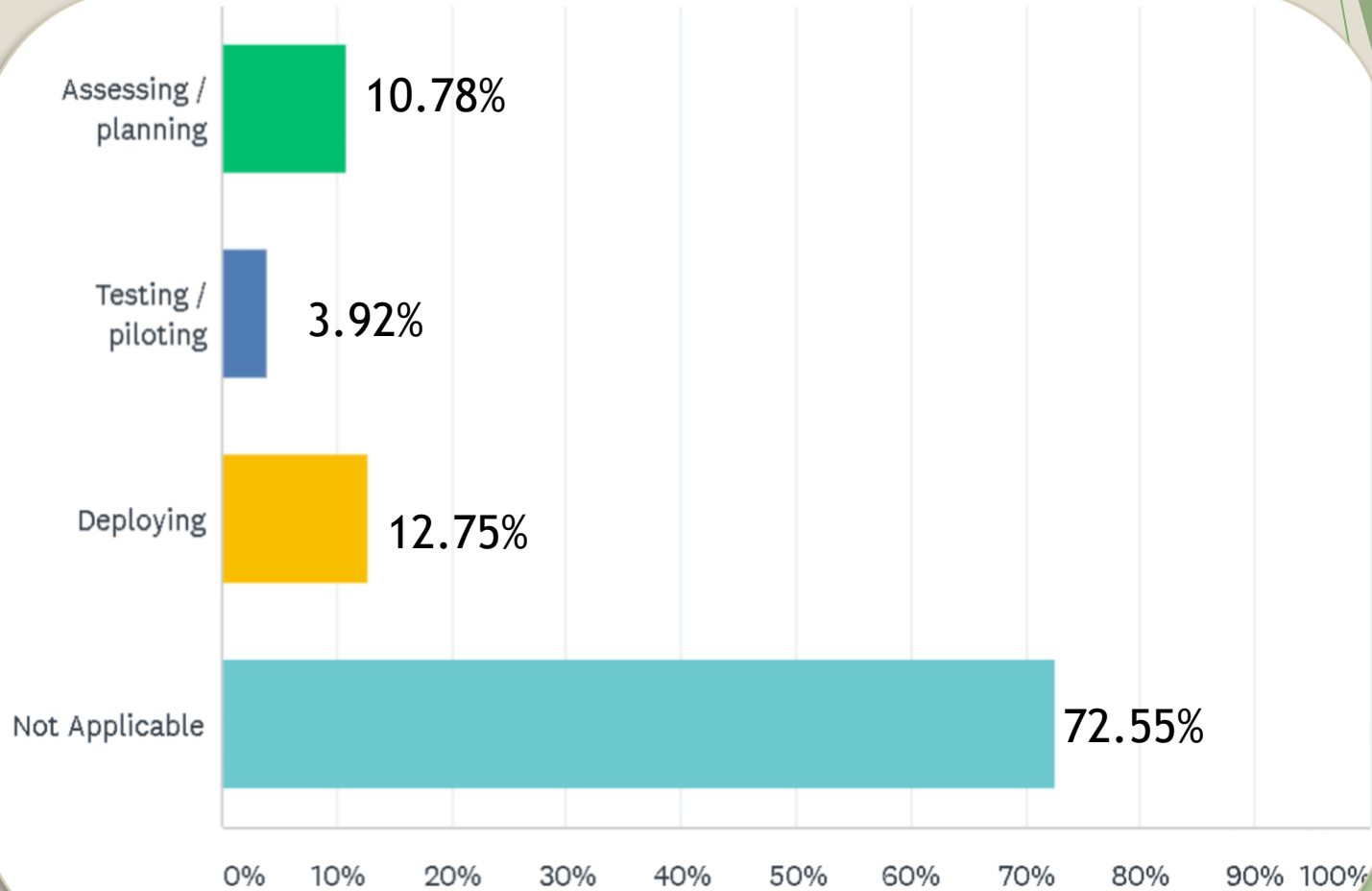▶ **53 companies representing 159,797 employees in foreign countries sized 2 to 50,00 employees**

Top 13 occupations numerically, 2021~2026

| Occupation	Number
Elementary Teacher	**1875**
Secondary Teacher	**1688**
Nurse Licensed Practical/Vocational Nurse	**1210**
Airline Pilots, Copilots, and Flight Engineers	**589**
Electrical/Electronic Engineering Technician	**482**
Police Officer	**416**
Electrician	**384**
Waiters	**380**
Fire Fighter	**377**
A&P Airframe and Powerplant Mechanic/Technician	**362**
BSN Nurse	**359**
Cook, Restaurant	**346**

The following workplace basic skills and attributes have been identified for entry level workers. Check all that apply for your organizations entry level workforce needs.

			7979.05.
Adaptability	91.70%	Oral Communication	79.05%
Appreciation of Diversity	59.05%	Organization	63.81%
Attention to Detail	87.62%	Perseverance	48.57%
Conflict Management	45.71%	Pride in Work	80.00%
Creativity	44.76%	Problem-solving	72.38%
Customer Service	79.05%	Professionalism	80.00%
Decision-making	62.86%	Resource Allocation	22.86%
Dedication	60.00%	Stress Management	40.95%
Following Directions	82.86%	Teamwork	82.86%
Information Gathering	48.57%	Technology and Tool Usage	52.38%
Initiative	77.14%	Thoughtful Reflection	27.62%
Integrity	80.95%	Time Management	73.33%
Intellectual Risk-taking	21.90%	Willingness to continue learning	69.52%
Leadership	43.81%	Work Ethic	82.86%
Multi-tasking	69.52%	Written Communication	56.19%
Numerical and Arithmetic Application	37.14%		

What is your current level of AI or Robotics use in North Central Texas?

Assessing / planning — 10.78%

Testing / piloting — 3.92%

Deploying — 12.75%

Not Applicable — 72.55%

What is the likelihood of Artificial Intelligence implementation in the North Central Texas portion of your company within the next 5 years?
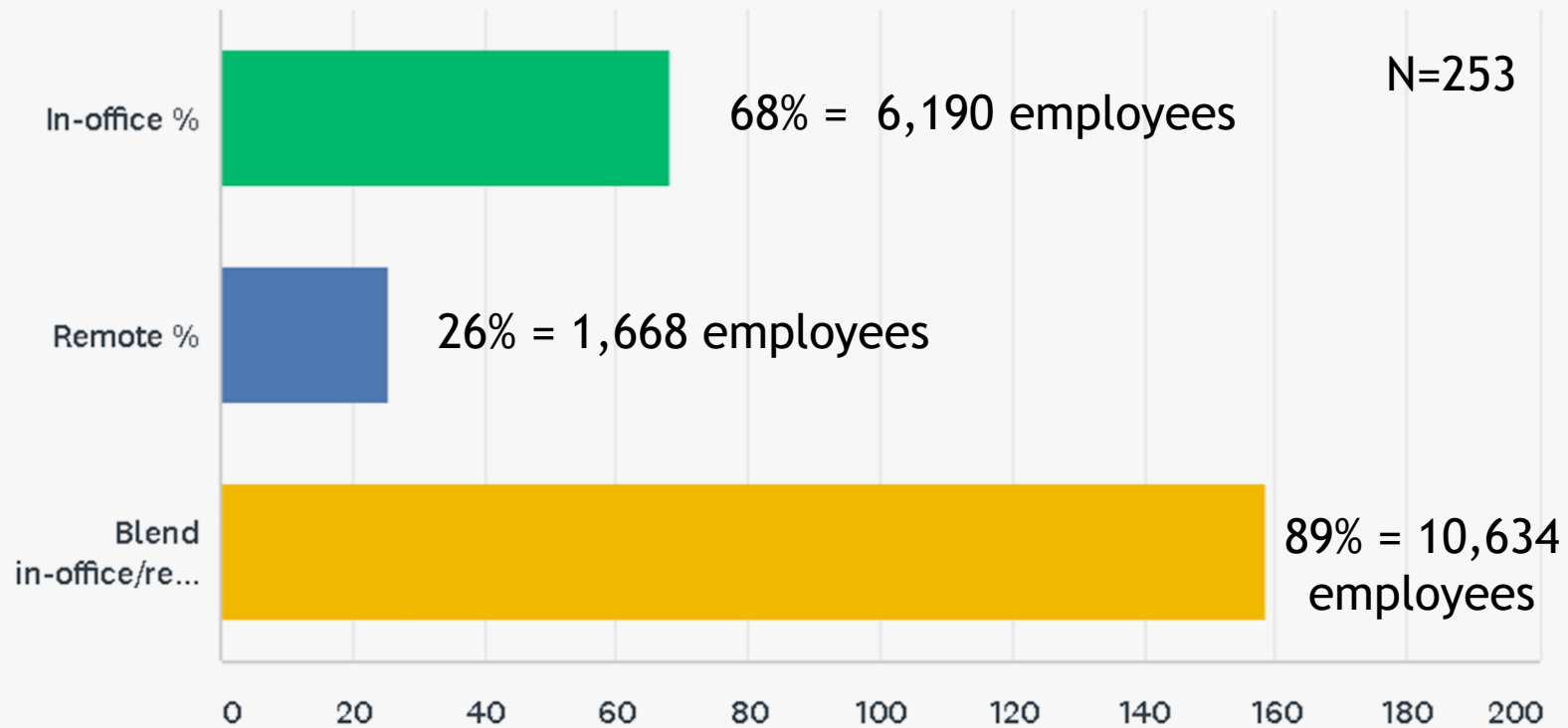
33.0%

15.50%

12.62%

37.86

10% 20% 30% 40% 50% 60% 70% 80% 90% 100%
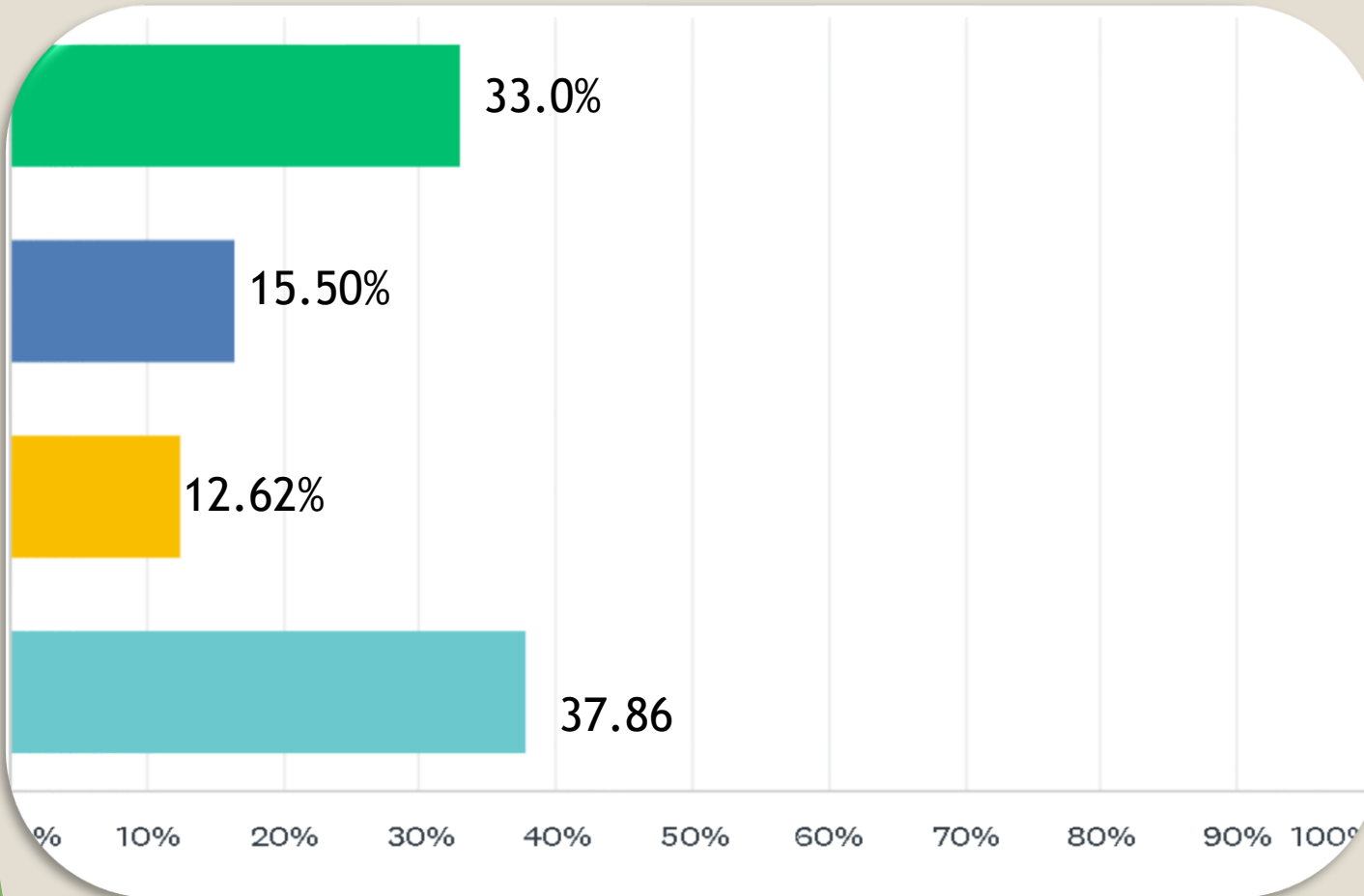
If you are already deploying AI or Robotics in your company how are you using the technologies?

- Working in Commercial Real Estate I deal with larger stores, restaurants and other businesses that use AI technology as a determining factor if a population is large enough to support their businesses. It is amazing by tracking cell phones you can determine how many people are at a particular store any hour during the day.(example...how many people are in a Walmart at 10:30AM on a particular Thursday) AI technology can tell you exactly.

- **Land surveying using drones**

- We heavily rely on AI to optimize our digital media purchases. Additionally, we are using AI in the deployment of chatbots across numerous websites we develop/manage

- Robotics for repetitive tasks AI for serving our customers - phone tree

- **Survey layout, laser scanning, drones, 360 photo/video, Thermal**

- Chatbots

- We are replacing many of the tasks performed by professional staff with automated "bots"

- **We use drone technology and are virtually paperless.**

- We use AI to submit medical claims

- Robotic coating including Air Plasma Spray, Electron Beam Physical Vapor Deposition, Air Plasma Spray, CMM inspections.

- Tremble to layout a project site

- **Drones to map out project sites and logistics**

- Steinhauer to custom cut control panels vs. manual saw cutting

List occupations that may be significantly impacted by growth in the next 1-5 years in your company in North Central Texas due to Robotics or Artificial Intelligence. List the name of the occupation and the increase in number for that occupation.

- Electricians + 250
- Construction Project Managers + 25
- Construction Superintendents +25
- Construction Foreman +25
- Technical support +10
- Geospatial Technicians +10
- Engineering Layout - 5 years
- Drywall installation - 5 years
- Prefabrication/ Manufacturing - 2 years
- Field Tech Engineer +5
- UAS (Drone) Pilot to monitor land and livestock +2
- Web development +2
- Maintenance Technician +2;
- Robotics Programmers +2
- Robot Technicians
- Data Analysts
- Data Processing
- UAS Professionals Airport Front line workers (ramp and csr)
- I own a small Consulting Company. None of these recent questions apply to my company. However, they do apply to some or all of my clients, but I am not in a position to respond on their behalf.

We recognize the potential for remote work is based on the activities and tasks within occupations. Taking into consideration your entire workforce, what percentage would perform their work functions in the following locations:

N=253

In-office %: 68% = 6,190 employees

Remote %: 26% = 1,668 employees

Blend in-office/re…: 89% = 10,634 employees

Effects of technology on growth or decline of occupations:

- **The use of Drones and other UAV, Robot, and Cybersecurity are the most frequently mentioned as showing the most growth potential.**

- **Occupations in Healthcare and Construction are also in high demand**

- **Occupations identified as having the most decline due to the use of automation are in the areas of:**

    - **Accounting Specialists**

    - **Cashiers**

    - **Customer Service**

    - **Data Processing**

    - **Front Desk Agents**

    - **Order Fulfillment**

    - **Project Engineers**

    - **Truck Drivers**

► High Demand ~ High Skill ~ High Wage

 ► Occupations Identified by

► North Central Texas Employers

Factors of Change
Evaluating occupations against factors considered to be primary causes for changes in the workforce

➢ Growing use of computers and other automation and technological changes;
➢ Changes in business practices;
➢ Demographic trends;
➢ Changes in the way medical care is provided;
➢ Trends in law, law enforcement and government regulations;
➢ Offshoring and outsourcing of jobs and people.

SOC or O*NET Code	Occupation Title	Industry
	InterLink Emerging and Evolving Occupations	
	Projected to Offer Future Employment Opportunities	
	Emerging Occupations are new occupations in the workforce with new titles and skills	
	Evolving Occupations are traditional occupations whose knowledge, skills, and abilities have changed or evolved	
19-4021	Biomedical Technicians	Science
15-1199.02 Emerging	Cloud Computing Architects	Information Technology
15-1111 · Emerging	Data Scientists Including Advanced Analytics & Data Mining	Information Technology
Emerging	Drone Operators/ Remotely Piloted Vehicle Engineering Techs. (Certified) (Unmanned Air Systems)	Transportation
Emerging	Drone/Unmanned Air Systems Technician	Transportation
17-3025.00	Environmental Engineering Technicians	Engineering
19-4092.00	Forensic Science Technicians (Computer & Digital)	Information Technology
29-9092	Genetic Counselors	Health Science
Emerging	Infrastructure Integration Specialist	Information Technology
17-2131.00	Materials/Smart Materials Analysts/Engineers	Science
17-2199.09	Nano Systems Engineers	Engineering
17-3029.12/.11	Nanotechnology Engineering Technicians & Technologists	Technology
19-4099.01	Quality Control Analysts	Information Technology
19-4099.03	Remote Sensing Technicians/ MEMS & Microelectronics	Manufacturing
17-3024.01	Robotics Technicians – Electro Mechanical Technician	Technology
Emerging	Virtual Reality Engineers/Specialists/Technicians	Technology

Job Title by Industry Cluster	Regional Entry Annual Earnings	Regional Experienced Annual Earnings	Typical Entry Level Education *License or Certification
Agriculture, Food and Natural Resources			
Veterinary Technologists and Technicians	$23,507	$48,424	*Associate's degree
Architecture and Construction			
Electricians	$28,776	$66,516	*High school diploma or equivalent
Heating, Air Conditioning Technicians	$22,531	$66,980	*Postsecondary nondegree award
Maintenance and Repair Workers, General	$26,384	$62,352	*High school diploma or equivalent
Operating Engineers & Other Heavy Construction Equipment Operators	$30,395	$56,023	*High school diploma or equivalent
Plumbers, Pipefitters, and Steamfitters	$27,420	$70,650	*High school diploma or equivalent
Surveying and Mapping Technicians	$26,835	$64,602	*High school diploma or equivalent
Welders, Cutters, Solderers, and Brazers	$27,600	$64,602	*High school diploma or equivalent
Business, Marketing and Finance			
Accountants and Auditors	$49,375	$127,551	*Bachelor's degree
Financial Analysts	$53,529	$149,730	*Bachelor's degree
Insurance Claims and Policy Processing Clerks	$30,574	$61,179	*High school diploma or equivalent

Job Title by Industry Cluster	Regional Entry Annual Earnings	Regional Experienced Annual Earnings	Typical Entry Level Education *License or Certification
Education and Training			
Elementary School Teachers, Except Special Ed.	$47,552	$75,771	*Bachelor's degree
Secondary School Teachers, Except Special & CTE	$48,305	$79,013	*Bachelor's degree
Health Science/ Human Services			
Licensed Practical and Licensed Vocational Nurses	$40,133	$67,701	*Postsecondary nondegree award
Medical Assistants	$24,937	$44,114	*Postsecondary nondegree award
Medical Clinical Laboratory Technologists and Techs.	$31,245	$82,255	*Associate's degree
Medical Records and Health Information Techs.	$26,555	$69,613	*Postsecondary nondegree award
Mental Health and Substance Abuse Social Workers	$25,184	$66,964	*Master's degree
Nursing Assistants (certified)	$21,129	$37,994	*Postsecondary nondegree award
Patient Care Technician (Certified)	$21,768	$34,730	High school diploma or equivalent
Radiologic Technologists	$30,387	$47,524	*Associate's degree
Registered Nurses	$53,543	$100,076	*Bachelor's degree
Respiratory Therapists	$48,414	$79,423	*Associate degree
Information Technology			
Computer Network Architects	$74,236	$183,389	*Bachelor's degree
Computer Systems Analysts/Architects	$55,887	$145,473	*Bachelor's degree
Computer Support Specialists	$30,290	$78,578	*Some college, no degree
Database Architects	$56,781	$139,331	*Bachelor's degree
Information Security Analysts/Cybersecurity/Business Intelligence	$64,493	$164,047	*Bachelor's degree
Network and Computer Systems Administrators	$56,022	$132,135	*Bachelor's degree
Software Developers, Applications	$69,503	$159,162	*Bachelor's degree
Software Quality Assurance Analysts and Testers	$65,815	$162,525	*Bachelor's degree

Job Title by Industry Cluster	Regional Entry Annual Earnings	Regional Experienced Annual Earnings	Typical Entry Level Education *License or Certification
Law and Public Service			
Emergency Medical Technicians and Paramedics	$24,037	$55,234	*Postsecondary nondegree award
Firefighters	$34,912	$84,305	*Postsecondary nondegree award
Police and Sheriff's Patrol Officers	$47,632	$95,611	*Postsecondary/HS Degree
Manufacturing			
CNC Manufacturing Technician	$36,003	$89,334	*High school diploma or equivalent
Precision Machinists	$27,000	$41,232	High school diploma & Apprentice
STEM			
Architectural and Civil Drafters	$34,220	$79,079	Associate's degree
Civil Engineers	$55,753	$170,468	*Bachelor's degree
Electrical Engineers	$66,347	$159,532	*Bachelor's degree
Industrial Engineers	$64,054	$149,669	*Bachelor's degree
Electrical and Electronic Engineering Technologists and Technicians	$39,334	$111,794	Associate's degree/HS
Robotics *Engineers/Technicians/Operators	*$61,189	*$165,231	*Bachelor's/Associate's degree/HS
Transportation, Distribution and Logistics			
Airline Pilots, Copilots, and Flight Engineers	$85,625.	$358,106	*Bachelor's degree
Automotive Body and Related Repairers	$22,901	$87,386	*High school diploma or equivalent
Automotive Service Technicians and Mechanics	$20,775	$64,449	*Postsecondary nondegree award
Bus Diesel Engine Specialists	$32,920	$83,774	*High school diploma or equivalent
Cargo & Freight Agents	$27,171	$73,708	High School or equivalent

**InterLink's 2021-2026 ~ 35th Annual
North Central Texas Employer
Workforce Demand Survey
will be released ....**

February 4th 2022

We encourage your participation!

Thank you! I welcome your......

Questions?

Comments !

Discussion

InterLink
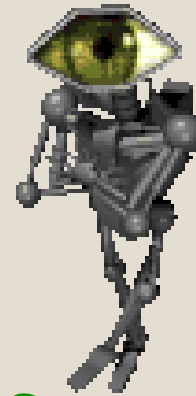
The online portal to
Labor Market Resources

Candy Slocum
candy@interlink-ntx.org

UAM and Cybersecurity

Regine Bonneau

Founder/CEO

January 25th , 2022

Mission

Our mission is to empower companies to successfully manage global cybersecurity risks, vulnerabilities and compliance requirements

Vision

RB Advisory is focused on ensuring that our clients are equipped with the best practices and methodology to avoid the devastating consequences of cyber-attacks to their business. We aim to be one of the industry's leading experts for cyber security, risk management and compliance services.

Regine Bonneau, CTPRP – Founder/CEO

Regine Bonneau is the Founder and CEO of RB Advisory, LLC, which provides cyber risk management, security assessments, compliance services, forensic audits, and privacy consultations for private sector and government clients. She founded RB Advisory after years of working in the risk management and compliance industries.

Ms. Bonneau is a leading expert and practitioner in governance, risk management, compliance, and cybersecurity. Ms. Bonneau believes in order to create an effective governance, compliance and security culture there needs to be an understanding of each aspect of the phenomena in enterprise risk management and governance with insight and commitment at every level of an organization. Her career spans 20 years with a focus on people, process, and technology in the healthcare, financial, legal, government and energy sectors from small to large enterprises.

Company Certifications

M/WBE: Minority Woman Business Enterprise

WOSB: Women Owned Small Business

EDWOSB: Economically Disadvantage Women Owned Small Business

SBE: Small Business Enterprise

DBE: Disadvantage Business Enterprise

LDBE: Local Disadvantage Business Enterprise

RPO: Registered Provider Organization (CMMC-AB)

CAGE Code: 843K1

DUNS: 080654723

NAICS Code:
541330
541519
541611
541690
541990

Cybersecurity

- Cyber Risk Assessments
- Gap Analysis
- Vulnerability Management
- Penetration Testing
- Cyber Security Strategy Plan
- M&A Due Diligence
- Virtual CISO (vCISO)

Risk Management

- Cyber Risk Management Plans
- Cyber Liability Insurance
- IT Security Audits
- Incident Response Plan
- Third Party Risk Management
- Cloud Management
- Change Management

Compliance

- Governance, Risk, Compliance
- Privacy Consultations: Safeguards, US Privacy Shield, & EU's GDPR
- Federal & State Regulations: Compliance/Privacy
- NIST 800-171/CMMC
- Education Awareness Training
- Policies and Procedures

A Holistic View of Our Cybersecurity Program

Why You Want a Holistic Approach

Your IT and Security Challenges Are Connected to Every Aspect of Your Business

Customers

Keep sensitive customer information secure. We assist with creating a sound security plan to collect only what is needed, keeping it safe, and disposing of it securely which meets required obligations.

Intellectual Property

Your competitive separation between your organization and other players in the market.

Infrastructure & Services

We provide defense in depth practices to manage risk with diverse defensive strategies, so that if one layer of defense turns out to be inadequate, another layer of defense will provide another layer against a full breach of your systems.

Employees

Employees are on the front lines. The more that can be done to regularly educate them of the small things you can be done will go a long way towards protecting your organization.

Layered Security Model

Multiple Layer of Security Measures to Protect You and Your Customers

This layer is like the four walls and the roof of a secure house. It includes firewalls, routers and proxy servers.
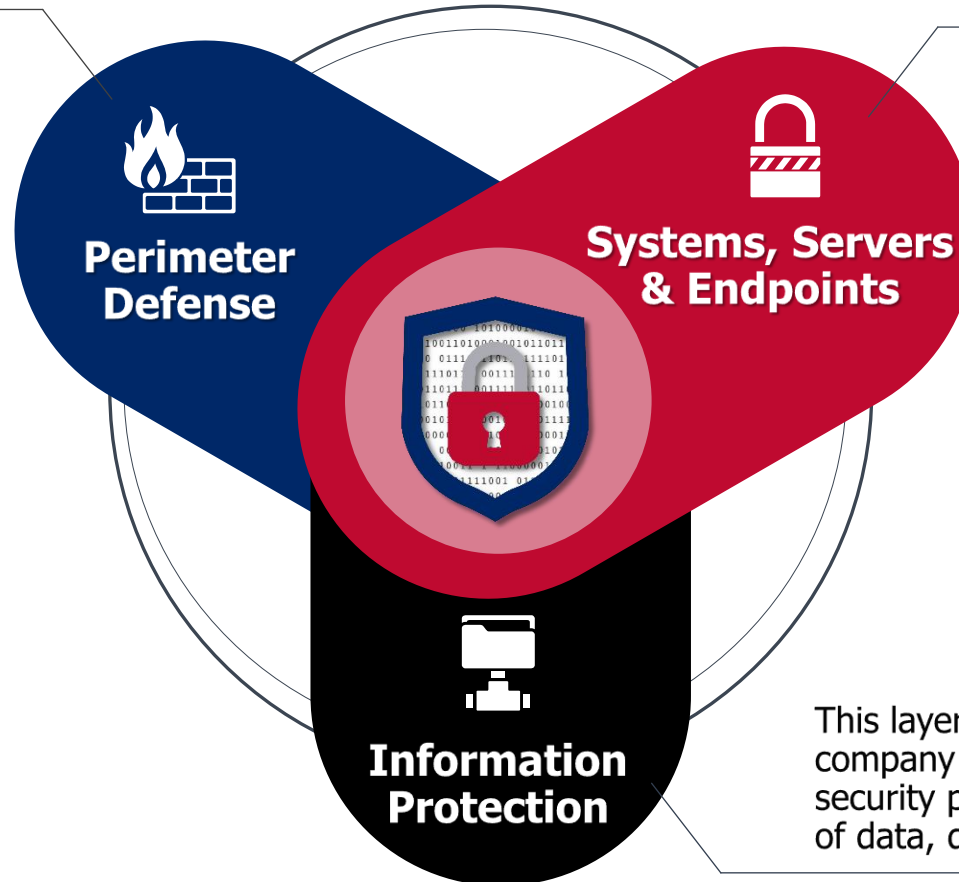
This layer holds protection of operating system, the application servers, web servers, mail servers, desktops and laptops.

Perimeter Defense

Systems, Servers & Endpoints

Information Protection

This layer of protection embeds security into the company structure and culture by focusing on security policies, encryption, file integrity, back up of data, disaster recovery.

Layered Security Model

Multiple Layer of Security Measures to Protect You and Your Customers
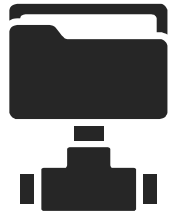
Your Best Line of Defense

24x7 Security Operations Center, which means you get enterprise-grade security, no matter the size of your business.
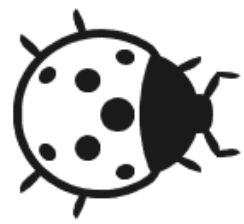
Proactive Monitoring

Monitoring access to sensitive data to enforcing your acceptable usage policy, FST helps you comply with regulatory requirements.

Your Competitive Advantage

We focus on your client's decision to work with you over your competitors because of how well you protect their data.

Key Services

- Virtual Chief Information Security Officer (vCISO)
- DoD CMMC 2.0 - NIST 800-171
- Cyber Breach Response / Incident Response Plan
- Penetration Testing / Vulnerability Assessment
- Third Party Risk Management / Supply Chain Risk Management
- Digital Transformation
- Cloud and SAP Security

Cyber Compliance

Compliance involves creating a program that establishes risk-based controls to protect the integrity, confidentiality, and accessibility of information stored, processed, or transferred.

RB ADVISORY
Security Compliance | Cyber Risk Management

GDPR

CJIS — CRIMINAL JUSTICE INFORMATION SYSTEMS

FISMA · GLBA · SOX

NIST 800-53 Compliance Best Practices

ISO

CMMI V2.0
APPRAISAL METHOD · MODEL · ADOPTION GUIDANCE · SYSTEM & TOOLS · TRAINING & CERTIFICATIONS

CCPA

And Many more…

POLICIES & PROCEDURES
Regulations · Standards · Guideline · Law · Conduct · Constraint · Plan · Solution

UAM – The Importance of Cybersecurity

Cybersecurity consists of technologies, processes, and controls designed to protect computer systems, data, programs, networks, devices from information disclosure, theft of or damage to their hardware, software, or electronic data, as well as from the disruption or misdirection of services they provide.

Cybersecurity is a key priority for manufacturers due to systems facing the same threats as all aerial platforms along with a range of unique challenges.

Cybersecurity IS one of the biggest technical challenges facing UAS/UAM and eVTOL developers. Cyber threat is not limited to a particular part of the platform, it includes:
- Navigation (GPS)
- Communication
- Vital Systems
- Software and Programs
- All parts and systems

Cybersecurity is importance to urban air mobility (UAM) due to operators continued increase reliability on electronic control systems on the ground and in the air.

Source: Mo. Ashmawy

Cybersecurity Vulnerabilities in Aviation/UAS/UAM
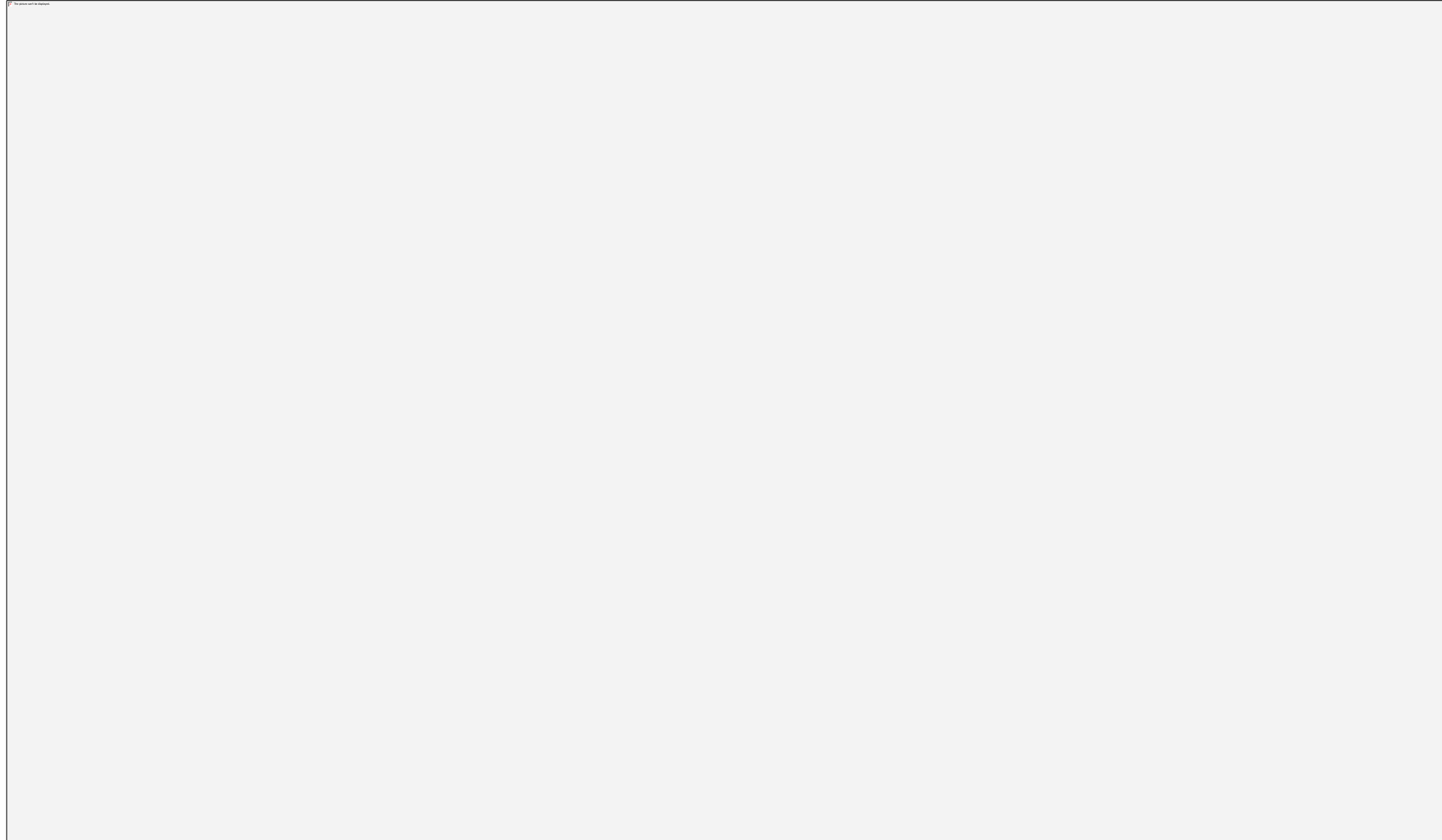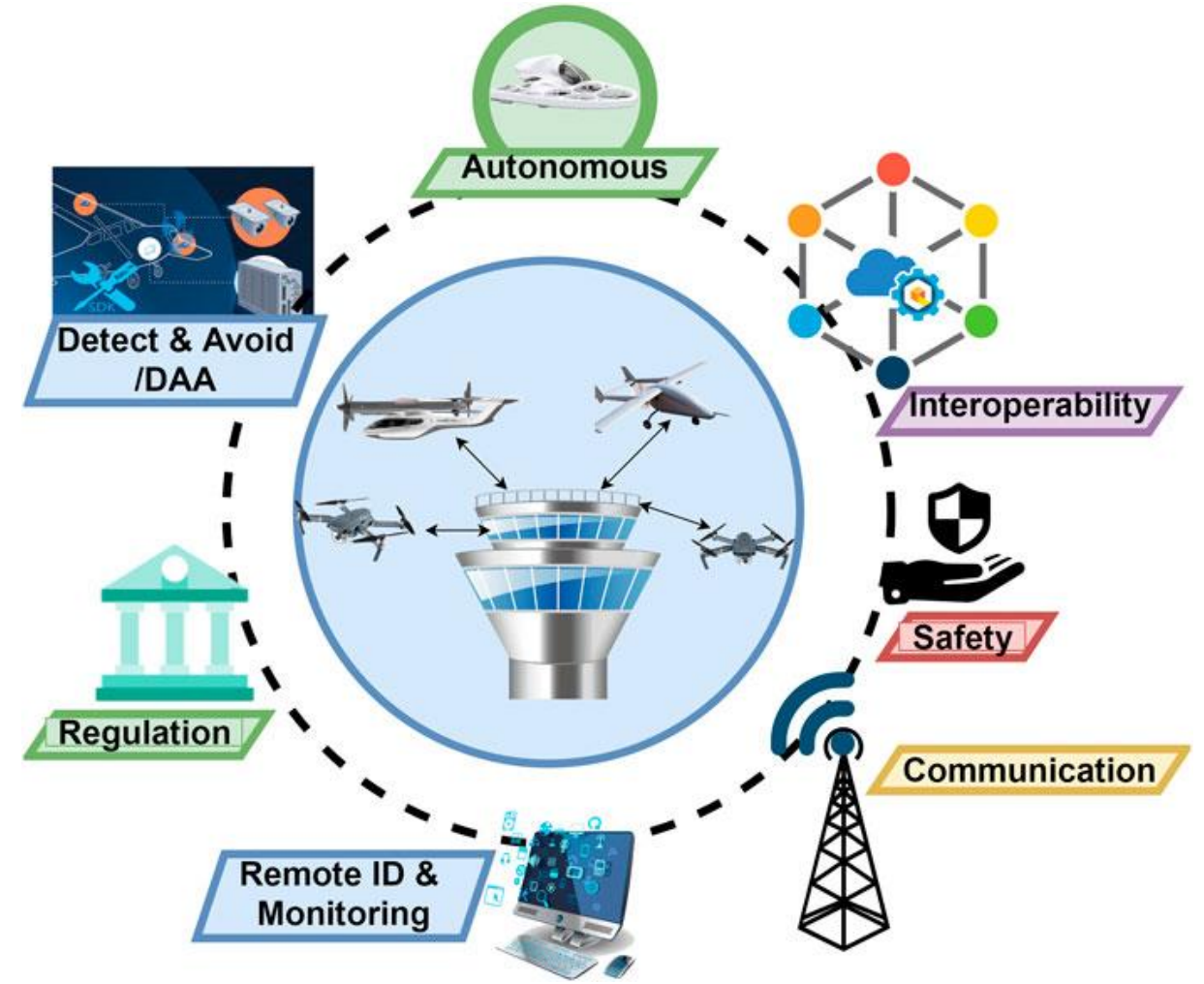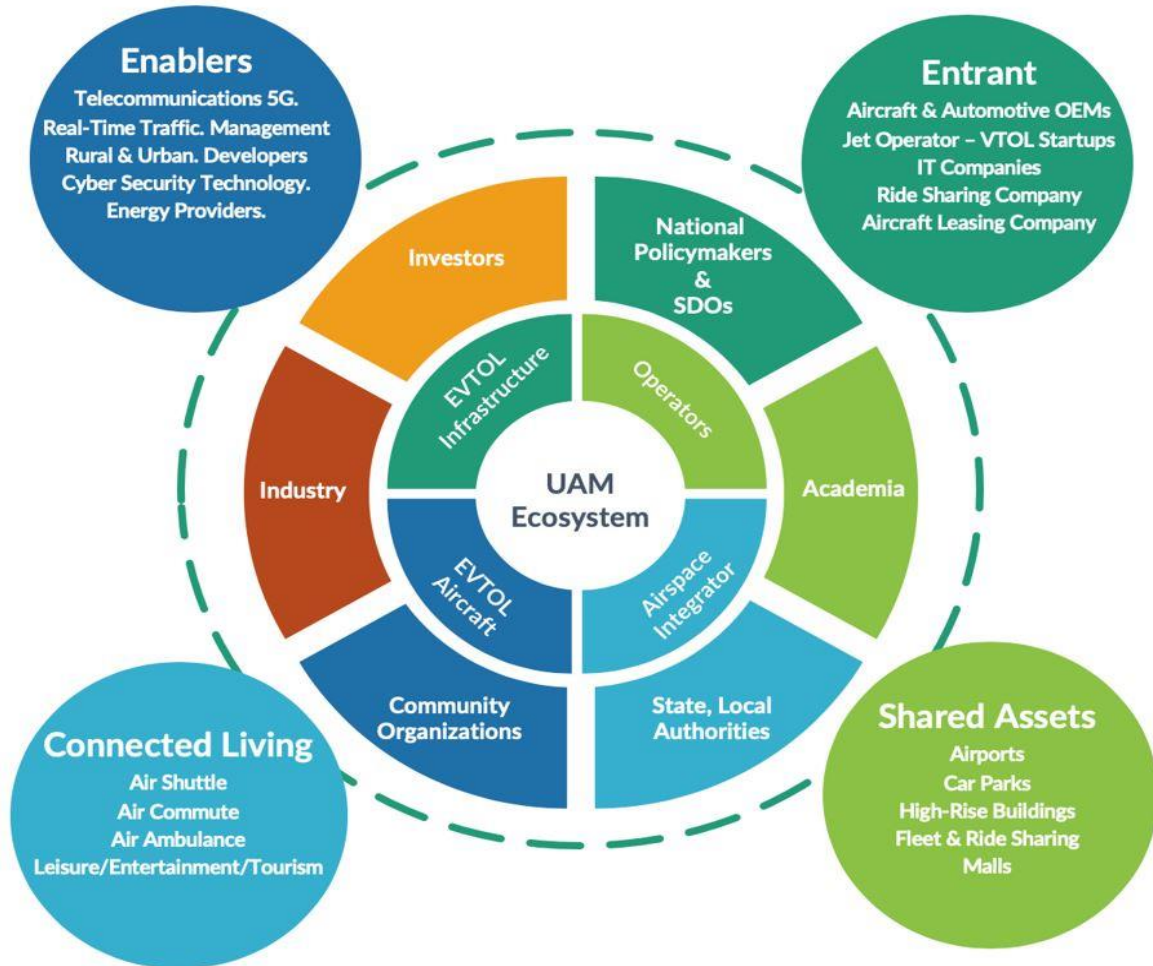
FIGURE 1: REPORTED CYBER ATTACKS ON AVIATION 2019 VS 2020
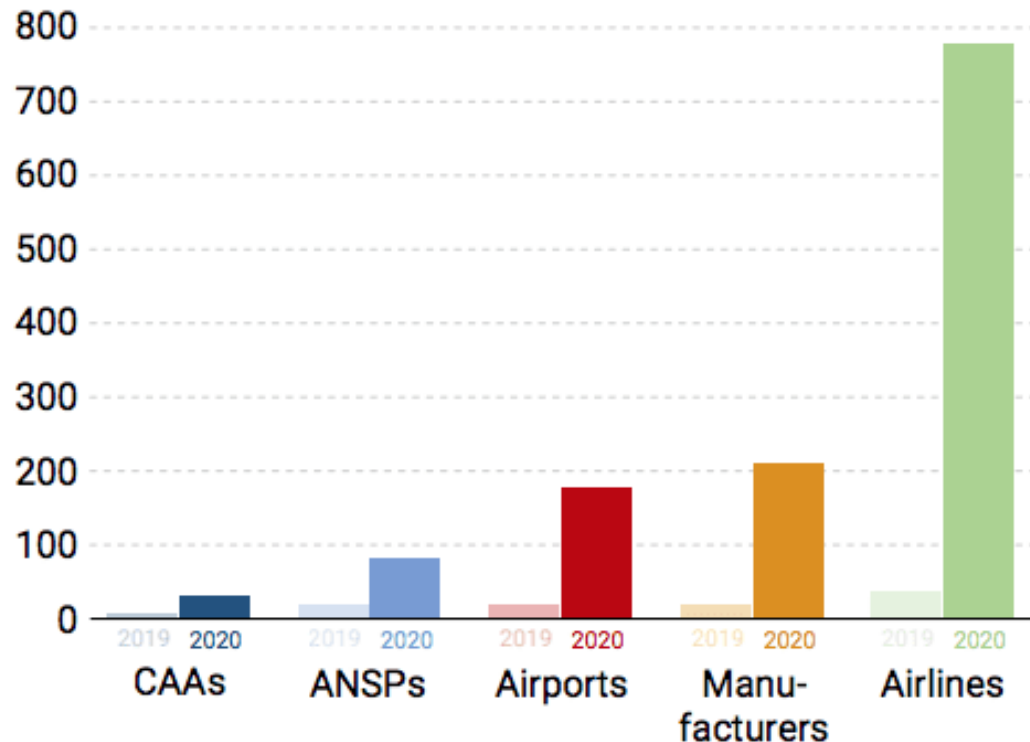
Source: EUROCONTROL EATM-CERT

- GPS Spoofing
- Distributed Denial of Service (DDoS)
- Message Injection
- Message Modification
- Ransomware
- Jamming
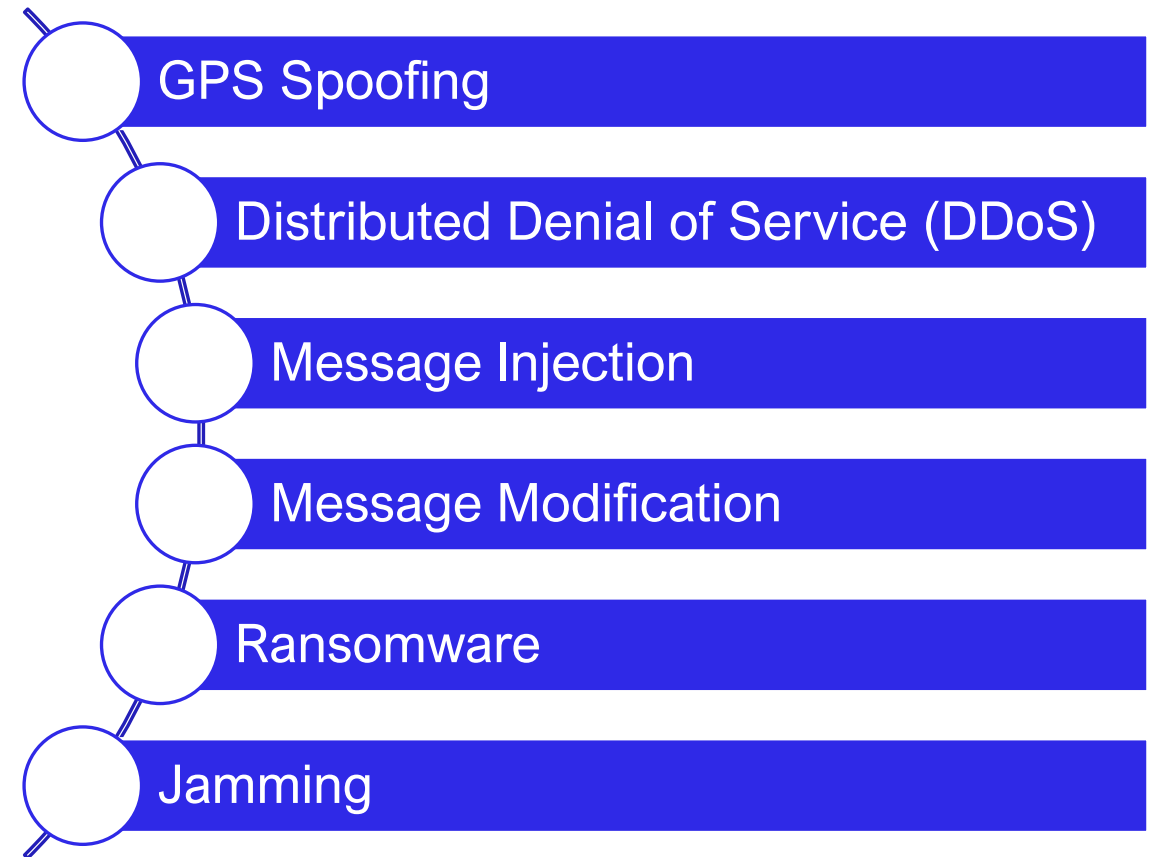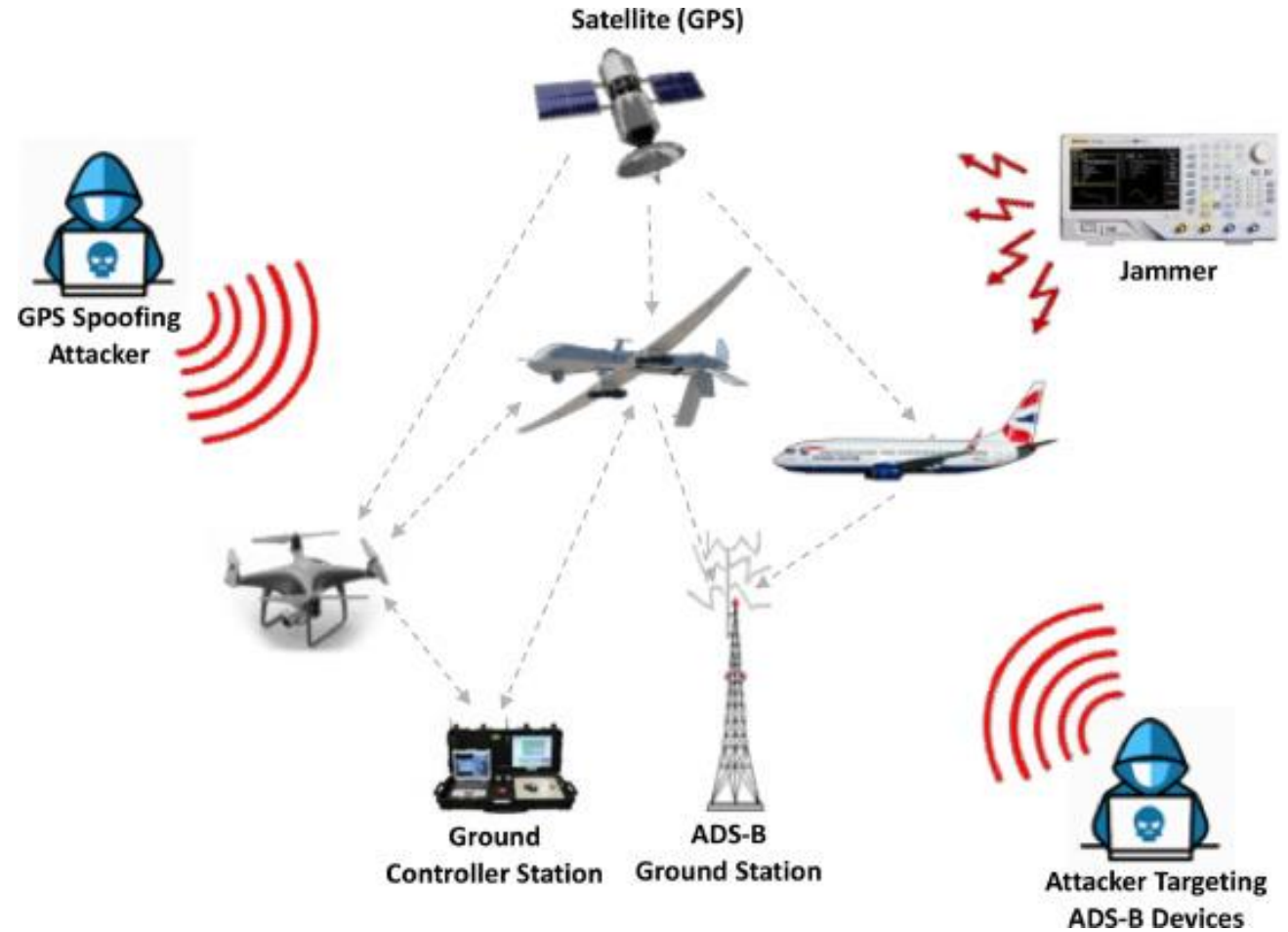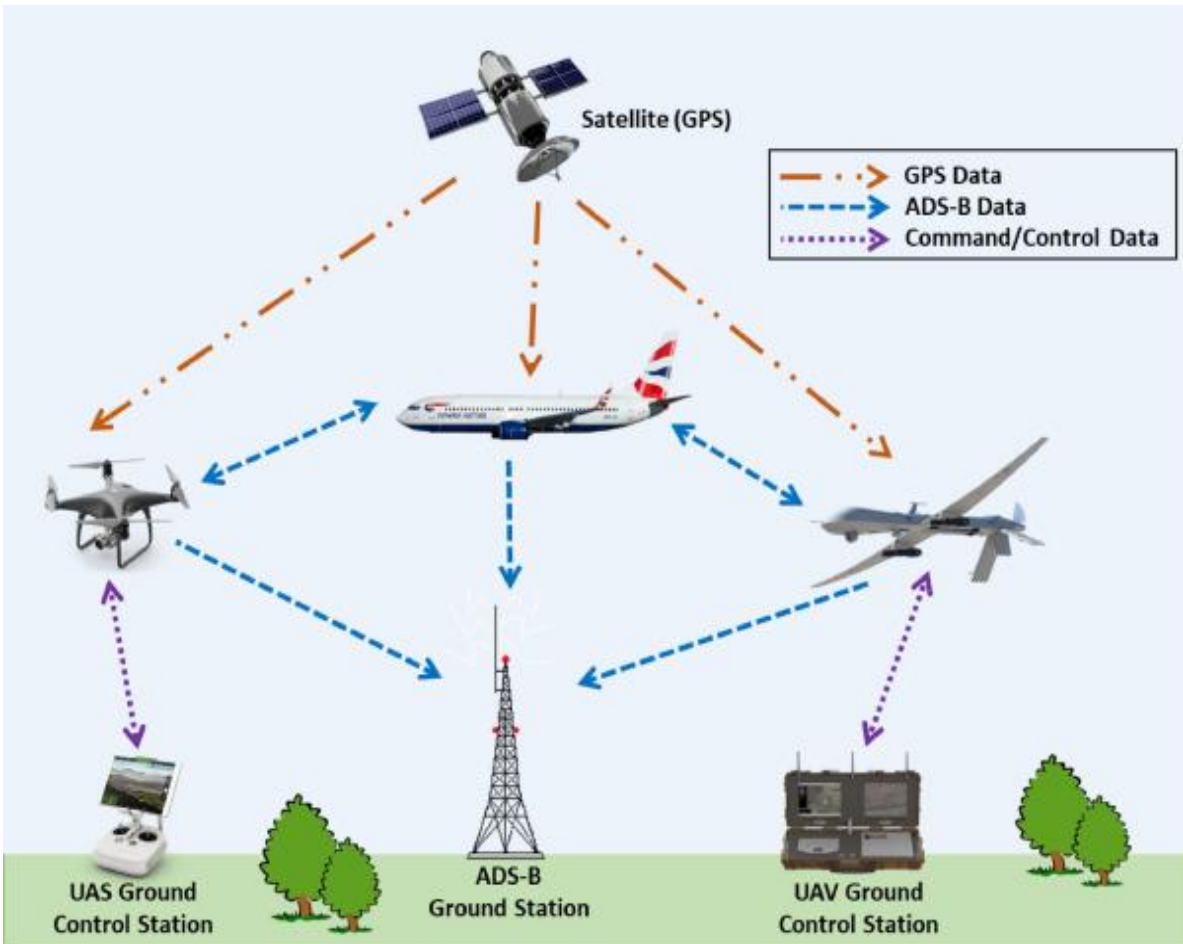
**Cyber security by Design:
From the ground up**

Cybersecurity and UAM

Cyber Resiliency	
Ensure Operations Continuity	Safe-to-Fail Design – multi-layer
Multi-layered protection Architecture	Holistic and trans-organizational program
Continuous and Ongoing Monitoring	User interface to capture cooperative and un-cooperative behaviors
Threat Conditions and Failure modes drive design approach	Possible ability to evolve using AI/ML
Security and Safety Development Assurance	Configuration and Change Management to ensure cyber resilience is maintained

Basic Cyber Principles
Security is an evolutionary and continuous process.
Systems are comprised of technology, people and processes and each system is part of and contributes to the security of a System-of-Systems.
Resilience is the ability to prevent disruptions, to prepare for and adapt to changing conditions and to detect, respond and recover rapidly from disruptions to ensure the continuity, integrity and confidentiality of services at an acceptable performance level.
A bespoke design of an aviation system does not guarantee resilience to cybersecurity threats.
Cybersecurity measures can only be effective if applied in a timely manner.
Managing complexity is key to cybersecurity.
The airborne platform is the last line of defense.

The European Strategic Coordination Platform for Cybersecurity in Aviation

"*Empowering Companies to Successfully Manage Global Cybersecurity Risks, Vulnerabilities, and Compliance Requirements*"

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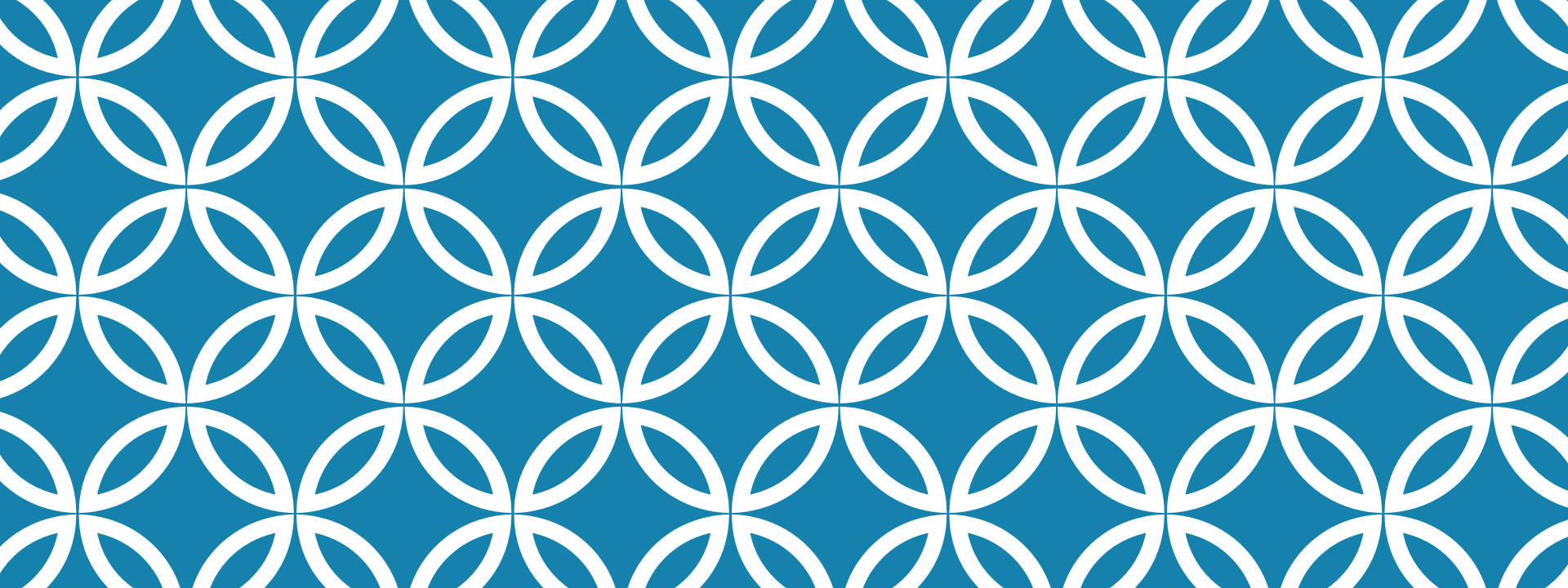
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About Avianco

Aerospace and Aviation **technology** **solutions** small business with focus in end-to-end Operations & Management Software Solutions for **safer, scalable, efficient UAV/UAM Operations**

SkyNet Suite™

SkyNet UTM

- UTM Services
- Flight Tested and Proven
- Work in progress to become LAANC provider

SkyNet Mission Manager

- 2D/3D Mission Planning
- Digital Twins and Data Acquisition
- Command & Control Ops for BVLOS
- Near Realtime Tracking
- Situational Awareness
- Live Video Streaming
- Workflow Management

SkyNet PSU (MVP)

- Part of NASA AAM National Campaign (X4)
- North Texas AAM Infrastructure NC-1
- Developing PSU Services MVP

Core Technology - SkyNet

- Airspace Awareness
- Airspace Management
- UTM & UAM/AAM PSU Services
- UAV Ops and Mission Management
- BVLOS Ops Command, Control and Communication
- Integrations with SDSP (Air Traffic (ADS-B etc.,), Weather, Cell Coverage, Population, etc.,)
- Safety & Conformance Monitoring, Alerting
- State/Local Govt Agency Dashboards

Collaborative Approach

As a local North Texas based small business, open to collaborate with local community in research and developing the <u>UAM/AAM Infrastructure</u> in the area.

Thank You!

Questions?