

# ASPRS UAS Division

Unmanned Autonomous Systems

# Dan Hubert

- Owner, MODUS AI
- 15 experience in drone operations
- Program Manager, General Atomics MQ-9 Reaper
- Naval Aviator, retired
- TOP GUN Tactical Flight Instructor

[www.modus-ai.com](http://www.modus-ai.com)



# American Society for Photogrammetry and Remote Sensing



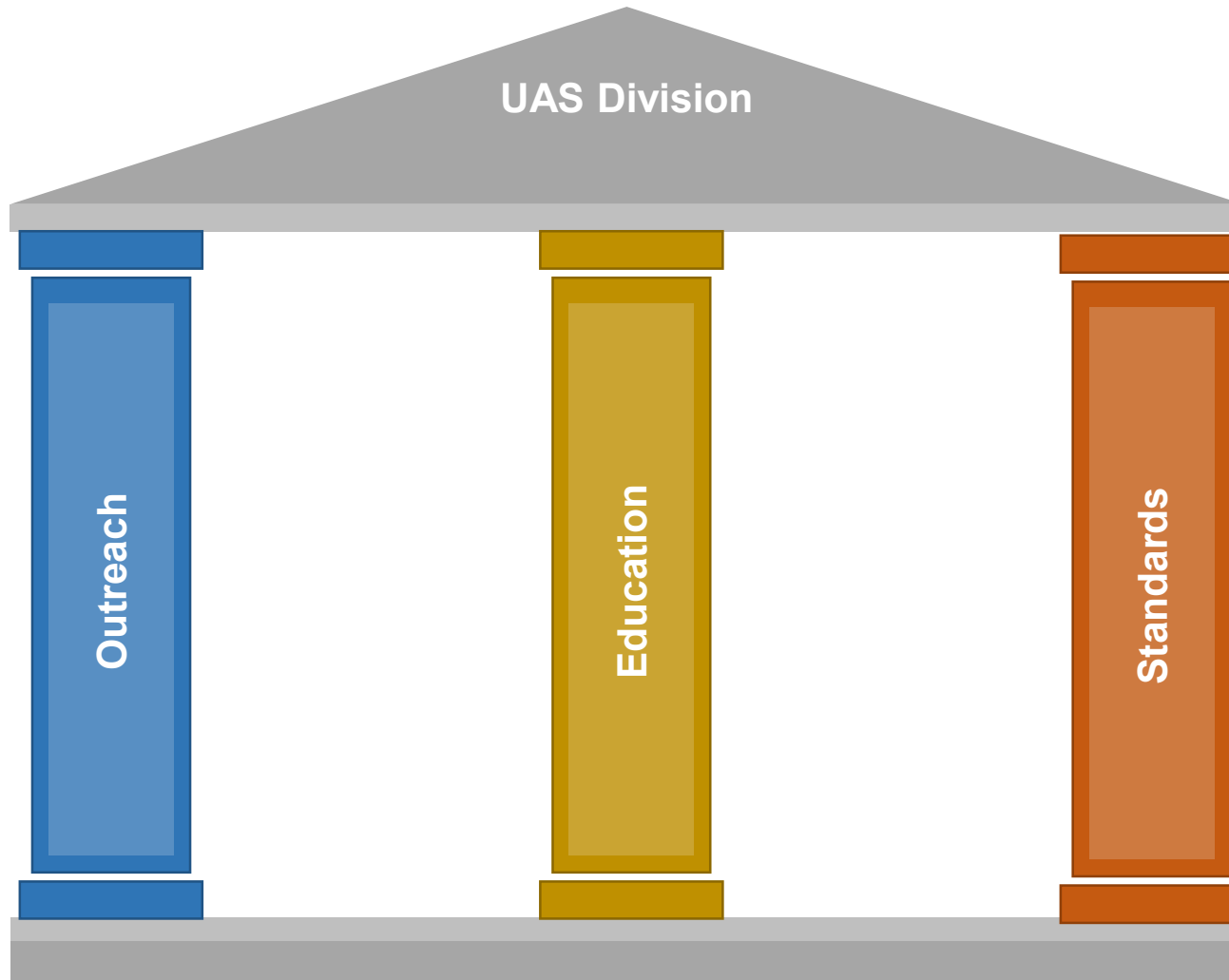
- Founded in 1934
- Volunteer leadership
- US member organization of ISPRS (founded 1910)
- Encompasses many disciplines of the mapping sciences
- Collaboration of
  - academic sector (education and research)
  - government sector (policies, standards, and programs)
  - private sector (practitioners)

# Technical Divisions



- Primary Data Acquisitions (sensors and platforms)
- Photogrammetric Applications (processes and methods)
- GIS (spatial analysis)
- Remote Sensing (image analysis)
- Lidar (Lidar analysis)
- UAS (Drone-based mapping practices)
- Professional Practice (standards, ethics, continuing education)

# 3 Pillars of UASD Mission



**OUTREACH** to expand UAS capabilities awareness and to grow and support the vision of ASPRS. We do this by engaging the ASPRS members and the mapping community on emerging UAS technology, techniques, education, standards, and professional opportunities.

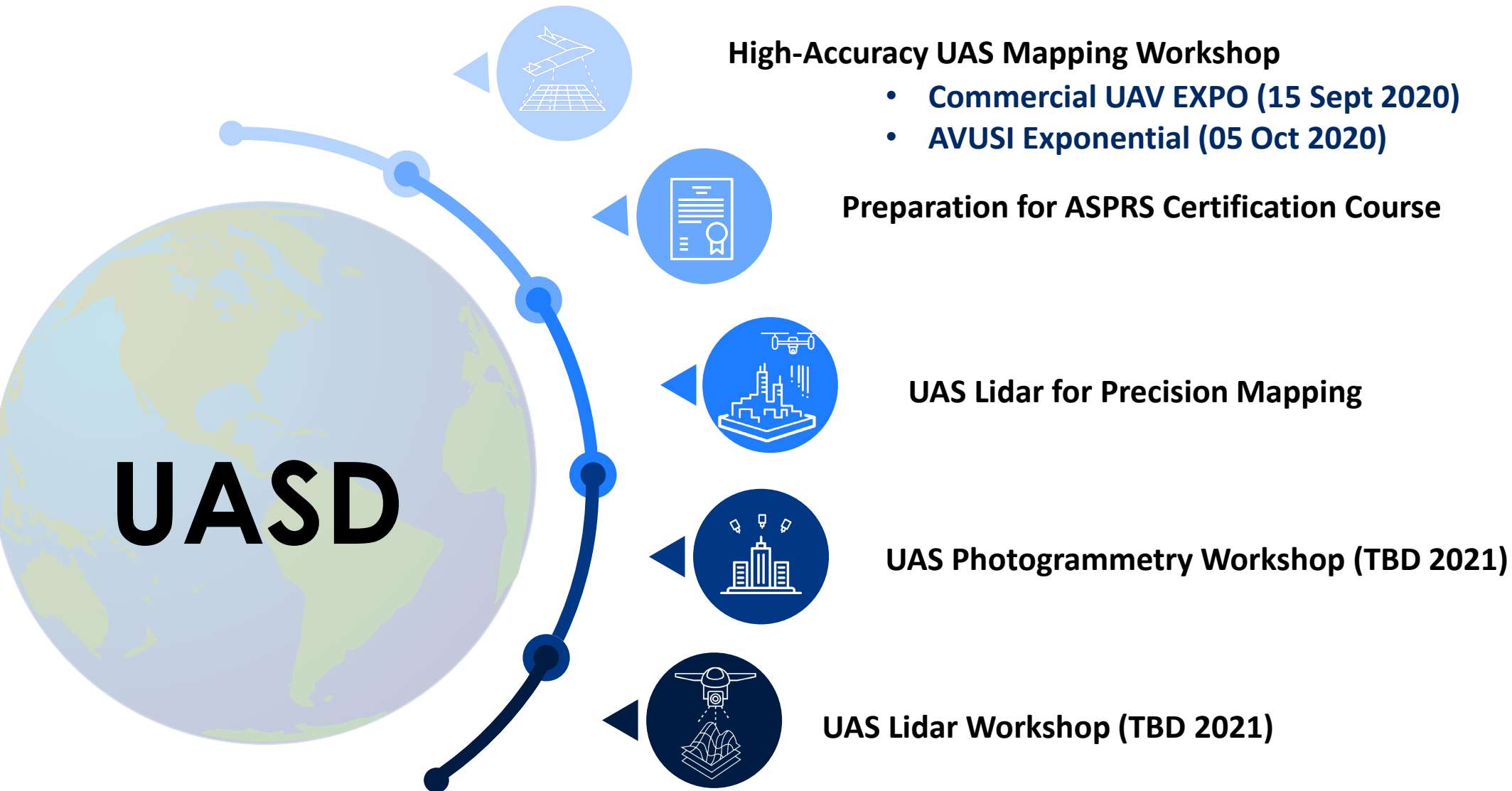
**EDUCATION** to promote a tiered UAS mapping training program to promote successful UAS mapping operations and data delivery. Education programs should also assist professionals in preparing and obtaining their ASPRS certification and professional certification credits..

**STANDARDS** to advance industry standards on emerging UAS Mapping technology and related data accuracy..

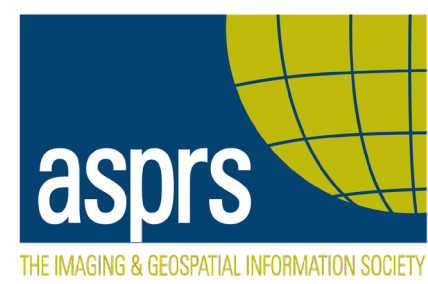
# Today's UAS Mapping Market



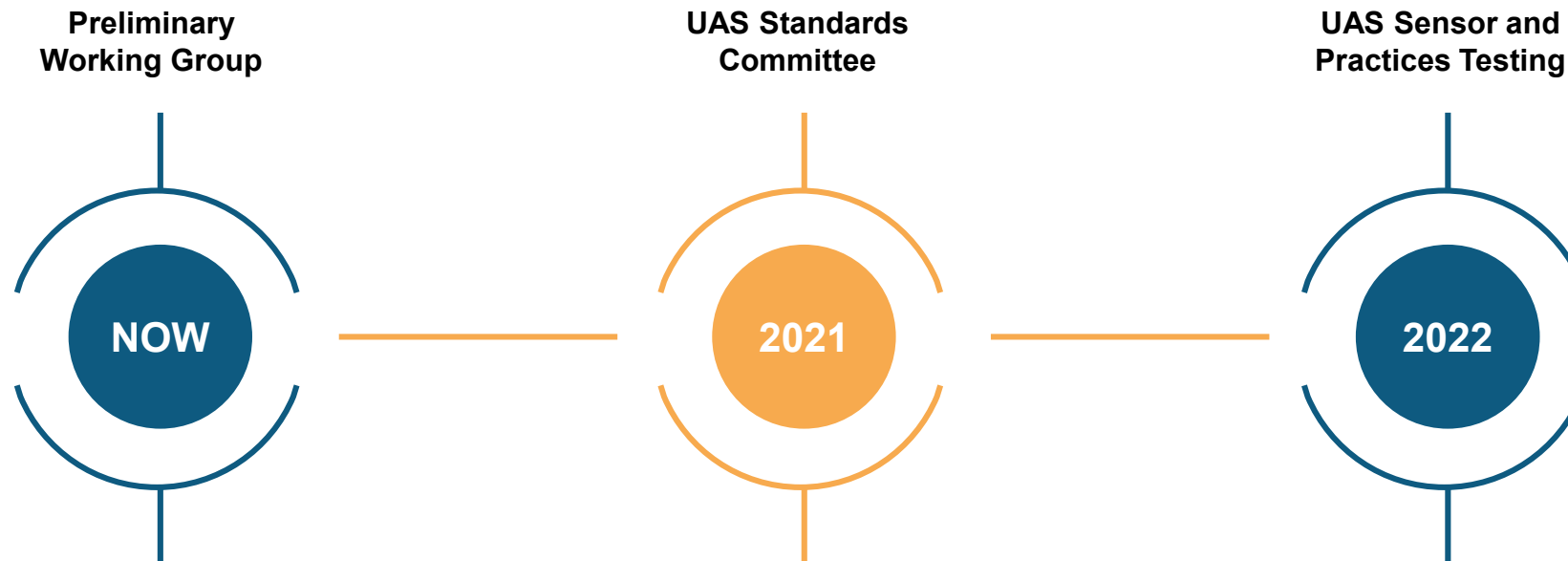
# Education Opportunities



# Standards Initiative



Address the gap between traditional aerial mapping standards and the emerging small project UAS emerging workflow.



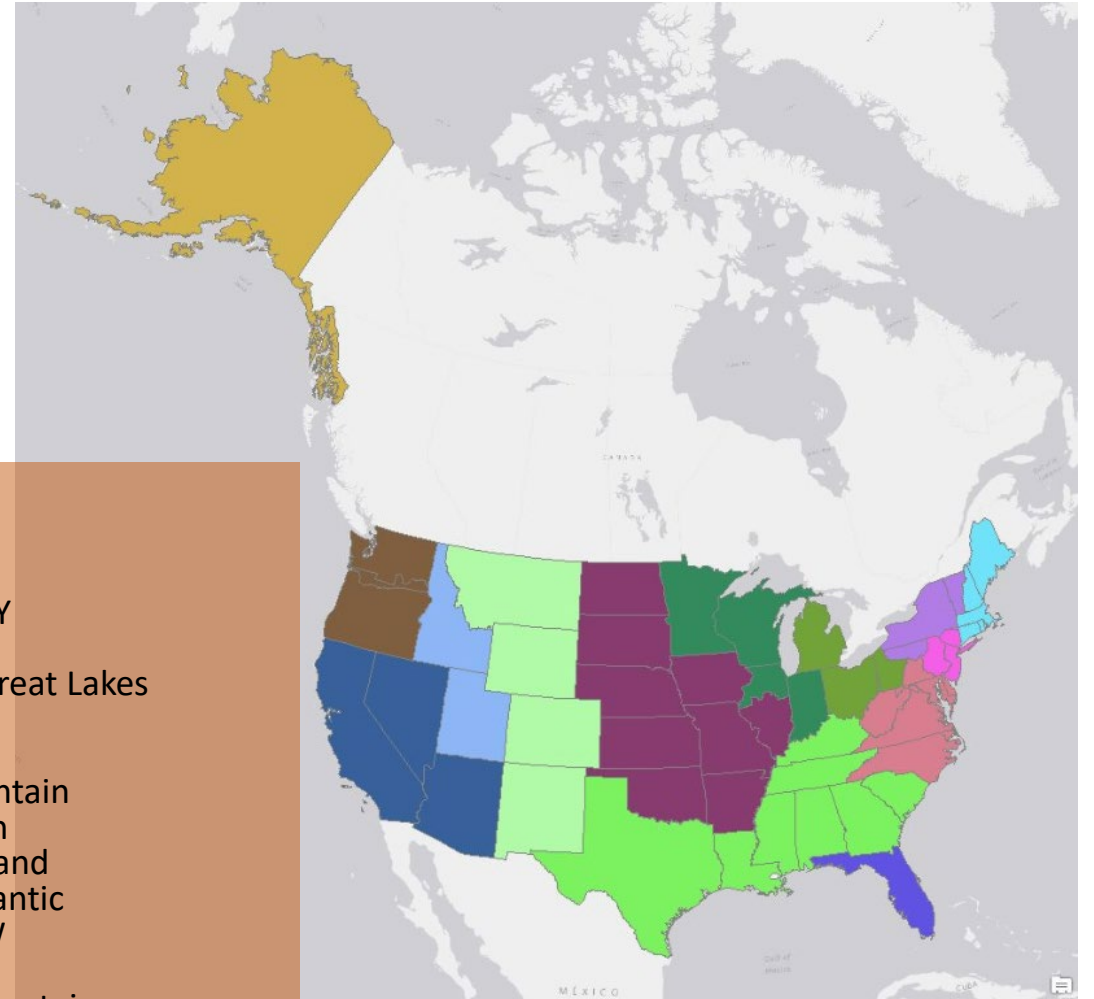


# Get Involved

- **Sign up for a region**
- Take courses
- Get certified
- Become an instructors
- Sponsor research
- Take refresher courses

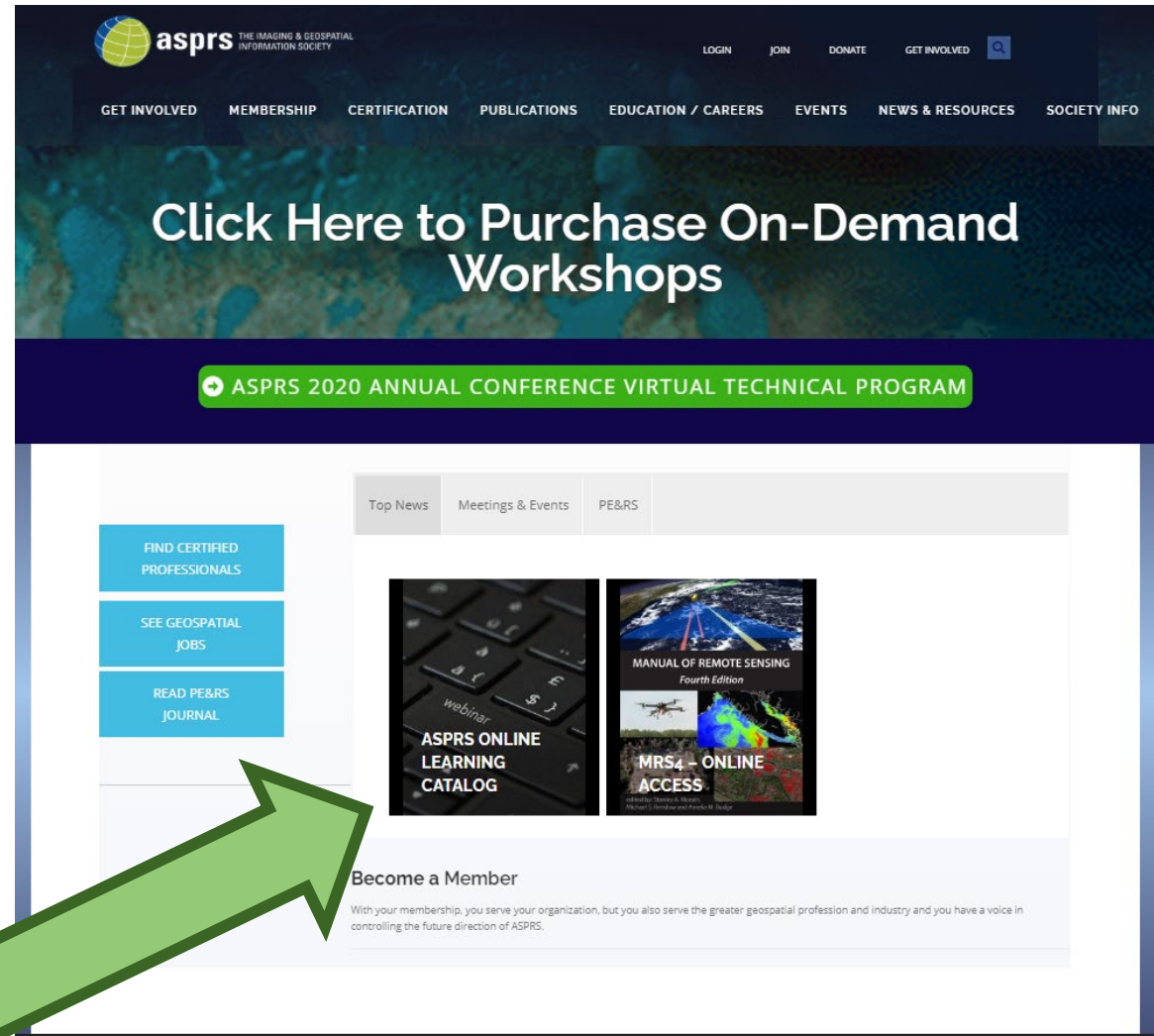
## Regions

- Alaska
- Central NY
- Cascadia
- Eastern Great Lakes
- Florida
- Heartland
- Intermountain
- Mid South
- New England
- North Atlantic
- Pacific SW
- Potomac
- Rocky Mountain
- Western Great Lakes



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## ASPRS offers 5 certification subject areas

- Photogrammetry
- Remote Sensing
- GIS
- LiDAR
- UAS

## ASPRS offers 3 levels of certification

- Professional / Scientist
  - 6 years of relevant experience
- Technologist
  - 3 years of relevant experience
- Intern
  - Relevant university level course work
  - Advisor recommendation

# Get Involved

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# Questions





# Introductory Brief

July 2020



 **LINUX FOUNDATION**  
COLLABORATIVE PROJECTS

The Linux Foundation logo consists of a small square icon with a white 'L' inside. To its right, the words 'LINUX FOUNDATION' are written in a bold, uppercase, sans-serif font. Below this, the words 'COLLABORATIVE PROJECTS' are written in a smaller, uppercase, sans-serif font.

# What is the Dronecode Project?



Flight Control Software



Communications Protocol



Ground Control Station



iOS/Android/Windows/Mac SDK



Flight Controller Hardware Spec

# Who is the Dronecode Project?

- **Governance**
  - Board of Directors selected from Sponsor companies and leadership
- **Project Code Managers**
  - Technical lead acting as the CTO for each sub-project
- **Core Contributors**
  - Developer community leaders responsible for most of the coding: ~7
- **Community Contributors**
  - 260+ individual software developers have contributed code the project
- **Integration and Flight Test**
  - Flight Test team in Tijuana, MX performing simulation and real flight tests each day



# Who sponsors the Dronecode Project?

Auterion



# Why is it Important?

- **Competition**
  - Community can band together and compete with State sponsored companies
- **Efficiency**
  - No duplication of effort on multiple flight control stacks
  - Convergence on Linux unshackled an era of application growth
  - FAA does not have to test and certify as many flight control systems
- **Excellence**
  - All of the big brains can work together and perfect the code and components

# How can you benefit?

- **Standard Training and Operations**
  - All PX4 based UAS have common software update and install procedures
- **Interoperability**
  - User will not be locked into a single hardware vendor
  - User can switch to best hardware at any time
- **Extensibility**
  - User can extend the software or hire someone to do it for them



# AUTOMATIC AERIAL INSPECTIONS

July 15, 2020



**ESSENTIAL**  
AERO

- Experts in Aviation, Mobile Comms, Edge Computing, Cloud Computing, Cyber-Security, and Data Analysis & Visualization
- Tactical Focus: Develop Airport Inspection Platform, Partnerships, build community of Early Adopter Customers
- Strategic Plan: Perfect automation platform, engage broader market
- Partners: 3DR, Auterion, Dronecode Project, InspiredFlight, Impossible Aerospace, FreeFly, FAA, Contra Costa CA, FAA COE TTHP, ESRI, Pix4D

Steve Boyle, CEO  
steve@essentialaero.com  
775-336-8045



**Alliance for Certified Drone  
Manufacture in America  
(ACeDeMiA)**

Arun Murthi

AERO&SPACE USA

# Enabler of Emerged Opportunities

- CARES Act Direct Treasury Loan \$7-\$15 Mil Grant
- Drones vying for “Made in USA” Claim
- Government Owned Aircraft / Flight Services
  - “UAS Made in USA of USA Components”
- Drone Legislation
- National Security – “Open Source Manufacture”
- Strategic Competitors
- Executive Orders

**Aligned with National Priorities**

# Matchmaker and Implementer

- Production Facility with SBA, FAA, DHS & NSA
- Developer with Production Holder
- User CONOP to Certificate Program and Certification Authority Officers
- Operator with Inspector and Air Traffic
- Special Compartmented Information Facility
- Implementer \*
  - Low Rate Initial Production Facility Pathfinder

**\* US SBA Funded FAA Certified Production Facility** <sub>3</sub>



# 14 CFR Part 21 Certification Procedures

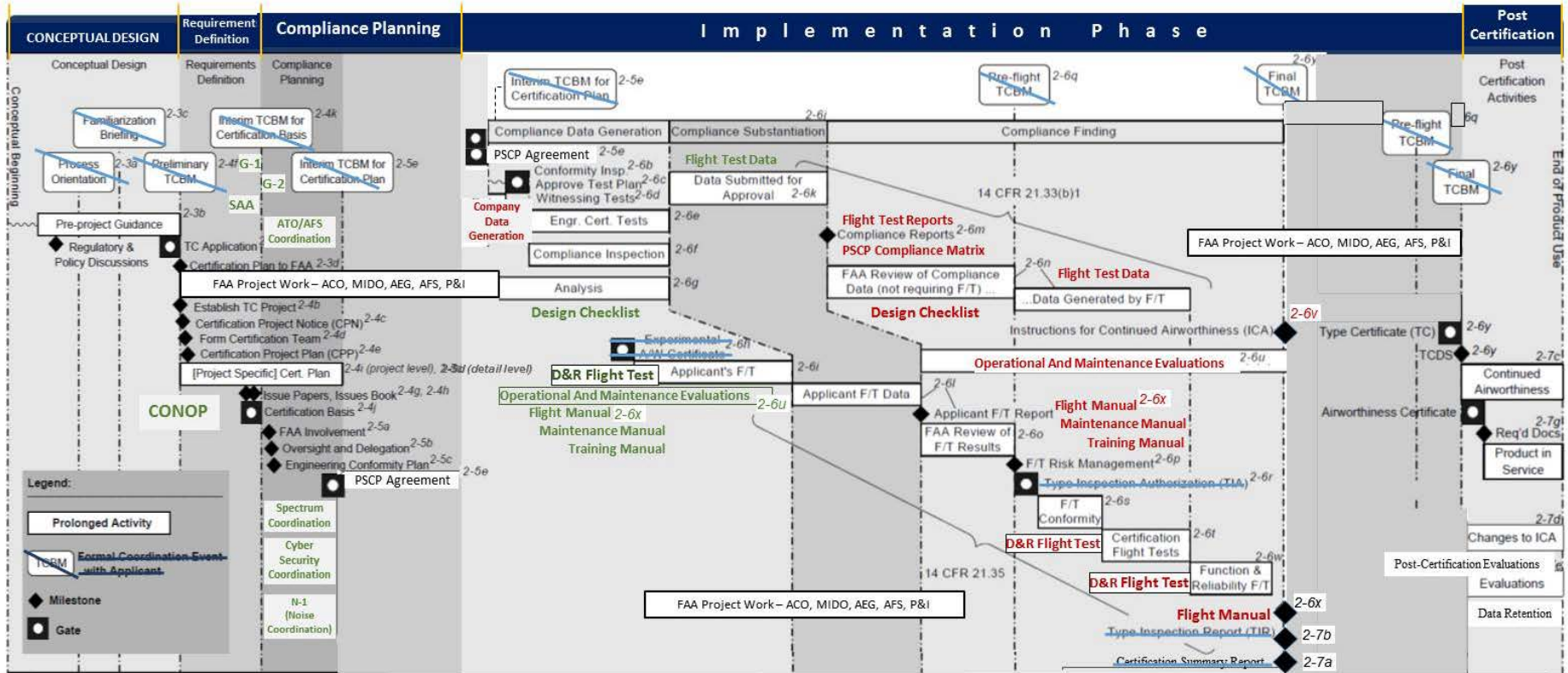
- Provide Open Source Approved Data
- Airworthiness Certificate
- Type Certificate, Including Amendment
- Supplemental Type Certificate
- Operator Licensing
- Design Approval Holder
- Production Approval Holder
- Parts Manufacturer Approval
- Operational Approval
- Cyber Security

***National Airspace Access Use Cases***

# 14 CFR Part 21 Certification Procedures

## MODEL OF ORDER 8110.4 & 8120.22 TYPE AND PRODUCTION CERTIFICATION PROCESS

### LOW RISK UAS PROJECT SPECIFIC



Applicant Engagement with Manufacturing Inspection District Office (MIDO) for PC Guidance

Production Certification Process – Reference AC 21-43A, Order 8120.22A

*Open Sourced Model*

# Eligibility

- Aircraft Platform Materials, including Plastics
- Flight Controllers, Propellers, Batteries
- Radios
- Data transmission devices
- Cameras and Radar, LIDAR
- Gimbals, Gyros, Accelerometers, Magnetometer/  
Compass (Inertial Measurement Unit)
- Servos and Motors (including Core Magnetics)
- Discrete, Solid State, Semiconductors and Processors
- Foundational (PCB, Connector, Wire Harness, Power)

***“UAS Made in USA of USA Components”***

# Public Benefit

- **JOBS! JOBS! JOBS!**
- Private/Public Partnerships
  - Improved infrastructure
  - Safer, Secure performance
- Broader use by the Public and Government
- Enhancing opportunities in underserved communities

***“In the Public Interest”***

# Bio

**Arun K Murthi**, [arunmurthi9@gmail.com](mailto:arunmurthi9@gmail.com) (714) 529-3855

**Senior Software System Safety Specialist, Airworthiness Certification Engineer-Subject Matter Expert/Mentor** – FAA Certification SME & Specialist in Development Assurance of Software, Airborne Electronics Hardware (AEH), and Complex Integrated Aircraft Systems. Listed Author – ARP 4754A, Aircraft and System Design and Development, Standard Private Pilot – Special Light Sport Aircraft (S-LSA).



8/17-8/20 FAA UAS Program Office. Supported LA ACO for 14 CFR Part 21.17(b) Type Certification of Low Risk UAS. Produced guidance material for applicant, and certification criteria for direct compliance findings by LA ACO:

Lead Certification SME achieved acceptance of LA ACO's Drone Code-3DR H-520G UAS Type and Production Certificate to Implementation Phase; Recommended approval of CONOP and produced PSCP with 14 CFR Part 21 (8110.4) Milestones and Deliverables. Witnessed D&R Certification Flight Testing and defined Software Conformity procedures. Assisted in Issue Papers establishing airworthiness requirements (G-1), means of compliance (G-2) and Product Conformity. Obtained sponsorship from FAA AJF Flight Programs and USAF HAFB for Airport, tech. ops. and flight inspection use cases for on-airport Part 91 Drone operations. Assisted AUS in applying system safety, integrity and development assurance principles to assure safety risk acceptance of UAS flight in the NAS-resulting in a new AUS Safety Risk Management (SRM) Order 8040.6.

6/80-8/17: Lead, SW System Safety Certification FAA SATNAV GPS/WAAS/GBAS, SRM IAW AMS & 8040.4 (1994-2009). Evaluated lessons learned from airworthiness, rules, and standards to derive the certification basis/MOC for General Atomics Predator-B/MQ-9 ORA, Safety Case/ORR for USN/USMC BAMS/RQ-4, CoA for Horizontal Transit of Shadow-RQ7 from MCAS Cherry Point to Military Operations Area. Served Seven (7) years as Advisor to NAVAIR Weapons Safety Technical Panels (WSESRB/SSSTRP). Thirty-eight (38) years of experience exclusively in System Safety, ELOS & alternate means/methods of compliance – Lead Safety DER Team - Autonomous Mooney M10 TC, Boeing B767/K46 Tanker (Military Aircraft Certification Office), Bombardier Global Express STC (ISR). Specialist in Development Assurance of Software, Airborne Electronics Hardware (AEH), Cert. of Complex Integrated Aircraft Systems, Means and Methods of Compliance to 14 CFR Parts 23, 25, 27 and 29.1301/1309 – Sikorsky S92/CH-53K. Served on Rogers Commission Space Shuttle STS-51L Accident Investigation Team – Rebaselining Criticality-1 Space Shuttle (Thiokol-USBI-KSC) Hazard Analysis and FMECA. Implemented Nuclear Hardening and Survivability design for Peacekeeper ICBM. Range Safety Officer (RSO) & Probabilistic Risk Assessor (PRA) for NASA Constellation/Space Plane. Listed Author SAE ARP 4754A Aircraft and System Design and Development, Standard Private Pilot – Special Light Sport Aircraft (S-LSA). M.S. Solid State Science And Technology (Electronics), Syracuse University, May 1981. B.S. Engineering, Madras University, India, April 1979. Senior Cambridge Certificate (SCC). Math, Physics & Science, University Of Cambridge, London, England; April 1974.



**AIDA**

Content Management

***AIDA CONTENT MANAGEMENT  
TECHNOLOGY & DRONE MEDIA  
ASSET MANAGEMENT  
PROGRAM***

# AIDA CONTENT MANAGEMENT

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- **Summary and highlights of AIDA Content Management, Inc.:**
    - **AIDACM formed in September 2017 AIDACM with partnership agreement\* with Microstocksolutions**
    - **Successfully developed and commercialized solutions that solve the key challenges that have existed with the content management industry's well publicized metadata challenges with digital assets.**
    - **The Solution Suite is now established within the **content management industry** with **four product revenue channels** with the SaaS Video Meta Hub (VMH), Enterprise workflow, Technology integration and AI/ML based products.**
    - **Invigorating 12 Industries As To Innovative Metadata And Content Management**
    - **Develop and expanding On-boarding platform**
    - **Integration of AI/ML**
    - **Partnership with 2XB Media**
-

# VMH SOLUTION SUITE WITH IFTBD

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- The VMH Solution Suite consists of four individual solutions/offerings:
  - Video Meta Hub (SaaS Cloud Solution) with integration of AI/ML
  - Video Meta Hub Mobile Connect Application for meta tagging on location within the Video Meta Hub (Android)
  - Enterprise Workflow/Process Services (Managed Projects: Archives and Large volume processing/ingestion)
  - Technical Integrations into other workflows

*VRmeta produces a single source of ground truth for any asset it touches*

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# VMH: INVIGORATING INDUSTRIES AS TO METADATA AND CONTENT MANAGEMENT

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○ **DAM/MAM**



○ **GLAM SEGMENT**



○ **Broadcasting**



○ **Video-Journalism**



○ **Healthcare**



○ **Immersive/360 Content**



○ **Marketing**



○ **Ecommerce**



○ **Filmmaking**



○ **Stock Footage**



○ **Drone Video**



○ **Forensic Research**

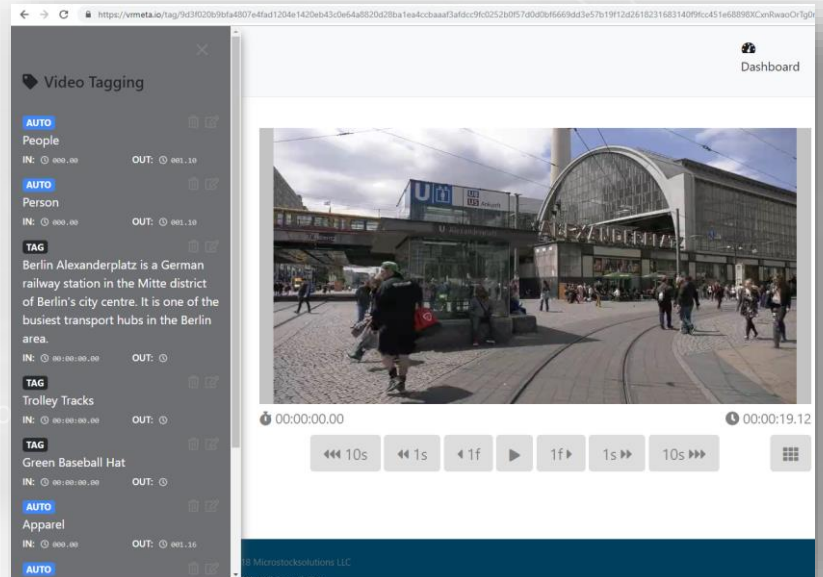
**On-Boarding Support includes up to two hours of industry specific instruction on its application and use.**

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# WELCOME TO THE VMH SOLUTION

## ➤ VMH Solution Technology:

- A revolutionary, ultra-precise targeting tool allowing users to input time-based descriptive metadata to any person, object or event, and record that meta-tag as either an in-frame metric or one based upon the asset time code.
- Or in short: **In frame Time Based Descriptive Metadata (IFTBD)**.
- Technical Capabilities: Unlimited descriptive metadata, Tag orientation in frame, In and out times and duration of tag and Multiple data outputted formats (CSV, Embed XMP, XMP sidecar).



The VMH Solution Suite is for all metadata challenges in the content management and the content management industry spans all industries requiring the use and management of digital assets.

*First Touch Tool For Every Digital Asset*

# VMH FEATURES & FUNCTIONALITY

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- **VMH MAJOR FEATURES & FUNCTIONALITY**
  - **Cloud Based & Secure**
  - **MAM Capability – Adapt your storage needs to manage your digital assets. Quick search capability across all video assets within the VMH**
  - **In-frame, Time-Based Descriptive Metadata (IFTBD) to enable a new level of control of your digital assets and leverage to increase their lifecycle value.**
  - **IPTC keyword, quick tags and caption metadata capability for every popular video asset type**
  - **Export and share both the videos and their corresponding metadata with every known DAM and MAM and postproduction workflow**
  - **Upload Video with .XMP Sidecar or with Embedded Metadata**
  - **Auto-tagging UI which allows for quick editing and enhancement of auto tags.**
  - **Transcription in the cloud thus easy in frame time based meta tagging of any portion of the transcription.**
  - **Smooth Implementation/integration with most media workflow**

# PUBLIC SAFETY/SERVICE UTILITY VALUE

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- **Public Service & Safety Organizations use of Media Asset Management and Metadata with Drone Operation digital asset output dramatically enhances their missions:**
  - **Immediate Or Downstream Intelligence:**
    - **Surveillance And Monitoring Activity**
    - **Incident Scene Evidence**
    - **Forensic Legal Research**
  - **After Action Reporting:**
    - **Evidence Protection**
    - **Disaster Survey and Assessment**
    - **Accident Reconstruction**
    - **Hazmat Calls**
  - **Improve Risk Reduction Assessments**
  - **Facilitate Training Development**

**The Video Meta Hub with the Unique Capability of In Frame Time Based Descriptive Metadata Application Enables this Broad Support for Public Service & Safety Organizations**

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# DRONE OPERATIONS MEDIA ASSET MANAGEMENT PROGRAM

*SECURE THE VALUE OF DIGITAL ASSETS AND DATA*



**DRONE  
MEDIA ASSET MANAGEMENT  
PROGRAM**

**STATE OF  
DRONE  
INDUSTRY**



- **U.S. Commercial Drone industry is expanding**
  - **Number of Operators**
  - **Number of FAA licenses granted**
  - **Penetration of Industries**
- **What does this mean?:**
  - **Drone video data capture by itself will soon be commoditized:**
    - **Lowest cost focus**
    - **Operations moving in-house**
- **Drone Hardware Becoming More Affordable and Increasing Entrants. Result:**
  - **Proliferation Of Entrants Means Consolidation By The Most Efficient**
  - **Future Value Will Derive Through Differentiation of Incremental & Innovative Services**

*SECURE THE VALUE OF DIGITAL ASSETS AND DATA*



**DRONE  
MEDIA ASSET MANAGEMENT  
PROGRAM**

**WHAT DOES THIS  
MEAN FOR DRONE  
INDUSTRY  
BUSINESS?**

**MAM/METADATA SUPPORTS THESE  
DRONE INDUSTRY VERTICALS:**

- *Agriculture*
- *Architecture and construction*
- *Emergency Services*
- *Engineering – Mining; Oil & Gas; Survey Engineering;*
- *Environmental Monitoring and Conservation*
- *Media/Film Production*
- *Training*
- *Telecommunication and Utilities*

- **Drone Services Need To Become More Innovative and Distinct To Create More Value For Clients**
- **Increased Drone Video/Data Value Enabled by **Media Asset Management (MAM)** and The **Application Of Metadata** To Industry Specific Output**
- **Media Asset Management:**
  - **Efficient Storage, Search, Retrieval** of increasing volume of stored **drone video and data**
  - **Rapid Availability and Discovery:** make video assets more discoverable (internal to client's organization) and to prospective external audiences (online)
  - **Improved client deliverables**
- **Keys to Media Asset Management**
  - **Metadata Tagging**
    - **Applying Administrative, Technical and Descriptive keyword/tag/data descriptors to video digital assets/data enabling rapid search and retrieval for presentations, deliverables and reuse**

*SECURE THE VALUE OF DIGITAL ASSETS AND DATA*

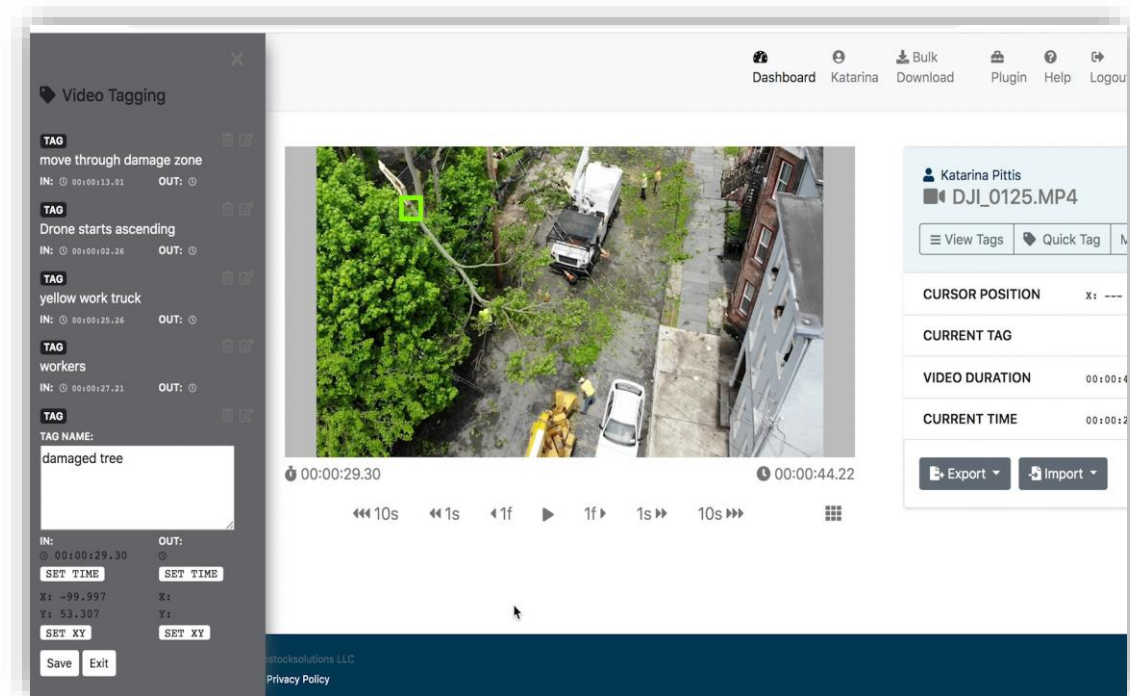


# DRONE MEDIA ASSET MANAGEMENT PROGRAM

## WELCOME TO THE VIDEO META HUB

- The **Video Meta Hub** is a cloud-based **SAAS Solution** to manage digital assets and data and apply metadata on a manual and auto tagged basis
- Meta-tags once applied are available for export in universal formats: **Embedded XMP; CSV files; Data Sidecars for Editing Systems (Premiere, FCP)**
- Digital assets and data can be managed within **Video Meta Hub** for client deliverables

- **IMPROVED DATA TO MEET DELIVERABLE REQUIREMENTS**
- **CLIENT ACCESIBILITY TO DELIVERABLE**
- **IMPROVED PRESENTATION FOR DELIVERABLES AND SALES MATERIAL**
- **IMPROVED SEARCH AND RETREIVAL OF DELIVERABLE**
- **BOTTOM LINE: IMPROVED COMPETITIVE ADVANTAGE**



*SECURE THE VALUE OF DIGITAL ASSETS AND DATA*

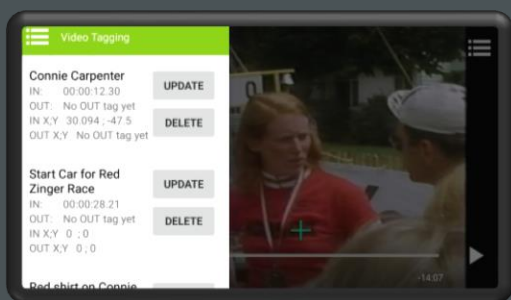
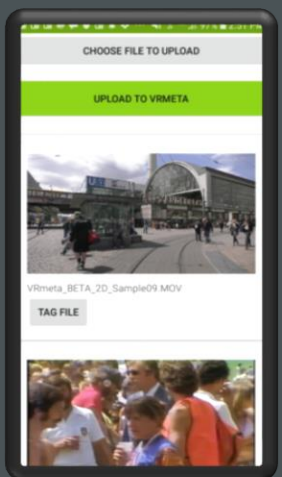




## DRONE MEDIA ASSET MANAGEMENT PROGRAM

# VIDEO META HUB FEATURES & FUNCTIONALITY

Mobile Application  
Smartphones and Tablets



On Location Tagging

- **SMART MAM CAPABILITY:**
  - Multiple tagging methods on a near automated basis
  - Rapid Search, retrieval and discovery for internal and external accessibility and distribution
  - Managed storage for increased digital assets volume
- **Cloud-based and Secure**
- **Innovative In-frame, Time-Based Descriptive Metadata (IFTBD)** to enable object and frame meta-tags for pinpoint retrieval
  - Quick Tags, IPTC keyword and caption metadata capability
- **Auto-tagging UI** which allows for quick editing and enhancement of auto tags
- **Easily grab stills from video**
- Export and share both the videos and their corresponding metadata with postproduction workflows and most **DAM/MAM** solutions
- **Upload Video with Existing Metadata**
- **Transcription of audio in the cloud thus easy in frame time based meta tagging of any portion of the transcription**
- **Companion mobile application for on location work**
- **Data integration with Google Earth for project-based presentation and pre-flight logistics**

*SECURE THE VALUE OF DIGITAL ASSETS AND DATA*



**DRONE  
MEDIA ASSET MANAGEMENT  
PROGRAM**

**PROGRAM SERVICES  
& PRICING**

- **FREE TRIAL PERIOD**
- **FREE VERTICAL SPECIFIC ONBOARDING**
- **LOW MONTHLY COST (3 TIER PRICING)**
- **ATTRACTIVE TIER STORAGE LEVELS**



- **Program Service Support:**
  - **Media Asset Management, Metadata and Data Management Curriculum, Training, Workshops and Webinars.**
  - **Coordinates With Data Solutions Including Drone Mapping, Data Processing, GIS and Google Earth Project Creation**
  - **Supports Drone Data to Create Data Products and Services to Address a Variety Of Applications**
- **Program Pricing Structure**
  - **30 Day Free Trial Period**
  - **Up To Two Hours Of Vertical Specific Onboarding Instruction**
  - **Three Tier Monthly Pricing (Annual Discounts Available):**
    - **\$29.95 with 250G Storage**
    - **\$39.95 with 500G Storage**
    - **\$59.95 with 1TB Storage**
  - **Additional Incremental Storage Available**
  - **Support Access**

*SECURE THE VALUE OF DIGITAL ASSETS AND DATA*



# DRONE OPERATIONS MEDIA ASSET MANAGEMENT PROGRAM

*SECURE THE VALUE OF DIGITAL ASSETS AND DATA*

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[peter.flood@aidacm.com](mailto:peter.flood@aidacm.com)

[jenna.mulvey@aidacm.com](mailto:jenna.mulvey@aidacm.com)

Visit [\*\*AIDACM.COM\*\*](https://aidacm.com) and request demo or sign up for free trial with two hours of industry specific On-boarding instruction

*SECURE THE REAL VALUE OF DIGITAL ASSETS AND DATA*

The VRmeta VMH solution created by Mark Milstein, Managing Director of Microstocksolutions is licensed to AIDA Content Management For Sale, Platform Deployment, On Boarding and Adoption across industries

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**PRODUCTIONS**

**METADATA  
TAGGING:  
A PROCESS  
WORKFLOW FOR  
DRONE  
OPERATORS**



## BACKGROUND

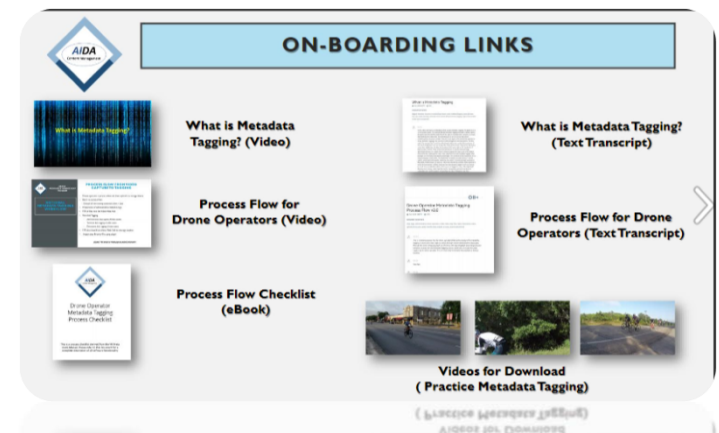
- Tommy Macias, Founder 2XB Media Productions
  - Retired U.S. Air Force Intelligence officer
  - Experience: Employment of UAVs (Predator) in military operations
- 2XB Media's focus: use of non-traditional media platforms to tell a story
  - Drones, 360-degree imagery, Google Earth
- 2XB Books (enhanced eBooks) as a vehicle to package diverse media into one storytelling

# DRONE OPERATIONS AND MEDIA ASSET MANAGEMENT

- 2XB Books: packages & integrates different forms of information
  - Unlocks the potential of digital media
- Caters to personal user preferences:
  - Videos
  - Text articles
  - Transcripts
  - checklists



[2XB Book Link](#)



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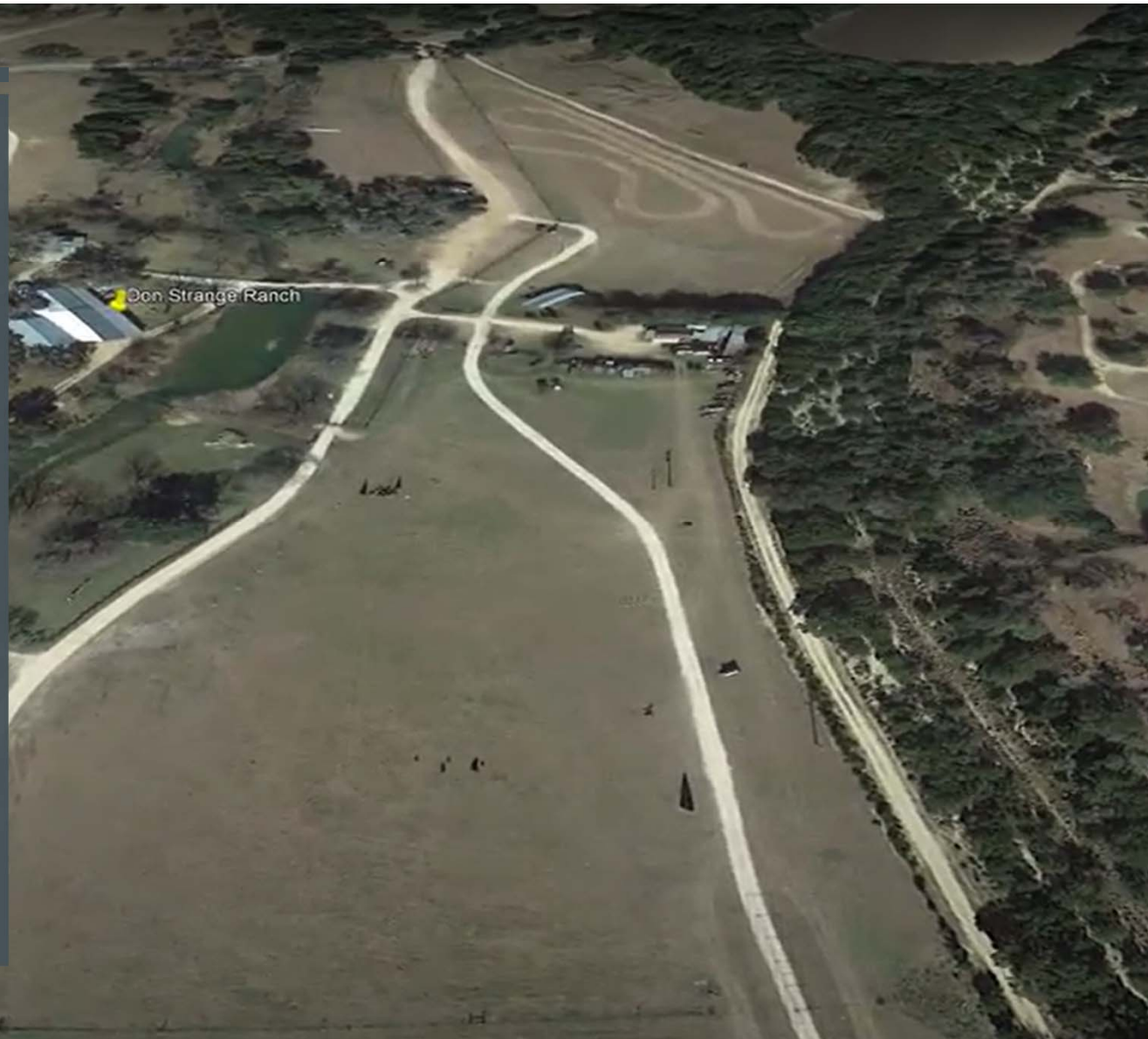
## WHAT IS METADATA AND METADATA TAGGING?

- Metadata is information that describes what is being viewed on screen
  - Typically a small number of words that describe an object or activity
- Metadata can be used as a digital bookmark or “tag” that allows a specific video clip to be rapidly searched and found: Think Google or YouTube
- Metadata “tagging” is using software to insert tags into video or photos
- A user can label their own tags. A best practice is for the vernacular of the activity to provide the tags
  - Tags for a baseball game could include “balls, strikes, hit, out, pitcher, catcher, Seventh Inning Stretch”

**Tagging is not a stand-alone activity, but part of a larger production process**

## AIDACM METADATA FOR DRONE OPERATIONS

- 2XB Book produced for AIDACM
- Training manual on how metadata tagging can be incorporated into the workflow of a drone operator
- Uses a construction site example
- [Google Earth Pre-Survey](#)
- [View from a Drone](#)





# METADATA TAGGING PROCESS CHECKLIST

- Video capture
- File Rename
- Preparation of Metadata tags**
- Video Upload
- Metadata Tagging**
- Collect keywords (taxonomy)
- Video Download



## Metadata Tagging Process Checklist for Drone Operators

- Drone operator captures video and then uploads to storage device
- Batch re-name of files
  - File names auto generated by the recording device are not very descriptive. Give a project- based file name.
- Preparation of administrative metadata tags
  - Identify information that can be used to provide administrative metadata tags. This should be information all video files will have in common. Examples:
    - Site location
    - Date
    - Client Name
    - Other identifying data that will be useful for search purposes
- Video Uploading
  - Upload New Videos within Video Meta Hub
    - Click Upload New Video button
    - Drag and Drop video file
    - Upload single file or multiple files

# Step 3: Identify Administrative Metadata Tags

- Data that identify unique information about a specific project
- Apply to every clip of drone video





The title page features a large aerial photograph of a construction site on the left. A circular 'APPROVED' seal from the Federal Aviation Administration is in the top left corner. The right side of the page has a dark blue background with white text. The Global Air Media logo is at the top, followed by the title 'UAV SURVEY REPORT'. Below the title, it says 'SUBMITTED MAY 18, 2020'. Underneath, it says 'SUBMITTED TO' followed by the client's name and address: 'The Commercial Group, 7464 New Ridge Rd Suite 5, Hanover, MD 21076'. At the bottom, it lists 'PROJECT NO. CG2020-002'.

**APPROVED**  
FEDERAL AVIATION  
ADMINISTRATION

**global**  
air media

**UAV SURVEY  
REPORT**

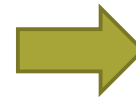
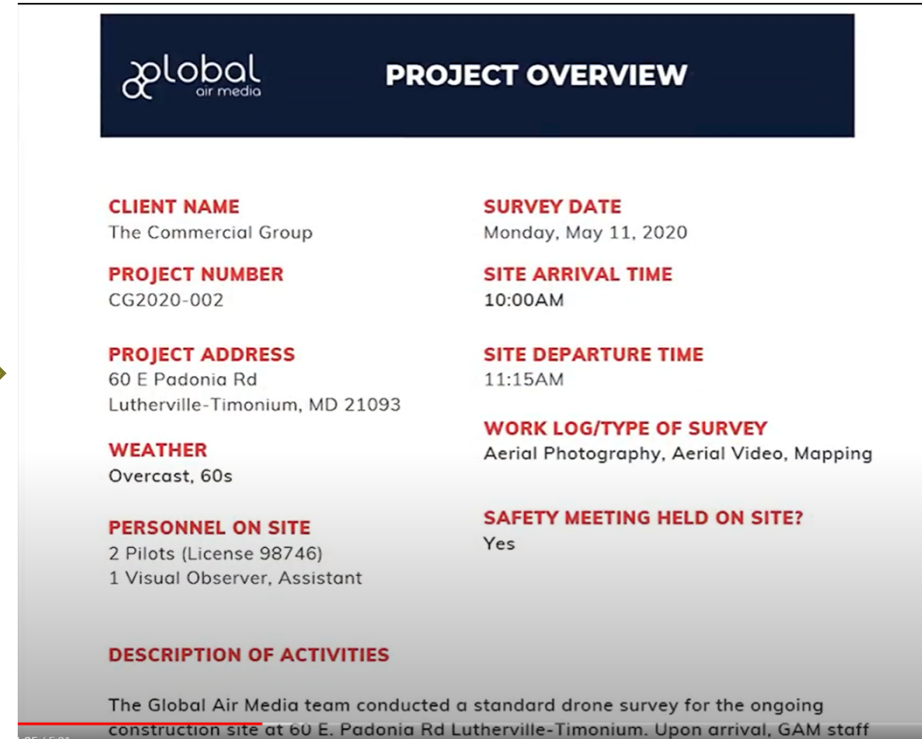
SUBMITTED  
MAY 18, 2020

**SUBMITTED TO**

The Commercial Group  
7464 New Ridge Rd Suite 5  
Hanover, MD 21076

**PROJECT NO. CG2020-002**

Title Page

The Project Overview page has a dark blue header with the Global Air Media logo and the title 'PROJECT OVERVIEW'. The main content area is white with red section headers. It lists key project details in two columns: Client Name, Project Number, Project Address, Weather, Personnel on Site, Survey Date, Site Arrival Time, Site Departure Time, Work Log/Type of Survey, and Safety Meeting Held on Site. A description of activities is at the bottom.

**global**  
air media

**PROJECT OVERVIEW**

**CLIENT NAME**  
The Commercial Group

**PROJECT NUMBER**  
CG2020-002

**PROJECT ADDRESS**  
60 E Padonia Rd  
Lutherville-Timonium, MD 21093

**WEATHER**  
Overcast, 60s

**PERSONNEL ON SITE**  
2 Pilots (License 98746)  
1 Visual Observer, Assistant

**SURVEY DATE**  
Monday, May 11, 2020

**SITE ARRIVAL TIME**  
10:00AM

**SITE DEPARTURE TIME**  
11:15AM

**WORK LOG/TYPE OF SURVEY**  
Aerial Photography, Aerial Video, Mapping

**SAFETY MEETING HELD ON SITE?**  
Yes

**DESCRIPTION OF ACTIVITIES**

The Global Air Media team conducted a standard drone survey for the ongoing construction site at 60 E. Padonia Rd Lutherville-Timonium. Upon arrival, GAM staff

Administrative Data

PROJECT OVERVIEW	
<b>CLIENT NAME</b> The Commercial Group	<b>SURVEY DATE</b> Monday, May 11, 2020
<b>PROJECT NUMBER</b> CG2020-002	<b>SITE ARRIVAL TIME</b> 11:15 AM
<b>PROJECT ADDRESS</b> 60 E Padonia Rd Lutherville-Timonium, MD 21093	<b>WORK LOG/TYPE OF SURVEY</b> Aerial Photography, Aerial Video, Mapping
<b>WEATHER</b> Overcast, 60s	<b>SAFETY MEETING HELD ON SITE?</b> Yes
<b>PERSONNEL ON SITE</b> 2 Pilots (License 98746) 1 Visual Observer, Assistant	
<b>DESCRIPTION OF ACTIVITIES</b> The Global Air Media team conducted a standard drone survey for the ongoing construction site at 60 E. Padonia Rd Lutherville-Timonium. Upon arrival, GAM staff checked in with site and safety personnel. GAM set up staging and take off area & completed pre-flight checks. Total time in air was approx 50mins.	

Administrative Tags	IPTC Caption (Description of Activities)
The Commercial Group, Monday, May 11 2020, CG2020-002, 60 E Padonia Rd Lutherville-Timonium MD 21093, Overcast, 60 degrees	The Global Air Media team conducted a standard drone survey for the ongoing construction site at 60 E. Padonia Rd Lutherville-Timonium upon arrival, GAM staff checked in with site and safety personnel. GAM set up staging and take off area & completed pre-flight checks.

Administrative Data

The screenshot shows the VRmeta interface with a video player on the left and a metadata panel on the right. A 'Quick Tag' dialog box is open, showing a text input field containing 'VD 21093, Overcast, 60 degrees'. The dialog has 'Reset', 'IN Tag', and 'OUT Tag' buttons. A red arrow originates from the 'Administrative Tags' column of the data table and points to the video player. Another red arrow originates from the video player and points to the 'Quick Tag' dialog. A blue arrow points to the 'IN Tag' button.

Video Clip

Administrative Metadata Tag

VRmeta Tag Video | VRmeta

https://vrmeta.io/tag/9c37e0b68472e9f050205446493fa8f183684a7753dcb5e37d4f80d40507fff49ec1f1ba53687424a804e7af4c2d07f1a8d2

Dashboard Thomas Download Plugin Help Logout

**Video Caption**

The Global Air Media team conducted a standard drone survey for the ongoing construction site at 60 E. Padonia Rd Lutherville-Timonium. Upon arrival, GAM staff checked in with site and safety personnel. GAM set up staging and take off area & completed pre-flight checks. Total time in air was approx 50mins.

**Video Tagging**

**QUICK TAG**

The Commercial Group, Monday, May 11 2020, CG2020-002, 60 E Padonia Rd Lutherville-Timonium MD 21093, Overcast, 60 degrees

IN: 00:00:00.00 OUT: 00:00:02.17

00:00:00.00 00:00:02.18

Cursor Position: X: 53.000 Y: 13.900

Current Tag: X: 7.500 Y: 44.9 T: 00:00:00.00

Video Duration: 00:00:02.18

Current Time: 00:00:00.00

Export Import

Previously renamed tag

Previously entered Administrative tag

Descriptive Tag: Skid Steer Loader

[Link to Clip](#)

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# Take-Aways

- Metadata tagging is one part of a larger process that leads to discoverability
- Tagged video is more valuable than untagged – even if visual content is exactly the same
- Discoverability = Money
  - Saves time, saves on production, leads to a higher quality output
  - Upfront effort required, but benefits are long-term



**PRODUCTIONS**  
[www.2XBMedia.com](http://www.2XBMedia.com)

QUESTIONS?