

# Agenda

Presented by Chuck Adams

Overview of Unmanned Aircraft Systems (UAS) in Engineering

- Engineering applications for UAS
  - Asset integrity – visual inspections today
  - Preventative Maintenance
  - Mapping
  - Thermal
  - Monitor progress
  - Decommissioning sites
  - Site reconnaissance
  - Improve safety, productivity & cost effectiveness
  - Visual inspection technologies and digitalization

Types of UAS for visual inspections

Digital twins and 4D technology

Economics of using UAS

In-house vs. outsource UAS

UAS Regulations, Risk and Liability

- Federal and state regulation of drones
- FAA remote pilot certification
- Liability risks
- Commercial drone insurance

Automated Visual Inspection Mapping with UAS

- Benefits                      Software
- Process                      Visual data management and analysis

UAS Confined Space Tank Inspections - Maintain Safety and Quality

- Monitoring construction progress
- Maintaining safety
- Quality control
- Emissions

UAS to Conduct Periodic Structural Inspections

- High-risk inspections
- UAS inspection capabilities
- Case studies
- Artificial intelligence (AI) for change detection

Artificial Intelligence, Machine Learning Introduction for Engineering Applications

- How AI increases drone efficiency
- With AI, drones can learn to interpret thermal data, identify people, and assess danger zones

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## Drone Applications for Engineers

Live, Interactive Webinar - Thursday, February 15, 2024

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HalfMoon Education Inc.  
PO Box 278  
Altoona, WI 54720-0278



## Learning Objectives

*You'll be able to:*

- Get** an overview of Unmanned Aircraft Systems (UAS) in engineering.
- Explore** UAS regulations, risk and liability.
- Examine** automated visual inspection mapping with UAS.
- Discuss** UAS confined space tank inspections.
- Study** use of UAS to conduct periodic structural inspections.
- Examine** how Artificial Intelligence increases drone efficiency.

### HalfMoon Education Live Webinars

# Drone Applications for Engineers

Live, Interactive Webinar - Thursday, February 15, 2024



- |  |   |
|--|---|
| <b>Get</b> an overview of unmanned Aircraft Systems (UAS) in engineering | <b>Discuss</b> UAS confined space tank inspections                    |
| <b>Explore</b> UAS regulations, risk and liability                       | <b>Study</b> use of UAS to conduct periodic structural inspections    |
| <b>Examine</b> automated visual inspection mapping with UAS              | <b>Examine</b> how artificial Intelligence increases drone efficiency |

### Continuing Education Credits

**Professional Engineers**  
6.0 PDHs  
(no credit for NY engineers)



# Webinar Information

<b>Log into Webinar</b> 9:00 - 9:30 am CST	<b>Break</b> 12:30 - 1:15 pm CST
<b>Morning Session</b> 9:30 am - 12:30 pm CST	<b>Afternoon Session</b> 1:15 - 4:50 pm CST

**Tuition**  
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# Faculty

**Chuck Adams CEO**  
*1UP Aerial Drone Services, headquartered in Golden, CO*  
Mr. Adams is CEO of 1UP Aerial Drone Service, which sells drones and sensors, and provides expert consultation and aerial services to a range of industries, including engineering, oil and gas, commercial real estate, land development, construction, and surveying. Mr. Adams is an FAA Part 107 certified pilot, and a tenured information technology and cloud industry veteran who has spent more than 25 years in the high-tech industry, the last eight in unmanned aircraft systems, artificial intelligence, and machine learning.

# Credit Information

This webinar is open to the public and is designed to qualify for 6.0 PDHs for professional engineers in most states that allow this learning method. This course is not approved in New York; please refer to specific state rules to determine eligibility.

HalfMoon Education is an approved continuing education sponsor for engineers in Florida (Provider License No: CEA362), Indiana (License No. CE21700059), Maryland, New Jersey (Approval No. 24GP00000700) and North Carolina (S-0130).

Attendance will be monitored, and attendance certificates will be available after the webinar for those who attend the entire course and score a minimum 80% on the quiz that follows the course (multiple attempts allowed).

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# Additional Learning

- Adaptive Residential Use of Commercial Buildings**  
- Thursday, January 25, 2024 | 9:30 am - 4:25 pm CST
  - Cold-Formed Steel Frame Design for Small Commercial Buildings**  
- Thursday, January 25, 2024 | 8:30 am - 4:30 pm CST
  - Moisture Management and Protection Strategies for Mass Timber Buildings**  
- Thursday, January 25, 2024 | 12:00 - 2:00 pm CST
  - National Electrical Code 2023: Grounding and Bonding**  
- Thursday, January 25, 2024 | 8:30 am - 4:20 pm CST
  - Stormwater Basins: Design, Construction and Maintenance**  
- Thursday, January 25, 2024 | 8:30 am - 4:00 pm CST
  - Fire Sprinkler System Design and Installation**  
- Friday, January 26, 2024 | 9:00 am - 4:30 pm CST
  - Electrify Everything: Retrofitting Residential and Small Commercial Buildings**  
- Monday, January 29, 2024 | 9:00 am - 4:00 pm CST
  - Designing Accessible Pedestrian Facilities under ADA, IBC and PROWAG**  
- Tuesday, January 30, 2024 | 8:30 - 11:45 am CST  
- Wednesday, January 31, 2024 | 8:30 am - 12:15 pm CST
  - How to Analyze Common Construction Defects and Failures**  
- Wednesday, January 31, 2024 | 2:00 - 4:00 pm CST
  - Residential Wiring Basics under the National Electrical Code**  
- Wednesday, January 31, 2024 | 9:00 am - 4:00 pm CST
  - Current Issues in Geothermal Energy Production**  
- Thursday, February 1, 2024 | 8:30 am - 4:30 pm CST
  - Deep Foundations and Excavations**  
- Thursday, February 1, 2024 | 8:30 am - 5:00 pm CST
  - Air Barriers and Exterior Cladding**  
- Monday, February 5, 2024 | 9:00 am - 4:00 pm CST
  - Tiny House Design and Construction**  
- Wednesday, February 7, 2024 | 9:00 am - 5:15 pm CST
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