

# Vertical [www.verticalmag.com](http://www.verticalmag.com) 911

THE PULSE OF THE HELICOPTER INDUSTRY

# THE H145. MAKES LANDING IN A STORM A BREEZE.



**FLY**  
**WE MAKE IT**

It's no surprise the H145 is the helicopter of choice for rescue missions. Whether at sea, on a mountain or in a blizzard, it can bring help to where it's needed. Compact and versatile, it provides outstanding flight performance under the most extreme conditions.

Resilience. We make it fly.



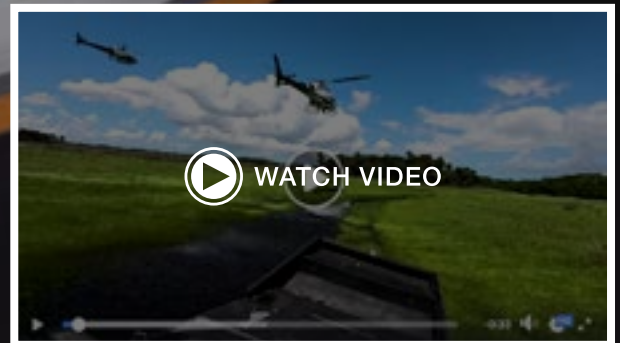
# Vertical **911**

www.verticalmag.com

THE PULSE OF THE HELICOPTER INDUSTRY

## **Seminole** **County Sheriff**

Multi-mission Specialists



**CALIFORNIA  
HIGHWAY PATROL**  
Hoist training overhaul

**AUSTRIAN POLICE**  
Alpine pioneers

**YEAR OF THE CYCLONE**  
Progress for the CH-148

# THE H145. MAKES LANDING IN A STORM A BREEZE.



**FLY**  
**WE MAKE IT**

It's no surprise the H145 is the helicopter of choice for rescue missions. Whether at sea, on a mountain or in a blizzard, it can bring help to where it's needed. Compact and versatile, it provides outstanding flight performance under the most extreme conditions.

Resilience. We make it fly.







# PNG

The Mission Wireless Intercom



**Axnes**

**Axnes Inc. - USA**

719-722-1770

**Axnes AS - Norway**

+47 37 04 08 00

For product inquiries:

post@axnes.com

[axnes.com](http://axnes.com)

# Factory Authorized **BendixKing** Service Center & Dealer!



**PAG**  
PRECISION AVIATION GROUP, INC.

- Accessories
- Avionics
- Hydraulics
- Instruments
- MRO Services
- Starter Generators
- Wheels & Brakes

**IS MRO**  
Inventory Supported  
Maintenance Repair Overhaul

- 9 global locations give you just-in-time MRO support
- \$39.4 million inventory / 100,000 line items
- Largest rotatable pool of avionics
- OEM Authorized stocking distributor
- AOG Support teams available 24/7

**Authorized Distributor and MRO Center for the entire *BendixKing* product line of integrated:**

Audio Panels & Accessories | Autopilots & Indicators | Displays | Flight Decks  
Navigation & Communication Equipment  
Safety, Terrain & Radar Systems

Call us today to learn more, or visit  
[www.precisionaviationgroup.com/bk](http://www.precisionaviationgroup.com/bk).

**Visit us at APSCON, Booth #437**







## ON THE COVER

An Airbus H125 operated by the Seminole County Sheriff's Office (SCSO) in Florida. Recently completed by Metro Aviation, the aircraft was on display earlier this year at HAI Hel-Expo 2018 in Las Vegas, Nevada, and is now hard at work supporting the SCSO's diverse operations.

MIKE REYNO PHOTO

# Contents



## TECHNOLOGICAL ADVANTAGE

How an advanced new Airbus H125 is supporting the missions of the Seminole County (Florida) Sheriff's Office.

BY DAYNA FEDY

### 34 SHOW OF FORCE

Photos from this year's Special Operations Forces Industry Conference in Tampa, Florida.

BY DUANE HEWITT

### 38 HIGH PRIORITY

FinnHEMS reflects Finland's commitment to high-quality air medical services.

BY JON DUKE

### 58 SETTING A NEW STANDARD

How the California Highway Patrol overhauled its hoist training.

BY DAN MEGNA

### 68 YEAR OF THE CYCLONE

The CH-148 Cyclone has achieved initial operating capability.

BY LISA GORDON

### 76 BEYOND THE FRAT: LEARN TO SAY NO

Two LAPD pilots share lessons learned in risk management in part 2 of a series.

BY JACK H. SCHONELY & MARK BOLANOS

### 82 MISSION POSSIBLE

Behind the scenes with Austrian Police Air Support.

BY TOMAS KIKI

## Columns

- 10 Focus On Professionalism
- 12 HAA Corner
- 14 Focus On Safety
- 98 Final Approach

## In Every Issue

- 16 RotorBeat
- 92 Marketplace



# The Team

## Facebook Photo Contest

### Congratulations, Joerg Schnell

June Winner



#### Have a great photo to share? We want to see it!

If you have a helicopter-themed photo you'd like to share, post it to our Facebook page at [www.facebook.com/verticalmag](http://www.facebook.com/verticalmag), or share it on Instagram using the hashtag #verticalmag. In addition to receiving prizes, our weekly winners have their photos featured on our home page and in *Vertical Daily News*, our daily email newsletter.

## InstaHeli Highlight



#### Are you on Instagram?

We recommend you check out one of our favorite accounts, **@combataviator**

## Publishers

**GROUP PUBLISHER** | Mike Reyno, [mike@mhmpub.com](mailto:mike@mhmpub.com)  
**GROUP PUBLISHER** | Linda Reyno, [linda@mhmpub.com](mailto:linda@mhmpub.com)  
**ASSOCIATE PUBLISHER** | Derek Kast, [derek@mhmpub.com](mailto:derek@mhmpub.com)

## Editors

**EDITOR-IN-CHIEF** | Oliver Johnson, [oliver@mhmpub.com](mailto:oliver@mhmpub.com)  
**VERTICAL 911 EDITOR** | Elan Head, [elan@mhmpub.com](mailto:elan@mhmpub.com)  
**ASSISTANT EDITOR** | Ben Forrest, [ben@mhmpub.com](mailto:ben@mhmpub.com)  
**JR. EDITOR** | Dayna Fedy, [dayna@mhmpub.com](mailto:dayna@mhmpub.com)  
**COPY EDITOR** | Amitav Dash, [amitav@mhmpub.com](mailto:amitav@mhmpub.com)

## Sales

**SALES & MARKETING DIRECTOR** | Tim Muise, [tim@mhmpub.com](mailto:tim@mhmpub.com)  
**MARKETPLACE SALES MANAGER** | Carla McKay, [carla@mhmpub.com](mailto:carla@mhmpub.com)  
**CIRCULATION MANAGER** | Leanne Willis, [leanne@mhmpub.com](mailto:leanne@mhmpub.com)

## Design & Web

**PRODUCTION MANAGER** | Jen Colven, [jen@mhmpub.com](mailto:jen@mhmpub.com)  
**GRAPHIC DESIGNER** | Kaytlyn Wismayer, [kaytlyn@mhmpub.com](mailto:kaytlyn@mhmpub.com)  
**WEB DEVELOPER** | Shawn Pieters, [shawn@mhmpub.com](mailto:shawn@mhmpub.com)

## Contributing Writers

Mark Bolanos, Jon Duke, Dan Foulds, Lisa Gordon, Duane Hewitt, Tony Kern, Tomas Kika, Mary Ann Koenig, Dan Megna, Jack H. Schonely, Bill Winn

## Contributing Photographers

Sheldon Cohen, Glenn Grossman, Duane Hewitt, Lloyd Horgan, Tomas Kika, Jennifer Kusche, Raymond Kwan, Anthony Laviolette, Dan Megna, Heath Moffatt, Skip Robinson

## Our Publications



#### In Canada:

500 Trillium Dr., Unit 23, Kitchener, ON N2R 1E5

#### In the United States:

701 S. Main Street, Fall River, WI 53932



**PUBLISHED AND PRODUCED BY:** MHM Publishing Inc.

**SUBSCRIPTION INQUIRIES CALL TOLL-FREE:** 866.834.1114

*Vertical Magazine* (ISSN 1703-8812) is published six times per year (Dec/Jan, Feb/Mar, Apr/May, Jun/Jul, Aug/Sept, Oct/Nov) by MHM Publishing Inc., paid at Fall River, WI. Postmaster please send address changes to: *Vertical Magazine*, PO Box 8, Fall River, WI, 53932.

All material published remains the copyright of MHM Publishing. No part of this publication in whole or in part may be reproduced without written permission from the publisher. Editorial published in *Vertical Magazine* does not necessarily reflect the views of the publisher. Information contained within *Vertical Magazine* is believed to be accurate, but the publisher assumes no responsibility for errors. *Vertical* will consider unsolicited, quality stories and pictures, but the publisher cannot assume any responsibility for the safe return of submitted material.

© Copyright 2018 MHM Publishing Inc.

International Serial Number ISSN 1703-8812

Canadian Publication Mail Agreement Number: 40741549

Postmaster: If undeliverable, return mailing label only.

Printed in U.S.A.

*Vertical* is proud to be a member of



**Subscribe to Vertical News**  
[verticalmag.com/subscribe](http://verticalmag.com/subscribe)



**Read the Magazine Online**  
[verticalmag.com/issues](http://verticalmag.com/issues)



**Follow us on Twitter**  
Follow @verticalmag



**Like us on Facebook**  
[facebook.com/verticalmag](http://facebook.com/verticalmag)



**Follow us on LinkedIn**  
[linkedin.com/company/vertical-magazine](http://linkedin.com/company/vertical-magazine)



**Follow us on Instagram**  
Follow @verticalmag



**Watch videos on Vimeo**  
[vimeo.com/mhmmmedia](http://vimeo.com/mhmmmedia)



**Shop Vertical Merch**  
[shopcanada.mhmpub.com](http://shopcanada.mhmpub.com)  
[shopinternational.mhmpub.com](http://shopinternational.mhmpub.com)





# FROM DOWNLINKS TO DRONES

**Do you have the right partner for your evolving technology needs?** Whether unique system component, specialized sUAS, turn-key mission solution or complete aerial service, Helinet innovates without equal. We envision, create and support the most comprehensive airborne, maritime, ground and mobile response capabilities with wireless transmission, bidirectional communication & control, encrypted digital data sharing, and rapidly deployable networks. From Uplink to Downlink to Tactical Drone, First Responders know it's best to choose Helinet.

**Visit Helinet at APSCON Expo 2018**

**Booth: 601**

**Contact us: +1.818.902.0229 or [info@helinet.com](mailto:info@helinet.com)**

[HELINET.COM/AS](http://HELINET.COM/AS)



# Column

Focus on Professionalism // **Tony Kern**



**Where  
do our  
dreams  
go to die?**

Have you ever wondered where the passion goes as we get deeper into our careers? Is passion a renewable resource or something that we naturally burn up as we log hours and years? Is it only for the young and enthusiastic? Something we naturally grow out of?

These are important questions to individuals and organizations trying to improve their safety and efficiency in a demanding and dynamic environment. The reason passion is so important to first responders is that it drives performance above standards. When you are passionate about something, “good enough” is never good enough. When you are passionate, you seek to *excel* — the root word of excellence.

I’ve been doing some research on Levels of Professionalism across an aviator’s career line lately, and discovered some interesting, but disturbing data points. As a starting point, I’ve worked from a model developed for *Going Pro: The Deliberate Practice of Professionalism* (2007, Northslope Publications). The quick overview is that Level I Professionals are mere members of a profession; Level IIs are fully compliant; Level IIIs are fully compliant, actively engaged, and continuously improving on their own. These men and women are logging lessons, not just hours. Level IVs are Level IIIs who have decided to take on apprentices and pass along their best practices and wisdom. They are the *mentors*.

My early analysis on career progression indicates that almost everyone *enters* our industry as a Level III professional, fully compliant, fully engaged, and getting better every day. They are out to prove themselves, to demonstrate to their peers and organization that they have what it takes. And perhaps most importantly, they are enjoying it. But somewhere between their second and fifth year on the line, *something happens*. A large majority of this motivated group slip into noncompliant behaviors and lose their passion to improve. By year seven, over half slide backwards from Level III to Level I — and many never recover. From this data point, one might assume that passion is indeed an expendable resource.

There are many possible *excuses* for this, but few good *reasons*. I’ve heard from a host of professional aviators that it might stem from a variety of factors: culture, poor role models, schedule pressures, boredom, complacency, or simply a lack of challenges after learning the ropes of the aircraft, organization, and mission. These are things that seem to empty our passion reserves at an accelerated burn rate.

There are certainly organizational factors involved, but few organizational solutions. In the final analysis, it is up to each and every one of us to see and avoid these traps. If we want to remain engaged in our passion to fly, the very thing that drew us to this wonderful profession in the first place, we have to work it out for ourselves. Many years (actually decades) ago, I got some advice from a mentor who gave me one question that, he said, would drive my professional development for the rest of my life.

“What shall I become — what *can* I become — in this endeavor by virtue of what I do here, now, with the resources at hand, to myself?”

This question strips bare the multitude of excuses we provide ourselves for not staying engaged, for getting sloppy, or for falling in with the rest of the lazy bubbas we might have to work around. It motivates us to take the situation as it is — whatever it is — and grow within it. Along with this wisdom, he gave me three techniques to use in staying engaged.

**Look for the first signs of boredom, cynicism, or sloppiness.** Passion is easier to sustain than it is to regain, so keep these passion thieves in your crosscheck at all times. Find new ways to challenge yourself and don’t expand your tolerance for substandard performance, even if others are doing so.

**Thrive in a negative culture by staying positive, no matter what.** This is a tough challenge as we encounter personal and professional setbacks along our path. View problems as challenges as opposed to road blocks. With each small victory, our confidence grows and the passion low level light stays extinguished.

**Become the resident expert at something, and then something else.** When people begin to recognize you for your expertise, it adds a welcome responsibility to continue to exceed the standards and role model these behaviors to others.

Passion is a resource. It drives the engine of excellence.

What are you becoming?



“

I’ve heard from a host of professional aviators that it might stem from a variety of factors: culture, poor role models, schedule pressures, boredom, complacency, or simply a lack of challenges after learning the ropes of the aircraft, organization, and mission. These are things that seem to empty our passion reserves at an accelerated burn rate.

COME SEE US AT **APSCON, BOOTH #425**



# YOUR NIGHT VISION EXPERTS AND MORE...

## NON-NVG ILLUMINATED PANELS AND OVERLAYS

### Integrated/certified NVG lighting mods

- Exceptional night and daylight readability
- FAA/EASA approved repair station
  - // Avionics Repairs
- NVG and Non-NVG Illuminated Panels and Overlays
  - // QPL MIL-DTL-7788 Certified
- External lighting
- NVG Goggle Repair & Recertification

## COMPLETE AVIONICS PANEL ASSEMBLY MANUFACTURING

### Serving first responders worldwide

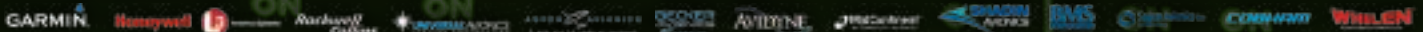
- Airborne law enforcement
- Military and government agencies
- Air medical transport
- Aerial firefighting
- Air search and rescue
- Multiple Platforms
  - // Ground base
  - // Maritime
  - // Airborne Both Fixed & Rotary Wing

THE LEADER IN NIGHT VISION SOLUTIONS

📍 3227 W. Eulless Blvd., Eulless, TX 76040 📞 817.571.0729 📠 817.283.5432 ✉️ sales@aerodynamix.com

**aerodynamix.com**

AUTHORIZED DEALER/DISTRIBUTOR AND OEM APPROVED INTERNAL LIGHTING MODIFICATIONS FOR





# Column

HAA Corner // **Bill Winn**



## **HAA Risks** and Controls, Part 1

“

Many of the hazards associated with air medical patient transport operations are those that apply to flying any aircraft for any purpose. Other risks are more conditioned by the demanding nature of HAA operations.

My past 48 years of working with helicopters has included flying them; eating and sleeping in them; working with them over forests, mountains, deserts and over the open ocean; and on a few occasions playing with them like an irresponsible teenager.

I flew as a U.S. Army pilot for 21 years, beginning in 1970 with a year in Vietnam. Then I flew for five years as a civilian using these versatile aircraft to conduct mineral surveys in the Oregon wilderness for the U.S. Bureau of Land Management, to fight forest fires for the U.S. Forest Service, and to help harvest offshore crude for the petroleum industry. This was followed by another nine years as a helicopter air ambulance (HAA) pilot.

Then, in 2005, following a hemorrhagic stroke, I was forced to leave the cockpit and assume a supine position on the stretcher for a 12-minute career as a helicopter air ambulance patient. Twelve minutes was the flight time from the emergency room at McKay-Dee Hospital in Ogden, Utah, to LDS Hospital in Salt Lake City, where I underwent emergency brain surgery.

After recovering from (most of) the effects of that stroke, I returned to work with Intermountain Life Flight as a deskbound safety officer, where for the past 13 years I have focused on recognizing and controlling the risk factors related to HAA operations.

Now, as I prepare to retire from any further active role with any air medical transport provider, I want to share some comments on mitigating the risks that have cost the lives of too many of my friends and associates across the years.

Many of the hazards associated with air medical patient transport operations are those that apply to flying any aircraft for any purpose. Other risks are more conditioned by the demanding nature of HAA operations, and these risks often require special controls to reduce them to a more acceptable level.

In this first discussion, I will identify the primary risks associated with HAA operations, without commenting on ways to control those risks. Then, in a series of future HAA Corner articles, we will discuss the most effective controls to mitigate each risk presented (and numbered) below.

An unscheduled, 24 hours per day, 365 days per year service with takeoff expected within 10 minutes of a flight request entails risks related to (1) minimal flight planning, and (2) crew-member fatigue due to circadian desynchrony.

Frequent flights to accident scenes means (3) flight in uncontrolled airspace to (4) primitive landing zones (LZs) with hazards that (5) cannot be assessed until arrival and are (6) difficult or impossible to see at all after dark. Other hazards at a scene include the (7) unpredictable movement of vehicles in the LZ as well as the (8) movement of untrained personnel, including first responders, family or friends of the victim, or casual onlookers.

Another characteristic of uncontrolled airspace is (9) inadequate weather reporting that can result in (10) inadvertent encounters with instrument meteorological conditions (IMC) leading to accidents due to (11) controlled flight into terrain (CFIT) or (12) loss of control of the aircraft (LOC). The (13) combination of darkness and IMC greatly increases the risks of CFIT or LOC.

Despite these risks, there are several pressures to fly associated with HAA operations that could induce a flight crew to push the limits of safe flight. These pressures include the (14) desire to save a life, as well as (15) pressures from the requesting hospital facility or emergency medical services agency. Then there are the (16) business pressures from internal sources, as well as the (17) external pressures associated with competition between air medical providers servicing the same area.

To this list of risks, we can add the (18) performance limitations of the aircraft used by different air medical services in certain demanding situations, as well as the (19) level of skill and (20) experience of the pilots flying the aircraft.

For each of these risks there are one or more controls that can be implemented to reduce each risk to an acceptable level, or to eliminate it altogether. In the next few HAA Corner articles we will discuss what I consider to be the most effective controls for each risk.

But before that — did I leave anything out? Are there other significant HAA risks that I've missed? If so, then please send your comments/suggestions to the editor at [elan@mhmpub.com](mailto:elan@mhmpub.com) so we can add them to this list of 20 risks, along with their associated controls. You also might want to save this article and the ones that follow so that you can compile them into a sort of *Guide to Safer Helicopter Air Ambulance Operations*, or some other title of your own choice.

*Bill Winn is the general manager of the National EMS Pilots Association.*







# HELMET OR HEADSET

Lightspeed has the right ANR solution for you.



## Upgrade your helmet

The Lightspeed Zulu H-Mod and LSA 56 Active Noise Reduction solutions are purpose built on the legacy of Lightspeed's award winning ANR technology and packed with all of the premium features you expect — including Bluetooth, Quick Disconnect cable, and a 3-year warranty.



## The ultimate headset

Meet Zulu 3, the most comfortable, most durable headset we have ever made. In addition to outstanding performance, Zulu 3 is incredibly comfortable for long duty days, has the rugged Kevlar-reinforced cable, fully featured Bluetooth, and the industry leading 7-year warranty.

**LightspeedAviation.com**

# Column

Focus on Safety // Dan Foulds



## Every Swing Needs a Good Follow-Through

“

Now, could I have recovered from that case of the leans — the most common form of spatial disorientation — and flown my way out of trouble? Well, my ego says yes, but evidence from controlled flight into terrain (CFIT) accidents says maybe not.

I was transporting a patient in a Dauphin in the ridge and valley section of Pennsylvania. The weather was gooey, with low ceilings and light mist dotting the windscreen; patches of fog were rising up from the ground here and there to mate with low spots in the overcast. The visibility was variable — here I could see a couple of miles, over there, not so much.

As a new-hire Life Lion pilot with years of special operations aviation experience in my logbook, I was sitting up straight in my seat, but I wasn't yet leaning forward towards the windscreen. I wasn't worried. It was daylight, I could easily see the ground below me, and I remember thinking to myself, "I've only got to get across two more ridgelines to make it to the hospital."

I would have been flying instrument flight rules (IFR), but as I was so new to the aircraft, my chief pilot wanted to let me gain some operational experience before giving me an instrument proficiency check and cutting me loose in the clouds. So, metaphorically speaking, I had one hand tied behind my back as I tried to get the job done. Flight volume was a big thing to the program's director of operations; he had promised to increase numbers, and I took this initiative to heart. I was going to do my best to fly sick people, even if restricted to visual meteorological conditions (VMC).

As I slowed and turned left to cross the last ridge at a 45-degree angle, wanting to slip through the narrowest of clearances between cloud and crash, I entered instrument meteorological conditions (IMC). Well, crap.

I continued my left turn to get away from the ridgeline and transitioned to instrument flying. I did this for a living in the U.S. Army, in an MH-47 Chinook. I didn't think it was a big deal. When I rolled out to stop the turn I experienced my first-ever attack of spatial disorientation. I *felt* that the aircraft was turning even as I looked at a level attitude indicator. The compass wasn't swinging. But dang — this feeling was almost overwhelming! Something the chief pilot had said to me the day prior popped into my mind.

"You see this button here on the collective? It's the 'go-around' button. You would normally use it at the end of an instrument approach if you didn't see the landing environment. But you can use it anytime you need it. It will roll you wings-level and put you in an 80-knot pitch attitude. All you have to do is pull up on the collective for a climb rate."

As I was being washed head-to-toe in a wicked case of the leans, I remembered him telling me this, and I pressed the go-around button. The autopilot immediately took control of the aircraft. I relaxed my grip on the cyclic and admired "George's" work. The roll attitude remained level, the aircraft pitched for 80 knots, and I pulled collective. I popped into clear blue skies at 4,000 feet and collected my wits. We went down to Harrisburg, I got a clearance, and we landed via the ILS. They gave me my instrument check shortly thereafter.

Now, could I have recovered from that case of the leans — the most common form of spatial disorientation — and flown my way out of trouble? Well, my ego says yes, but evidence from controlled flight into terrain (CFIT) accidents says maybe not. The Federal Aviation Administration's (FAA's) "new" helicopter emergency medical services (HEMS) rules require a pilot to have an instrument rating. This is good — but the industry has been observing that requirement since at least 1999, when I started. Many operators are installing autopilots in their light-single-engine visual flight rules (VFR) helicopters. This too is good. We are swinging at the right angle, but now we need to follow through.

Make no mistake about this — popping into the clouds is much different than planning, briefing, and executing an IFR flight. If you think you are instrument-ready based upon what you did yesteryear, well, you may be in for the surprise of your life. My friend Rhett Draehn, safety coordinator for CareFlite in Dallas, Texas, made a digital safety story about his crash in an instrument-capable helicopter with a freshly checked instrument pilot. Rhett mentioned that the pilot was fumbling with the radios and the autopilot after purposely entering IMC.

This event highlights the difference between *qualified* and *proficient*. If a pilot who had an instrument proficiency check (IPC) yesterday struggles to cope in a hastily planned (or unplanned) IMC encounter, what hope is there for a VFR pilot who earned his or her instrument rating years before? Proficiency comes with practice, and one unusual attitude recovery followed up by vectors to an ILS final per year doesn't equate to practice — or proficiency.

Notwithstanding our installation of autopilots and our instrument tickets, if we are going to be flying around in the low weather minimums the current rules permit, I believe we should have pilots who are not just instrument qualified, but more importantly *instrument proficient*!

The way we verify instrument proficiency is by demonstrating it during an IPC. We should be performing these demonstrations twice a year, just like those of us lucky enough to fly an IFR twin. And we should be afforded the opportunity for proficiency training between the IPCs. To combat the relentless pressure to cut training costs, the FAA should vigorously monitor this training and these IPCs.

Categorically, any weather better than 3,000-foot ceilings and five miles of visibility is "VFR." Worse than VFR is, at best, "marginal VFR." If we are going to allow HEMS pilots to fly in marginal weather we should offer the patients we transport the protection of an instrument qualified, current, and *proficient* pilot. If you don't want to spend the money to operate an IFR aircraft in an IFR HEMS program, well, today, that's your call. But if you want to prevent CFIT in HEMS, you need to follow through on the swing towards instrument flying proficiency.





# **R66<sup>®</sup> TURBINE POLICE HELICOPTER**

- \$1,250,000 USD
- FLIR Ultra 8000 Infrared Camera
- Spectrolab SX-7 Searchlight
- Garmin G500H Primary and Multifunction Display System
- Dual Audio Controllers

Learn more  
[www.robinsonheli.com](http://www.robinsonheli.com)  
310-539-0508



**ROBINSON<sup>®</sup>**  
HELICOPTER COMPANY



## Canadian government aims to proceed with CH-149 life extension

Canada plans to keep its Leonardo CH-149 Cormorant search-and-rescue helicopters flying for another two decades through the Cormorant Mid-Life Upgrade program.  
**Mike Reyno Photo**



### BY CHRIS THATCHER

Canada's federal government intends to move forward with a plan to extend the life of its CH-149 Cormorant helicopter fleet to at least 2040, according to Public Services and Procurement Canada (PSPC).

The department on May 24 posted a letter of notification outlining a proposed sole-source negotiation with Leonardo, formerly AgustaWestland, to replace, modify or upgrade current and projected obsolete systems on the Royal Canadian Air Force (RCAF) search-and-rescue

aircraft, a variant of the AW101, based on the new Norwegian AW101-612 rotary-wing search-and-rescue (SAR) model.

"The CH-149 has proven to be an excellent search-and-rescue asset for the [RCAF]. The fleet has been outstanding in covering the required range and providing the cabin capacity necessary to successfully deliver search-and-rescue in a country the size of Canada, often flying in very harsh environments which include demanding icing conditions," said Canada's Department of National Defence (DND) in the letter.

The RCAF has been analyzing options for

the Cormorant Mid-Life Upgrade (CMLU) project for several years but recently secured funding and project approvals as part of the government's defense policy in June 2017.

As part of the analysis, the RCAF surveyed other manufacturers to gauge whether an alternative helicopter might be better than the 16-year-old Cormorants, which have experienced significant issues with component obsolescence in recent years.

Both Sikorsky and Airbus were requesting an open competition, arguing their SAR helicopters could provide the same



# RotorBits

## Air Methods expands in South Dakota

Black Hills Life Flight, an Air Methods program, will open a community air medical base in Spearfish, South Dakota, this summer. In early June, Dana Boke, the mayor of the City of Spearfish, signed the contract that approved the base move.

"Air Methods has been a pleasure to work with," said Boke. "Their presence in Spearfish will provide a quicker response time in critical life situations for many people and their families. This is very good for Spearfish and all of the surrounding communities."

The base, which previously operated from Rapid City, will provide emergency air medical services 24/7/365 to Spearfish, as well as northern Black Hills, eastern Wyoming and Montana, and southern North Dakota. The Life Flight base will be staffed by 13 crew members, including pilots, flight nurses, flight paramedics and aviation maintenance technicians. It will operate a Bell 407 at the Black Hills Airport/Clyde Ice Field with the support services of Eagle Aviation.

## Transaero and Harris renew NVG agreement

Transaero Inc. and Harris Corporation have announced the renewal of their stocking distributor agreement for the F4949 night vision goggle (NVG), to include technical standard order (TSO) NVGs and non-TSO NVGs for both the domestic and international markets.

This agreement authorizes Transaero to sell Harris NVGs for domestic and foreign civil and military aviation customers, and to provide spare parts for service and repair.

The TSO certification assures operators that Harris NVG materials and parts meet or exceed the Federal Aviation Administration (FAA) design and production standards for flight safety. It also alleviates the need for part number specificity in approval for use.

"We are thrilled to continue our long-standing successful partnership with Harris Corporation, an industry [leader] in night vision," said Perry Youngwall, CEO and president of Transaero. "This renewed agreement provides our current and future customers with the highest level of aviation night vision systems and spares, with the shortest lead times, for their life-saving and law enforcement missions. We look forward to growing this partnership well into the future."

service more effectively and efficiently. However, a senior Air Force officer had cautioned that while the RCAF was exploring all options to enhance SAR capability, it had a knowledge and comfort level with the current fleet.

In opting to proceed with a non-competitive process with Leonardo, DND said in the notification letter to industry that the project team had "conducted a market survey and an options analysis which determined that the Cormorant is the only solution to meet the rotary-wing search-and-rescue capability requirements."

The analysis found that, "based on projected flying rates, the CH-149 will remain a viable [SAR] asset until at least 2040," and augmenting it with a different make or model of helicopter could, among other concerns, increase pressures on RCAF aircrew flight training.

The department also noted that a CAE-designed and built commercial off-the-shelf (COTS) flight simulator is already available and certified for use and could immediately meet the project's training requirements.

It added that any potential solution would need "to maximize the use of [COTS] aircraft and subsystems that have already been certified in accordance with airworthiness regulations," which the Norwegian AW101-612 does.

"Based on current information, Leonardo is the sole worldwide provider of AW101 aircraft and exclusively holds the necessary level of intellectual property to conduct a project of this scope," it concluded.

A spokesperson for Leonardo told *Vertical 911* in late May that the company would not be commenting at this time.

Among the upgrades are plans to enhance aircraft flight management, communications, navigation and safety systems to meet current and pending air-space regulatory requirements.

The Air Force also wants better SAR sensor capability and communication systems to improve interoperability with other SAR assets, such as the newly acquired fixed-wing Airbus CC-295 aircraft, and with the three Joint Rescue Coordination

Centres and civilian agencies like the Civil Air Search and Rescue Association.

The proposal would also address a need for more effective aircrew training with the acquisition of a dedicated flight simulator and associated training aids, something that was highlighted in the defense policy.

Lastly, DND said in the letter that it would proceed with a plan to "augment" the current fleet of 14 Cormorants by as many as seven.

The department acquired nine VH-71 aircraft, variants of the AW101 that do not have valid airworthiness certificates, from the U.S. government in 2011 for \$164 million when the presidential fleet replacement program was cancelled for being too costly. Leonardo had been proposing to convert seven to the same standard as the Norwegian model.

"This augmentation will allow the [RCAF] to re-establish a rotary-wing search-and-rescue presence at Canadian Forces Base Trenton and will provide additional support to all of Canada's [SAR] regions," the department said. The RCAF currently operates five CH-146 Griffon helicopters in Trenton, Ontario, while the Cormorants operate from three other main operating bases in Comox, British Columbia; Greenwood, Nova Scotia; and Gander, Newfoundland and Labrador.

Though the mid-life upgrade and replacement project will now likely be a sole-source arrangement, the department could compete future in-service support (ISS). The letter of notification said DND, PSPC, and Innovation, Science and Economic Development Canada would complete a sustainment business case analysis to "inform options for future [ISS], including the option to compete future support."

The CMLU project is still in what the Canadian military calls the options analysis phase, and a schedule for the project has not been set. The letter of notification was intended to inform industry of the proposed process and does not commit the government to a non-competitive contract.

Companies were given until June 7 to respond to the letter.

## 'Rescue 901' crew wins Cormorant Trophy



The crew of Rescue 901 was recognized by Leonardo for their outstanding performance in a demanding offshore rescue in March 2017. **Leonardo Photo**

Leonardo has named the Royal Canadian Air Force (RCAF) crew of search-and-rescue (SAR) helicopter "Rescue 901" as the winners of this year's Cormorant Trophy for the rescue of five crewmen forced to abandon a fishing vessel 250 kilometers (150 miles) offshore in fierce weather and rough seas.

The recipients from 103 Squadron at Canadian Forces Base (CFB) Gander include Maj. Jim Pinhorn, aircraft commander; Capt. Nicole Lively, first officer; MCpl Sean O'Callaghan, flight engineer; Sgt. Damien Robison, search-and-rescue technician (SARTech) lead; and MCpl Anthony Bullen, SARTech member.

"The selfless heroism displayed by the team onboard Rescue 901 in this monumental rescue of the crew of the fishing vessel Northern Provider exemplifies the efforts of all RCAF search-and-rescue crews each and every time they head off into danger to put their lives on the line to save Canadians from coast-to-coast-to-coast," said Mark Fair, Canadian customer support at Leonardo Helicopters. Fair presented the Cormorant Trophy to the recipients recently in a ceremony at CFB Gander.

"It is an honor to be recognized for the actions of our crew during this rescue mission," said Maj. Pinhorn, who is also Commanding Officer of 103 Squadron. "The men and women of 103 (SAR) Squadron, as well as those from search-and-rescue organizations all across Canada, routinely exhibit professionalism and make tremendous sacrifices in order to ensure that they successfully fulfill their respective SAR mandates.

"To have been selected from such an accomplished group is truly special for the members of our crew, as well as the squadron at large."

From the moment the Halifax Joint Rescue Coordination Centre received the distress call from the fishing vessel Northern Provider on March 5, 2017, the Rescue 901 SAR team knew they had a tough time ahead. The boat was 250 kilometers offshore in 10-meter (33-foot) waves with wind gusts over 110 kilometers per hour (68 miles per hour). The crew stripped the AW101 Cormorant helicopter of non-essential equipment to maximize fuel and the amount of time they could stay on the rescue scene.

As the Rescue 901 crew arrived on scene, they saw the fishing vessel being tossed in different directions at the mercy of the sea. Multiple obstacles on the ship meant changing the original plan to lower a rescue hoist to pick up the fisherman. Instead, the fishermen would have to jump into the freezing water and be picked up one by one.

This was no easy task as Robison and Bullen alternated rescues, dangling from the end of a hoist, being slammed and dragged by the waves and ice chunks. Throughout the rescue, Pinhorn and Lively worked hard to keep the helicopter over the rescue scene, rising and falling with the waves as O'Callaghan wrestled with the hoist line trying to guide the SARTechs to the fishermen.

At one point, one of the SARTech's immersion suit was ripped, but he continued to work the rescues despite the cold water entering his suit.

Eventually all five fishermen were hoisted into the Cormorant helicopter and all flew safely back to Gander, abandoning the fishing vessel.

# Helijet and BCEHS begin patient transports using night vision technology

Richmond, British Columbia-based Helijet International Inc. and B.C. Emergency Health Services (BCEHS), part of B.C.'s Provincial Health Services Authority, have completed the installation of night vision imaging technology aboard all three of Helijet's air ambulance helicopters.

Helijet, with over 20 years of air medical operational experience, is the primary helicopter service provider for BCEHS and the installation of night vision goggles in the air ambulances is the result of a \$1.7 million agreement reached with BCEHS last year.

VIH Aerospace in Saanich, British Columbia, plus Night Flight Concepts and Rebtech, both based in Texas, were instrumental in completing the system installation, and in training Helijet's flight and maintenance personnel.

All three of the Sikorsky S-76C+ helicopters are currently based at Helijet's base at Vancouver International Airport (YVR), but one of them will soon be repositioned to Helijet's Prince Rupert base at Seal Cove once crew training is complete.

BCEHS' first in-service night vision patient transport took place on April 20, 2018. In the two weeks that followed, a total of 11 missions were flown using the technology.

"This new technology will increase our operational reliability, while ensuring the safest possible flying conditions during nighttime and low-light conditions," said Danny Sitnam, president and CEO of Helijet International.

"The safety of our patients, aircrew and paramedics is paramount and this night-vision technology will allow our pilots to fly into locations where darkness or low lighting conditions have posed challenges in the past. This will maximize our mission reliability and safety for the patients and communities we serve."

"This is an important investment to improve access to patient care in British Columbia," said B.C. Health Minister Adrian Dix. "The addition of night vision technology also builds on recent investments we've made to improve access to ambulance services and will ensure a heightened level of safety for patients, flight crews, and air ambulance paramedics," said Dix.

"We've been working hard to enhance our air ambulance program, and night vision technology is one of the ways in which we are improving our service," added Linda Lupini, executive vice president of BCEHS and the Provincial Health Services Authority.

Approximately 2,000 patients in British Columbia are transported by helicopter each year. About 10 percent of all air ambulance transports are emergency 911 air ambulance responses.

The vast majority of air ambulance flights in British Columbia transfer patients from the province's north and the Interior regions between hospitals and other health care facilities.

Patients in northern British Columbia account for approximately 40 percent of all air transports, and patients in the Interior account for approximately 25 percent.



Night vision imaging technology is now installed on board all three of Helijet's air ambulances. **Helijet Photo**

Helijet operates three Sikorsky S-76C+ air ambulances on behalf of B.C. Emergency Health Services. **Heath Moffatt Photo**





# Pulselite may help prevent bird strikes



Over a two-year study period, Metro found that its Pulselite-equipped helicopters were less likely to have bird strikes than its aircraft without the Pulselite System. Flying at higher altitudes was also helpful in preventing bird strikes, Metro found. **Metro Photo**

**BY DAYNA FEDY**

Use of the Precise Flight Inc. Pulselite System is a significant factor in reducing the number of bird strikes with aircraft, a new study conducted by Metro Aviation has found.

Metro Aviation conducted its investigation into bird strikes as part of an overarching safety evaluation of its operations.

"When we initially started the study, we weren't planning on looking specifically at the Pulselites — that was just one factor out of all the different factors we were looking at," said Brady Carpenter, FOQA/SMS data analyst at Metro Aviation. "It just so happened when we got the results, the Pulselite System seemed to be the most significant result out of the study we performed."

The study looked at 43 helicopters in Metro's fleet for the migratory months of September and October in 2016 and 2017, as well as an entire two-year period for those two calendar years. The 43 aircraft included EC135s (which make up the bulk of Metro's fleet), AS350s, EC130s, and EC145s.

During the September and October periods, Metro found it was five times more likely to have a bird strike an aircraft that was not Pulselite-equipped than hit an aircraft that was. For the entire two-year period, it was three times as likely to have a bird strike on an aircraft that was not Pulselite-equipped.

"The chances [of bird strikes] were significantly reduced with Pulselites," said Ed Stockhausen, director of safety at Metro Aviation. "You could see it over all periods and across the country. . . . Our long-term goal is to, over time, equip the fleet with the Pulselites — it's an ongoing effort."

## RotorBits

### Life Flight Network launches app for hospitals and emergency responders

Life Flight Network, a not-for-profit air medical transport service in the United States, has released a new app called LFN Respond that allows hospitals and first responders to call for a life-saving air ambulance transport with the touch of a button. The tool, developed in partnership with dispatch software creator Flight Vector, saves valuable time when every second counts.

"With LFN Respond, approved hospital and emergency responders can instantly request a Life Flight Network aircraft by tapping the flight call button in the app, sending vital information and GPS location directly to dispatch personnel at our Communications Center," said Life Flight Network CEO Michael Griffiths. "LFN Respond saves precious seconds and makes calling for air ambulance transport easier for hospitals and first responder teams working to save lives."

The free app is designed for use by approved agencies to send activation requests to Life Flight Network. Those agencies include hospitals, first responders, fire departments, emergency medical services, law enforcement, search-and-rescue, ski patrols, and other qualified agencies currently working with Life Flight Network. Life Flight Network's service area covers Oregon, Washington, Idaho, and Montana.

The LFN Respond app provides additional functions including a searchable hospital directory, a landing zone guide, access to Life Flight Network's calendar of outreach education trainings, and push notifications from Life Flight Network on education and training events. Once a flight call has been made using the app, users can view a real-time progress tracker that shows the aircraft's location while en route and when it's expected to arrive.

LFN Respond is available on the Apple app store or Google Play to approved hospital and emergency response personnel. The app is also web-based for utilization by computer.



# THE WORLD'S EVOLVING THREATS **HAVE MET THEIR MATCH.**



© photo Anthony PECCHI

## **AS YOUR MISSIONS EVOLVE, SO DOES OUR TECHNOLOGY.**

Threats are evolving. Missions are longer, more complex and need to be executed faster. More is expected of you and your crew each and every time you fly.

L3's technology is evolving to meet these threats. Delivering robust performance and ease-of-use, L3 WESCAM's newly launched portfolio of mission-critical technologies within our MX™ airborne systems enables operators to see more, operate easier and analyze with confidence. Evolving threats around the world have met their match. **[WESCAM.com/New-Tech](http://WESCAM.com/New-Tech)**



**L3T.COM**  
ELECTRONIC SYSTEMS  
AEROSPACE SYSTEMS  
COMMUNICATION SYSTEMS  
SENSOR SYSTEMS

**WESCAM**

# Mobile HUET improves access to underwater egress training



Kaiser's training team includes former Navy SEALs and Kennedy Space Center astronaut rescue divers. **Photo courtesy of Barbara Kaiser**

## BY MARY ANN KOENIG

A Florida entrepreneur is aiming to help bring an end to preventable deaths of those trapped underwater in aircraft, through the use of a custom-designed and -built mobile training device.

The issue was recently thrown into sharp focus when all five passengers on board a Liberty Helicopters Airbus AS350 B2, operated on behalf of FlyNYON, drowned after the aircraft crashed into New York City's East River on March 11.

Barbara Kaiser believes helicopter safety training standards have changed little over the last three decades, so she designed and built a helicopter underwater egress trainer (HUET) that can provide water crash safety training on a wide scale. According to Kaiser, it's "the only truly mobile advanced training simulator in the world that is capable of providing open water training." It's also designed to be cost effective and certified to meet international survival training standards for aviation.

Working in her shop, Kaiser began with

the fuselage of an old military MBB Bo.105 helicopter. She handcrafted a variety of elements to enable the device to provide a realistic simulation, maintaining the look and feel of being in a full-sized, operable helicopter.

Kaiser spent a decade as a crash rescue specialist, operating a fleet of heavy fire crash rescue tanker trucks. Working with the Federal Aviation Administration (FAA), U.S. Forest Service, Bureau of Land Management, Federal Emergency Management Agency, and Bureau of Indian Affairs, she became intimately familiar with helicopter crash conditions.

Training accessibility is one of the keys to lowering crash fatalities, according to Kaiser. The device's portability makes it easily accessible, deploying from a trailer and utilizing hydraulic ramps to tilt and control the launch angle. "The lift is adjustable and can be raised or lowered depending on the deployment terrain and the student's level of competency," Kaiser said.

She has taken the HUET overseas, providing advanced training to both U.S.

and foreign special forces. Her training team includes former Navy SEALs and Kennedy Space Center firefighters and astronaut rescue divers.

She's also partnered with the International Survival Standards of Aviation (ISSA), a U.S.-based, internationally recognized organization that works closely with leading aviation educators, safety experts and simulator manufacturer engineers to develop industry standards that improve safety and survivability rates. And she is currently lobbying the U.S. Congress to implement standardized, mandatory safety training throughout the industry. She envisions a regulated, universal approach to water crash response.

Because of the simulator's ease of use and cost, it can quickly perform repeated deployments into the water, helping trainees achieve rote muscle memory, which Kaiser views as a key ingredient to surviving a water crash. "Muscle memory can only be obtained by repeated actions, doing the same maneuver over and over until a person does not have to think, it all comes naturally," she said. "No one gains muscle memory performing a skill once every four years."



The mobile HUET deploys from a trailer. Kaiser hopes the portable device will make underwater egress training more widely accessible. **Photo courtesy of Barbara Kaiser**



# WE KNOW HELICOPTERS



**Vertical** DAILY NEWS

**YOU CAN STAY IN THE KNOW, TOO.**

Things happen fast in the helicopter industry. For the most up-to-date news and press releases, subscribe to our free email newsletter, delivered every weekday, **Vertical Daily News**. You'll get important industry news delivered straight to your inbox or smartphone, so you don't miss out on *anything*.

[verticalmag.com/subscribe](http://verticalmag.com/subscribe)    

# ECHO now stands for Every Coast Helicopter Operations

The former East Coast Helicopter Operations (ECHO) organization announced in May that its name will now be “Every Coast Helicopter Operations” to encompass global membership.

The non-profit entity will retain the ECHO acronym as it continues to grow into a internationally recognized organization providing services including training and mentoring. The name change will also see the organization usher in a new logo that more accurately reflects the professionalism of all ECHO members.

ECHO was founded with a focus on providing low-cost joint training opportunities at little to no cost to public safety, air medical, and military operators performing in a public safety, rescue, or air medical role. Founded on the principle, “By flight crews, for flight crews,” ECHO focuses on leveraging the wealth of knowledge and experience of individual flight programs as a way to collectively learn and improve safety.

Since the organization’s first event, held in Virginia in 2013, ECHO has continued its steady growth in both membership and what the

organization offers the parapublic sector. ECHO now provides targeted training programs in tactical flight operations, search-and-rescue, and air medical operations.

The organization’s events have grown from a single annual fly-in, to three events in 2018, including a “Summit at Summit” event focused on aviation leadership, and a five-day tactical flight crew academy held this May in Orlando, Florida.

Additionally, ECHO hosts an annual conference, which this year will take place from Sept. 7 to 9 in Chattanooga, Tennessee, with the sponsorship of Erlanger Life Force. The annual conference brings together flight crews from parapublic operations for educational opportunities aimed at both current segments and new segments of the industry not previously catered to.

ECHO remains a 100 percent volunteer organization, relying on donations and corporate sponsorship to provide its much-needed services, including the recently formed Flight-crew Assistance & Support Team (FAST).

# CNC Technologies launches CNC Aviation Division

CNC Technologies, an aviation technology and wireless communications company serving the law enforcement, military and government markets, has announced a major expansion with the launch of CNC Aviation, a new division that will provide sales and leasing of new and used aircraft alongside the company’s existing aviation technology business.

CNC has acquired an Airbus AS350 B2 helicopter formerly owned by the Ontario Police Department and will continue to build its fleet through purchases of new and used aircraft that support a broad range of mission profiles.

The company said its new division builds upon a strong year of growth, which saw the firm land new contracts with several large state and federal agencies. CNC also said it is seeing increasing interest from the capital markets and from investors seeking to partner with the company to capture a greater share of the overall government security market.

In addition to helping clients lease or acquire aircraft, CNC Aviation will work with agencies and original equipment manufacturers to maximize the value of aircraft they are selling or trading in.

“The launch of CNC Aviation supports our



CNC Aviation acquired its first aircraft, an Airbus AS350 B2, from the Ontario Police Department. **CNC Photo**

mission of providing clients with a single source solution for all of their airborne law enforcement requirements,” said Alex Giuffrida, founding partner and CEO of CNC Technologies. “We’ve had a tremendous response from the law enforcement community to our comprehensive, 24-7 approach and the new division will extend our ability to now serve as a trusted partner in the purchase, lease or sale of new and used aircraft.”

With the introduction of CNC Aviation, the company will be able to sell or lease complete aerial solutions including aircraft, mis-

sion suites, fixed receive sites and mobile command posts.

“CNC Technologies has served as a key partner in support of our airborne law enforcement efforts, both deploying the mission suite on our new Airbus H125 and assisting us in the helicopter’s purchase,” said Steve Valvo, sergeant at the Ontario Police Department. “The company’s wide range of expertise in law enforcement aircraft helped us maximize the value when trading in our 2007 Airbus AS350 B2 as part of the H125 purchase and made the overall experience a positive one.”





## Prepare for the Helicopter Air Ambulance FDM Mandate

Sky Connect® Tracker III is the heart of the helicopter operator's mission management system. It is one of the most reliable, most deployed systems that meets Flight Data Monitoring (FDM) compliance for Helicopter Air Ambulance operators. Look to Honeywell authorized dealer and service center MASCO Service for all your Sky Connect product needs.

To learn more about the FDM Mandate and MASCO, please visit [aerospace.honeywell.com/MASCOskyconnect](https://aerospace.honeywell.com/MASCOskyconnect) or call **Masco Service** at 1-337-364-0789



© 2018 Honeywell International Inc.

# GAO provides more details on Sikorsky's Air Force protest

BY ELAN HEAD

The U.S. Government Accountability Office (GAO) may have ruled against Sikorsky's protest of the Air Force UH-1N Huey replacement program, but not before the company extracted a key concession from the Air Force.

That's according to W. Jay DeVecchio, an attorney who specializes in government contracts, and whose commentary on Air Force procurement language was mentioned by the GAO in its decision on the case.

The GAO announced on May 22 that it had denied in part and dismissed in part the protest filed by Sikorsky, but the agency's decision was not immediately available to the public as it contained proprietary and source selection sensitive information.

Now that a public version of the decision has been issued, it's evident that one of Sikorsky's seven grounds for protest was dismissed because of a clarification letter that was sent by the Air Force after Sikorsky filed its protest on Feb. 12.

Sikorsky had argued that a clause in the program's request for proposal (RFP) would require offerors to deliver software source code and give the Air Force at least government-purpose rights to that code — in excess of what is permitted by regulation.

However, on March 8, the Air Force issued a clarification letter to all offerors stating that the clause does not require the provision of government-purpose rights in either non-commercial computer software or detailed manufacturing and process data developed at private expense.

The GAO determined that the Air Force's clarification rendered Sikorsky's argument "academic," and because that basis for the protest was otherwise untimely, the GAO declined to consider it.

According to DeVecchio, before Sikorsky protested this aspect of the RFP, the relevant language was "at best ambiguous and questionably legal."

He described the Air Force's concession as "a significant victory for contractors," as "one

should fairly assume the Air Force will not in the future be promulgating these [clauses] in a way that suggests relinquishing limited or restricted rights if they are properly asserted."

## BLACK HAWK VS. BLACK HAWK

The Air Force UH-1N Huey replacement program aims to acquire up to 84 helicopters to replace the aging fleet responsible for protecting U.S. missile silos and ensuring the continuity of government operations.

Before Sikorsky filed its protest with the GAO, the Air Force anticipated awarding a contract in June. In late May, the Air Force said the award would be delayed until the fourth quarter of this fiscal year, or sometime before Oct. 1.

Sikorsky is one of three offerors for the competition, having submitted the HH-60U, a modified version of its UH-60M Black Hawk. Boeing and Leonardo have teamed up to offer the Air Force another new-build helicopter, the MH-139, a variant of Leonardo's civil AW139.

Sikorsky said it remains confident that the HH-60U is the best choice for Air Force missions including missile silo protection.

**Sikorsky Image**





The third offeror, Sierra Nevada Corporation, has taken a dramatically different approach. Rather than new helicopters, Sierra Nevada is offering the Air Force repurposed, modernized Sikorsky UH-60A Black Hawks from the U.S. Army.

Under Sierra Nevada's proposal, these "Alpha" model Black Hawks would be acquired through the Army's Black Hawk Exchange and Sales Transaction (BEST) program, then transported to the Corpus Christi Army Depot in Texas for inspection and conversion into UH-60L "Lima" models.

The newly converted Lima models would then travel to Huntsville, Alabama, for additional upgrades, including the installation of a Garmin G5000H avionics suite in conjunction with subcontractor Ace Aeronautics.

Jack Bailey, senior director of proposal development for Sierra Nevada, described the company's offering as a "pseudo-partnership" with the U.S. government, aimed at maximizing value for taxpayers.

"[It is] in essence using the government as a partner," Bailey said in a telephone media briefing on May 31. "We are buying from the government, and then we are modifying through the government."

The cost savings associated with repurposed airframes is one of the proposal's primary competitive advantages. But Bailey said that Sierra Nevada's offering is also advantageous to the Air Force with respect to data rights.

"Sierra Nevada as a company had no issues with the government's position on data rights," he said. "With our offering, since it's an offering that already exists in the Department of Defense inventory, the government already owns the data rights."

According to Bailey, even though Sikorsky is the original manufacturer of the UH-60A, Sierra Nevada would not need to acquire any intellectual property rights from Sikorsky in order to meet the Air Force's requirements.

Bailey also said that the company's suppliers, including Garmin, are prepared to share the intellectual property that the Air Force requires.

That position does not appear to be sitting well with Sikorsky. Another ground for its protest with the GAO was the claim that the Air Force is treating offerors unequally, based on the fact that Sierra Nevada has not approached Sikorsky to secure the intellectual property licenses that Sikorsky believes the contract would demand.

The GAO dismissed this element of the

protest as premature, as the agency has previously established that claims of unequal treatment are premature when raised prior to a contract award.

In its decision, the GAO wrote, "If Sikorsky is excluded from the competitive range or not selected for award, it may raise whatever evaluation errors it deems appropriate, including unequal discussions or unequal treatment, at that time."

Sikorsky declined to respond to specific questions from *Vertical 911* for this story, instead offering the following statement: "We

have received the complete GAO decision on its recent ruling on our protest and are reviewing it. We remain confident the Sikorsky HH-60U offering is the strongest, most capable and only technically compliant solution for the UH-1N Huey replacement program."

Boeing, meanwhile, has publicly stayed out of the data rights debate. Boeing spokesperson Jerry Drelling told *Vertical 911*, "We appreciate the work done by the Government Accountability Office to expeditiously address and resolve this matter. We now look forward to the conclusion of the procurement and contract award."

# STUDIO QUALITY SOUND IN THE COCKPIT



**APSCON #508**



**NEW**  
**TECHNISONIC**  
**TDAP-611**

- Single user analog audio panel
- Expanded 8 transceiver + PA and simulcast capability
- Separate Crew/Cabin ICS loop support with integrated mode selection

- Pilot, Co-pilot and 5 stations supported
- Pin compatible with the A711L
- 2 wire Interface

**ASI900 CERTIFIED**

800-527-2581 | 214-320-9770

**dallasavionics.com**

**DALLAS AVIONICS, INC.**

# Bell V-280 Valor achieves cruise mode flight



The Bell V-280 Valor achieved 190 knots during its first flight in cruise mode. **Bell Photo**

On May 11, the Bell V-280 Valor completed another milestone in its flight testing by flying in “cruise mode,” with its prop-rotors pivoting in flight from vertical-lift mode to fully forward-facing.

According to Bell, the aircraft reached 190 knots true airspeed during the flight, which took place from the company’s assembly facility in Amarillo, Texas. The team will

now work to gradually expand the Valor’s flight envelope to achieve the type’s goal of 280 knots at cruise.

The V-280 is Bell’s submission for the U.S. Army’s Joint Multi-Role Technology Demonstrator (JMR-TD) program, a precursor to the Future Vertical Lift (FVL) program to identify a replacement for the service’s existing medium-lift helicopter

fleet of Sikorsky UH-60 Black Hawks and Boeing AH-64 Apaches.

“This first cruise mode flight is another exciting step in our efforts to deliver revolutionary capability for warfighters at a sustainable cost and years ahead of current schedule projections,” said Keith Flail, vice president of Advanced Tiltrotor Systems at Bell.

“We will continue to expand the envelope in terms of speed, range, agility, and our other key performance parameters, and continue to bring the proof. Our warfighters deserve and need the best our nation can provide and this revolutionary, affordable, sustainable capability is ready to go.”

Powered by two 5,000-horsepower General Electric T64-GE-419 engines, the V-280 is designed to carry two pilots, two crew chiefs, and 11 to 14 passengers at a combat range of 500 to 800 nautical miles.

The aircraft completed its first flight on Dec. 18, 2017, and has now recorded more than 27 hours of flight time, and over 90 hours of rotor turn time.

# Lakota fleet surpasses 500,000 flight hours

Airbus Helicopters’ UH-72A Lakota fleet recently exceeded 500,000 flight hours, operating in a multitude of military missions and tasks around the globe.

“This milestone is a testament to the hard work and dedication of all our employees who have helped make the UH-72A Lakota the most viable and affordable multi-mission helicopter for our

customers,” said Chris Emerson, president and head of Airbus Helicopters North America Region.

Airbus has delivered more than 420 Lakotas since the UH-72A was competitively selected in 2005. Available in multiple configurations, the UH-72A is a key component of the Army’s Aviation Restructuring Initiative (ARI) and the primary rotary-wing trainer for the U.S. Army Aviation Center of Excellence at Fort Rucker, Alabama.

Lakotas have been employed extensively in support of Customs and Border Control operations along the U.S. southwest border, as well as in response to wildfires in California, and Hurricanes Irma and Harvey.

More recently, West Virginia National Guard Lakota helicopters were used for reconnaissance missions in coordination with local police, providing eyes in the sky during execution of drug-interdiction search warrants, highlighting the aircraft’s ability to perform in joint governmental and non-governmental agency operations.

The UH-72A Lakota final assembly is completed at Airbus Helicopters Inc. production center in Columbus, Mississippi.



Airbus has delivered more than 420 Lakotas since 2005. **Airbus Photo**





**LIFT AND THRUST MAKE THEM FLY.  
YOUR SMART DECISIONS LET THEM LAND.**

////// HELICOPTER SOLUTIONS ///////////////



**G500H TXi**  
TOUCHSCREEN  
FLIGHT DISPLAYS

**GTN™ 750**  
TOUCHSCREEN  
NAVIGATOR

**HTAWS**  
HELICOPTER TERRAIN  
AWARENESS AND  
WARNING SYSTEM

**GTX™ 345**  
ALL-IN-ONE ADS-B  
TRANSPONDER

**GRA™ 55**  
ALL-DIGITAL  
RADAR ALTIMETER

**GFC™ 600H**  
FLIGHT CONTROL  
SYSTEM



[GARMIN.COM/HELICOPTERS](http://GARMIN.COM/HELICOPTERS)

## Successful mission demo for Urban Aero's Cormorant

Tactical Robotics, a wholly owned subsidiary of Urban Aeronautics, has successfully performed a first mission representative demonstration with the Cormorant aircraft for its lead customer, the Israel Defense Forces (IDF).

The completely autonomous flight included the loading of cargo

A simulated casualty evacuation was part of the recent Cormorant UAV demo for the Israel Defense Forces. **Urban Aeronautics Photo**



and a pre-planned flight to a specified point of delivery. Then, a medical training manikin was loaded onto the aircraft as a simulated casualty.

A monitor supplied by the IDF's chief surgeon transmitted vital health updates to the crews on the ground. In addition, a video camera on board the aircraft allowed for two-way communication with the "patient" during the flight.

The successful test flight showcased the Cormorant's unique capabilities in both cargo delivery and casualty evacuation. According to Urban Aeronautics, the demonstration further validates the Cormorant's recognition as the only unmanned aerial vehicle (UAV) recognized by NATO for both cargo delivery and casualty evacuation.

The aircraft is designed to exceed the standard reliability and handling qualities required of a typical, tactical UAV in order to meet the requirements to safely ferry humans back from the battlefield.

## AACUS makes first operational cargo delivery to U.S. Marines

Aurora's Autonomous Aerial Cargo Utility System (AACUS) achieved a major milestone in May when it successfully delivered cargo to U.S. Marines in the Integrated Training Exercise at the Marine Corps Air Ground Combat Center Twentynine Palms in California.

AACUS completed its first closed loop mission from takeoff to landing for its intended purpose: actual cargo resupply to Marines.

The AACUS-enabled UH-1H helicopter successfully completed an autonomous cargo sustainment flight delivering 520 pounds (235 kilograms) of water, gasoline, meals ready to eat (MREs), and replacement communications gear including a packed cooler to represent urgently required cargo such as blood.

This was the first ever autonomous point-to-point cargo resupply mission providing critical logistics support to Marines in need.

Developed under Office of Naval Research's (ONR) Innovative Naval Prototype program, the AACUS-enabled UH-1 helicopter is capable of flying completely autonomously, using only its onboard sensors, advanced computers and intelligent algorithms to plan its trajectory and to select its own landing sites in unmapped and hazardous environments.

"The AACUS program exceeded all of our expectations," said Dennis Baker, AACUS project manager. "The team delivered on each of the ambitious technical performance goals, on schedule and under budget."



Aurora has installed its Autonomous Aerial Cargo Utility System (AACUS) in this Bell UH-1H. **Aurora Photo**



# TDFM-9100 INTRODUCING MCP TECHNOLOGY



Multi Communication Port (MCP) technology allows operators to integrate and (in some cases) control external communication devices.

TDFM-9100 with full Latitude Satellite Communications capability is made possible by our proprietary MCP technology and will be on display at **APSCON, Booth #600** in Louisville, KY, July 9-14, 2018.



*The TDFM-9100 is designed to meet the demands of Airborne Law Enforcement and EMS operators.*

**Call today to learn more about the TDFM-9100 Series and MCP Technology.**

**TECHNISONIC**  
Communications

www.ti.ca • (905) 880.2113 • Distributed by Dallas Avionics • (800) 527.2581

# Airbus and Schiebel demonstrate manned-unmanned teaming

Airbus Helicopters and Schiebel have tested manned-unmanned teaming (MUM-T) capabilities between an H145 platform and a Camcopter S-100 unmanned air system (UAS), thus becoming the first European helicopter manufacturers to demonstrate this technology with the highest level of interoperability (LOI 5).

The companies carried out test flights with the support of the Austrian Armaments and Defence Technology Agency. The two aircraft jointly flew different scenarios including the detection of objects hidden in places not accessible by traditional helicopters.

The S-100 was controlled and piloted by an operator sitting in the helicopter. During the flights, the control was also temporarily handed over to a ground-based control station by the pilot in order to simulate the return of the manned helicopter for refueling.

The trials carried out by Airbus Helicopters and Schiebel went up to

MUM-T LOI 5. This allows the manned platform to exercise full control of the UAS including its takeoff and landing. LOI 1, the lowest level, is the indirect receipt and/or transmission of sensor data obtained by the UAS to the manned aircraft.

"Manned-unmanned teaming multiplies the capabilities of both systems," said Mark R. Henning, program manager at Airbus Helicopters. "Smaller UAS with vertical takeoff and landing capabilities can, for example, fly around obstacles [such] as trees or buildings closer than a helicopter could. They are able to explore unknown territory and deliver information to the helicopter crew which is operating from a safe position and which can then step in with the helicopter's superior effects, having received a clear picture from the UAS.

"Our airborne MUM-T management system will become a highly attractive feature for our entire product range including the NH90, NFH, and the Tiger together with

the H145 as it adds an extremely valuable operational capability. The MUM-T capability can be implemented in any kind of helicopter and can interact with all types of unmanned systems, in particular Airbus Helicopters' new VSR700 UAS."

In the framework of the test, the challenges of data transfer interference and electromagnetic compatibility of the UAS with the helicopter, as well as the integration of a complete UAS mission planning and control system into the helicopter's architecture, were successfully managed.

The S-100 mission planning and control system was provided by Schiebel. The next step will be to optimize the human machine interface based on a thorough analysis of the crew workload using the results of the flight tests.



**If you would like to submit a press release or if you have a new product or service that you believe is newsworthy, please email our news editor at [news@verticalmag.com](mailto:news@verticalmag.com).**



In a recent manned-unmanned teaming demonstration, this Schiebel Camcopter S-100 UAS was controlled by an operator sitting in the Airbus H145. **Airbus Photo**



## At AMTC 2018, you'll find:

- **2300 attendees** representing emergency medical transport programs from around the world.
- More than **150 education sessions** on topics pertinent to the following disciplines:  
Aviation, Safety, Clinical, Communications, Management/ Administration & Marketing, Global Perspectives.  
Plus so much more!
- A trade show featuring more than **150 vendors** presenting a wide variety of the latest products and services available for emergency medical transport providers!
- Plenty of **innovative networking events** and opportunities.
- **The AAMS SIM Cup!**  
This annual critical care skills event utilizes the latest in human patient simulation. Up to 12 teams go head-to-head to show off their real time, real situation skills on state-of-the-art patient simulators.

Visit  
**www.AAMS.org**  
for all the details  
and to register.

# AMTC 18

PHOENIX, AZ | **October 22-24**

## Aircraft Satellite Push-To-Talk & SATVOICE

Search & Rescue

First Responders

Aerial Firefighting

Emergency Medical Services

Public Safety

Disaster Relief

Border Services & Homeland Security



SkyNode® S200-P12



TDFM-9100

The Latitude S200-P12 System delivers Iridium "Push to Talk" for your aircraft the way it was meant to be – Fast, Secure, and Easy to Use.

1.888.966.5599 • [www.latitudetech.com](http://www.latitudetech.com) • [sales@latitudetech.com](mailto:sales@latitudetech.com)

**LATITUDE**  
Optimize every flight.

# SHOW OF FORCE

STORY AND PHOTOS BY DUANE HEWITT

The annual Special Operations Forces Industry Conference (SOFIC) took place in Tampa, Florida, this year from May 21 to 24. A highlight of the show was the Capabilities Demonstration, which brought together special operations forces from around the world.

During the demonstration, operators were inserted by air and sea using a variety of equipment, including special operations craft-riverine (SOC-R) and combat rubber raiding craft (CRRC) for waterborne infiltration, and the Lockheed Martin MC-130J Commando II for parachute insertion. The main attractions, however, were Sikorsky MH-60M Black Hawk and MD MH-6M Little Bird helicopters from the U.S. Army's 160th Special Operations Aviation Regiment (Airborne) — otherwise known as the "Night Stalkers."

The demonstration provided unique and impressive insight into the secretive world of special operations aviation, and the techniques used by the aviators and the specialist users they support.

Heli-borne troops opened the demonstration with a helocast from an MH-60M, which also carried the CRRC under the belly of the aircraft. The Black Hawk entered a hover at a height of around 10 feet over the water with a slow forward movement. On a command, the CRRC was released by a system of wires and connectors, quickly followed by the troops themselves, who then set about entering the CRRC and putting the outboard engine into place to begin the waterborne phase of their insertion.





The next phase of the operation saw a pair of MH-6M Little Birds equipped with troop benches maneuver the agile aircraft through the buildings and waterways of the downtown area to land on the rooftops of the Tampa Conference Center and Tampa General Hospital, in order to position two fire support teams for the main assault.











**LEFT //** There were two elements to the main assault. The first objective was to neutralize an enemy threat on board the yacht *Star Ship*, where a number of hostages were being held. A single Black Hawk fast roped an assault force onto the deck of *Star Ship*, where they moved to eliminate the threat and secure the hostages. Once that mission had been accomplished, the Black Hawk returned to extract the hostages using the Fast Rope Insertion Extraction System (FRIES) method, in which hostages were connected to loops at the bottom of the rope by harness and carabiner and then lifted out of place.

**ABOVE //** The second element of the main assault saw two SOC-Rs assault a ground position on the waterside. Here the Mayor of Tampa was being held hostage, requiring rescue by means of explosive entry and building clearances, as all the while a two-ship Little Bird escort remained in the orbit providing sniper cover.

**RIGHT, TOP TO BOTTOM //** With the main assault complete, the teams extracted completely from the target area on the SOC-Rs. Those troops who had been inserted by Little Birds onto rooftops were extracted by Little Birds, while the helocasted troops were extracted by a Black Hawk, which once again came to a low hover over the water and lowered a ladder to the waiting troops. The entire Capabilities Demonstration took place in front of an appreciative crowd.







# HIGH PRIORITY

Even as it looks to save money with health care reforms, Finland has maintained a strong investment in high-quality air ambulance services.

**BY JON DUKE | PHOTOS BY LLOYD HORGAN, VORTEX AEROMEDIA**

It is unusual to find the subject of helicopter emergency medical services (HEMS) at the center of national policy. However, such is the reputation of FinnHEMS, Finland's state-funded HEMS operator, that the current government has made continued support for the organization a priority in the country's ongoing social and health care reforms.

Finland has a widely dispersed population of 5.5 million — just over half the population of New York City — but more than a quarter of Finns live within the capital city of Helsinki or the greater metropolitan area. Thus it was from here that the nation's first air ambulance operations began in 1992. With a clear need for national HEMS infrastructure, other operations soon appeared and adopted a charitable model that, while able to maintain a capability, was reliant on donations and grants that were highly variable and, in some cases, open to misuse.

By 2011, Finland was ready for change and new legislation offered the opportunity to rationalize HEMS operations, improve oversight, and stabilize the balance books with funding from the country's purse.



Two FinnHEMS paramedics demonstrate the gear necessary to work in the "hostile environment" of northern Finland.





Download as wallpaper at [verticalmag.com/wallpaper](http://verticalmag.com/wallpaper)

The five university hospital districts in Finland together formed the FinnHEMS corporation, which is now responsible for providing complete national HEMS coverage with just six bases and eight helicopters. FinnHEMS answers about 14,500 calls annually and can reach over 70 percent of the population within 30 minutes.

Leadership and strategic oversight of FinnHEMS is carried out from the organization's headquarters at Helsinki Airport at Vantaa, while flight operations are performed by private contractors. In the south of Finland, Skärgårdshavets Helikoptertjänst Ab (SHT), a company specializing in air ambulance operations, supports three helicopter bases. In the north, Babcock Scandinavian AirAmbulance AB is responsible for a further three.

Operations vary widely between the bases. While all HEMS missions are demanding, the more populous and temperate south of the country offers what might be considered a more conventional flying environment, although with urban landing sites and only a seven-minute average sortie length, the pace of flying is intense. The crews in the south operate the Airbus EC135 P2+, a Pratt and Whitney-powered variant of Airbus Helicopters' ubiquitous H135, crewed by a single pilot, an EMS physician, and a HEMS crew-member who also has paramedic or firefighter training.

## A 'HOSTILE ENVIRONMENT'

Things are different in the north of the country, where in winter the sun doesn't come up for two entire months and vast distances between population centers require an aircraft with much longer legs. This capability used to be fulfilled with Airbus AS365 N2s, but in 2015 FinnHEMS became one of the first customers of the Airbus BK117 D-2, better known as the H145. The aircraft operated from FinnHEMS' Rovaniemi base is the only one in the world to be fitted with a proprietary 800-kilogram (1,765-pound) extended-range fuel tank.

The Rovaniemi base covers all of Lapland in the far north of Finland, and here it is the environment that provides the challenge, with winter temperatures plunging to below -30 C (-20 F). Snow is a mixed blessing as it reflects the ambient light, improving terrain definition through night vision imaging systems (NVIS), but can also create a blizzard-like snowstorm in the helicopter downwash during takeoffs and landings. As the snow melts so does the reflected ambient light, and the lack of cultural lighting in remote areas delivers darkness like putting a bag over your head, even through NVIS.



The FinnHEMS Airbus H145 based at the Rovaniemi base is the only one in the world to be fitted with a proprietary 800-kg extended-range fuel tank.



AS THE SNOW MELTS SO DOES THE REFLECTED AMBIENT LIGHT, AND THE LACK OF CULTURAL LIGHTING IN REMOTE AREAS DELIVERS DARKNESS LIKE PUTTING A BAG OVER YOUR HEAD, EVEN THROUGH NVIS.



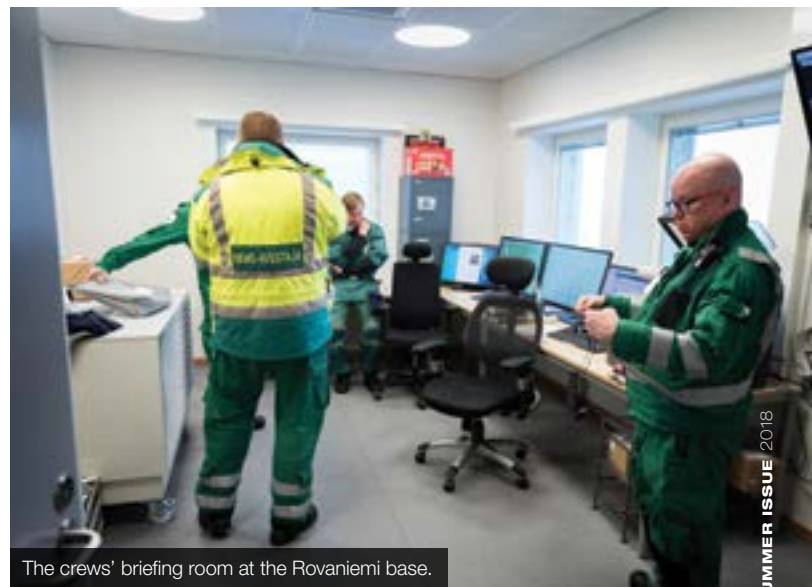
Advanced paramedic Mika Vuorentola manages the airways of the "patient" as paramedic-firefighter Veli-Matti Tiisanen performs CPR.

FinnHEMS classifies the environment and climate around Rovaniemi as "hostile," so twin-pilot operations are mandated, while in the cabin an advanced paramedic joins the crew in place of a physician.

"I'm responsible for everything medical in the aircraft," explained advanced paramedic Janne Lindström. "During takeoff and landing the other paramedic will be assisting the pilots. I will do any advanced techniques like intubating the casualty; after that I take my hands off and he leads with the patient care."

As well as being medical professionals, the paramedics have a range of other duties both within the aircraft and — in the case of water rescues — well beyond. Rescuing those unfortunate enough to fall through ice is the responsibility of the fire and rescue services, but in remote areas a helicopter is often the only way to reach them. If a specially equipped Border Guard helicopter is not available, the job falls to a FinnHEMS crew from Rovaniemi.

Average sortie lengths here are 30 to 40 minutes, with 90-minute flights not unusual, so the aircraft is always hangared with full tanks. With four crewmembers and medical equipment, this puts the aircraft only a few kilograms under its maximum all-up mass



The crews' briefing room at the Rovaniemi base.

(MAUM). Even so, pilot Tatu Laurila explained that the aircraft is more than up to the challenge.

"It's a very nice machine, I like it a lot," he said. "There's so much power, even at max takeoff weight, and the single-engine performance is unbelievable. It's like the second engine is just for show."

The aircraft is also fitted with Helionix Step 2 avionics, which includes a terrain and obstacle database, but Laurila said that the most important feature to him is the autopilot: "It's four-axis so you can control everything. For approaches you load up an IFR [instrument flight rules] approach and it will fly it down to 50 feet without you having to touch any controls."

Given the longer sortie times in the north, decreasing the workload in the air also allows the crew to respond more efficiently to calls by conducting some of their flight planning while en route. Laurila explained, "We plan the first leg in the briefing, but after takeoff we can put the autopilot in and start calculating fuels or whatever."

Even with all the modern equipment, the flying is still demanding, and shift patterns are 48 hours on during weekdays and a grueling 72-hour duty time during weekends. Laurila told me that managing fatigue can be a challenge in itself.

"We have to be careful about the amount of time we spend on duty, but in the HEMS role that's not always easy. When your shift time is over you can't just say, 'I'm off duty now' and drop your gloves."

Unsurprisingly, FinnHEMS operations require experienced crews.

At Rovaniemi, most pilots come from the Finnish Border Guard with in-depth knowledge of the local area (see p.50, *Vertical 911, Spring 2018*). FinnHEMS requires its pilots to have a minimum of 1,000 flying hours as pilot in command, and many have much more than that.

The costs of building such experience, not to mention maintaining such a modern fleet of advanced aircraft, are high but are reflected in FinnHEMS' safety record — since its formation, there have been no accidents that have resulted in injury to a crewmember or loss of an aircraft. Even in an age of perpetually tightening treasury purse strings, Finland has made a substantial investment in order to provide its residents with safe, high-quality emergency medical services.

Indeed, the Ministry of Social Affairs and Health has stated that helicopter operations are Finland's top priority in the field of emergency care. Any future threat to the continued support of FinnHEMS is bound to make headlines, given how vital its eight aircraft are to Finland's emergency care system, and the millions of people that the system supports.



**Jon Duke & Lloyd Horgan** | Vortex Aeromedia provides specialist media services for the aviation, defense, and aerospace sector. Formed in 2015 by photographer Lloyd Horgan and helicopter pilot Jonathan Duke, Vortex Aeromedia draws on their unique blend of military aviation and media experience to deliver high-impact film, photography, and writing specifically to the defense and aerospace industry. They have flown with, photographed, and filmed for a variety of international military and civilian clients. For more information visit [www.VortexAeromedia.com](http://www.VortexAeromedia.com).

FinnHEMS mandates two-pilot operations for the unforgiving environment around Rovaniemi.



# THE SCOPE OF YOUR MISSION ISN'T DEFINED BY A BUDGET.

ASU is proud to work with modern militaries to upgrade, maintain and sustain the night vision systems that are so essential to their mission success.



Whether you want to upgrade a legacy system,  
or build a cutting-edge capability, turn to ASU.

+1 (208) 426-8117 [APSCON booth 709](#)

A V I A T I O N   S P E C I A L T I E S   U N L I M I T E D

[www.ASU-NVG.com](http://www.ASU-NVG.com)/DIFFERENCE



# TECHNOLOGICAL ADVANTAGE

We visited the Seminole County Sheriff's Office in Florida to learn how a new, state-of-the-art Airbus H125 is helping to support its multi-faceted operations.

**BY DAYNA FEDY | PHOTOS BY MIKE REYNO**

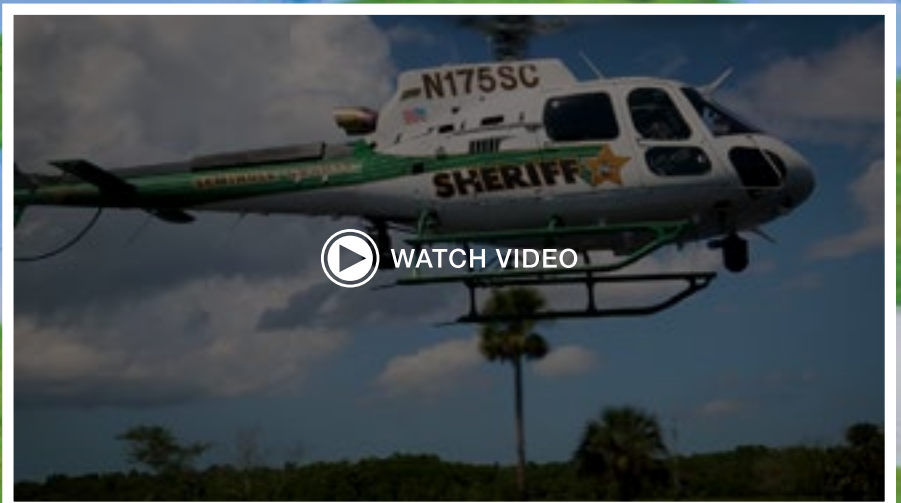


Download as wallpaper at [verticalmag.com/wallpaper](https://verticalmag.com/wallpaper)





The SCSO Aviation Section currently operates two Airbus H125s, both completed by Metro Aviation. The air unit's newest H125 (front), which it took possession of this year in exchange for its AS350 B3 from 2006, may be one of the most advanced helicopters in the airborne law enforcement field in North America.



WATCH VIDEO



**1** // The Aviation Section's new H125 has a cargo hook equipped to sling a 210-gallon Bambi Bucket, which it uses to control brush fires around the county in hot and dry conditions. **2** // A unique aspect, among many, about the SCSO Aviation Section is it supports SWAT in a variety of different roles from the air. **3** // Seminole County Sheriff's Office is the only law agency in central Florida that has comprehensive search-and-rescue capabilities. **4** // Pilots and tactical flight officers from the Aviation Section stand in front of their brand-new Airbus H125 with their petite K9 "mascot," Nick (center). **5** // A typical shift for a Seminole County Sheriff's Office aircraft commander covers about 12 hours, with around two hours spent in the air patrolling hot spots for crimes. When call-outs occur — for missing persons, fires, and SAR or air ambulance support — airborne time increases considerably. **6** // The SCSO Aviation Section's Elite TH-100 advanced aviation training device is an AStar replica that is used for in-house training. "We initially started with Airbus's double IMC [instrument meteorological conditions] training course," said SCSO chief pilot Steve Farris. "We liked it so much we decided to buy our own simulator from Elite [Simulation Solutions]."



**1**



**2**



**3**





4

For most regions of the United States outside of the largest cities, receiving emergency response support from a well-funded, technologically sophisticated, multi-mission air unit is not particularly common. But the Seminole County Sheriff's Office (SCSO) Aviation Section exemplifies each of these characteristics, and works diligently every day to help protect the county's 450,000 residents.

Encompassing seven cities, Seminole County covers 345 square miles (90,000 hectares) in central Florida. The SCSO Aviation Section currently uses two Airbus H125s to perform a multitude of missions in the area, including airborne law enforcement, aerial firefighting, search-and-rescue (SAR), and SWAT support.

Flying over 1,000 hours a year, the air unit responds to more than 400 calls from service deputies on an annual basis — several hundred of which come from the seven cities in the county, with the remainder from surrounding areas.

"If we're called, we respond," said Lieutenant Steve Farris, chief pilot with SCSO Aviation Section. "We are counted on by our friends and neighbors around Seminole County."

Starting back in 1995, the SCSO Aviation Section's first helicopters were two 1973 surplus Bell OH-58 aircraft for patrol operations, with just two full-time pilots and a few part-time tactical flight officers (TFOs). When the air unit later expanded into aerial firefighting and air ambulance work, it acquired a 1969 Bell UH-1 Huey.

The fleet's transition to the Airbus Helicopters AStar began in 2006, when the air unit purchased its first AS350 B3. The OH-58s were officially retired in 2008, when an Airbus EC120 joined the fleet. While the SCSO Aviation Section was impressed with the B3's performance in emergency response missions, it decided to sell off its EC120 and was able to budget for an AS350 B3e (now called H125) in 2013 — marking the air unit's official transition to an all-AStar fleet.

According to Farris, the Sheriff of Seminole County believes in the region's Aviation Section, and ensures that it has the funding it needs to support well-trained deputies and safe, capable aircraft for their missions.



5



6



1 // The Aviation Section works closely with the Seminole County Fire Department. Here, a member from the fire department conducts medevac training with a SCSO H125. 2 // The aircraft's Breeze-Eastern rescue hoist is capable of lifting up to 450 pounds on the hook at a time with a 165-foot cable. Crews use the rescue hoist for land and water search-and-rescue missions or medevacs. 3 // With numerous waterways in Seminole County, the Aviation Section often receives calls to locate kayakers or boaters who have lost their way. Here, chief pilot Steve Farris flies the H125 above wetlands.



1



2



3

## ADVANCED OPERATIONS

The SCSO Aviation Section recently traded in its 12-year-old AStar for a brand-new H125, completed by Metro Aviation and customized for special missions. This aircraft, with its tailored upgrades, may be one of the most advanced helicopters in the airborne law enforcement field in North America.

"On our last completion with Metro Aviation on our Airbus H125, we really stepped it up and have some incredible interfaces," Farris said, noting that Metro also modified and completed the air unit's previous two helicopters. "We were very impressed with Metro's ability to meet our custom needs for our missions."

Starting at the front of the aircraft, the nose of the H125 features the Garmin traffic system antenna, a downlink antenna, and wire strike provisions.

Climbing into the cockpit reveals the aircraft's full avionics package with an added Garmin 750 system, complete with Bluetooth and Wi-Fi interfaced with the Apple iPad and ForeFlight app on board. Also installed in the H125 is the AeroComputers UC-6000 moving map system and keyboard, which work in cohesion with the Garmin system; the 6000 can send a waypoint to the Garmin system to provide the pilot with the address of an emergency scene. "This is an incredible feature for us with situational awareness," said Farris. In addition, the 6000 system can be used to activate the Genesys HeliSAS autopilot, which will automatically fly the helicopter to a destination.





HELICOPTER ENGINES

FOCUSED ON YOU

Safran is the world's leading manufacturer of helicopter engines. It offers the widest range and supports 2,500 operators in 155 countries with one constant aim: to stay focused on their missions and to keep their helicopters flying every day, everywhere. **Proud of our 80-year legacy in the helicopter industry, this is what we stand for since 1938.**

[safran-helicopter-engines.com](http://safran-helicopter-engines.com)

🐦 : @SafranHCEngines





The Aviation Section often receives calls on the numerous waterways of Seminole County to locate boaters or kayakers who have lost their way.









**BELOW //** With the number of lakes and rivers in Seminole County, the Aviation Section trains regularly with aviation rescue swimmers.

**RIGHT //** These photos are in memory of Lt. Mike Salber, who died in a tragic boating accident on June 2, 2018. He had been with the Sanford Fire Department since 1996, was a member of the Special Operations team, and worked with SCSO as an aviation rescue swimmer (below, right). He spent much of his time helping and protecting others. He will be deeply missed by many.



 **WATCH VIDEO**

On the TFO's side of the aircraft, Metro installed multiple UC speed chargers in USB interfaces, so TFOs can download UC-6000 video files from within the cockpit, without needing to access the aft avionics compartment. This side of the helicopter also features high-definition (HD) monitors and a digital video recorder (DVR) system from Avalex Technologies, as well as the MX-10 multi-sensor system from L3 Wescam — all critical components to support airborne surveillance.

"[The MX-10] allows us to look in the dark areas that you cannot see with the naked eye," said Danny Casanova, TFO with Seminole County Sheriff's Office. "We can see body heat sources; if a subject is trying to hide in the woods, we can see that."

The H125's new Trakka spotlight also interfaces with the UC-6000 and the MX-10, so TFOs can type in an address and have the spotlight and camera point in the required direction for a mission, he added.

For effective communication during flight, the aircraft has the Technisonic TDFM 9000 radio system. With a custom-designed drop down monitor system in the back, TFOs can run calls, control the radio, and talk on the radio with ease from the back seat.

Safety is also high on the priorities list for the SCSO Aviation Section. Airbus now manufactures its H125s in the U.S. with energy-absorbing front seats and crash-resistant fuel systems — a critical step toward reducing post-crash fires. "What I've been impressed with is that [Airbus] is always improving their product — making it safer, more efficient, and reliable, and adding newer technology to keep flight crews safe as well as make their jobs as efficient as possible," said Farris.

Taking safety one step further, Metro designed numerous cameras that were installed around the helicopter, and crews have the ability to display the different camera feeds — rescue hoist, cargo hook, aft-facing tailboom, cabin/cockpit — on any of the monitors throughout the aircraft.

The SCSO Aviation Section even specially requested DART Aerospace Heli-Access-Steps for ease of access in and out of the aircraft.

"This particular aircraft has all the tools we need," said Farris. "I would say this is the best set-up we have had to do our job. . . . We're able to do all of our missions in one helicopter."





## MULTITUDE OF MISSIONS

For a small area, Seminole County is densely populated. SCSO is a correspondingly sized organization, with 1,400 employees, of whom 450 are sworn deputy sheriffs. Today the Aviation Section is made up of five full-time and two part-time pilots, and four full-time and eight part-time TFOs.

Supporting the ground-based deputies on the front lines through airborne law enforcement is the Aviation Section's primary mission. "The [H125] is basically like a patrol car in the sky, except we can see a lot farther — we have all the latest technology on board," Farris said.

"We have an 800-watt PA [public address] system that the pilots and TFOs can [use to] make announcements in neighborhoods, communicate with boaters — a wide array of different situations."

For nighttime patrolling, the air unit's crews use the infrared and night vision goggle (NVG) technology on the H125 to make the most of their vantage point from above when searching for the "bad guys." The crews communicate back and forth with K9 units while tracking criminal suspects, and guidance from TFOs helps ground units avoid



**"THIS PARTICULAR AIRCRAFT HAS ALL THE TOOLS WE NEED... WE'RE ABLE TO DO ALL OF OUR MISSIONS IN ONE HELICOPTER."**

blindly running into dangerous persons. During the day, the aircraft's HD camera also comes in handy to document incidents, scenes, and searches.

With the high temperatures and dry heat in central Florida, the unit's secondary mission is providing aerial firefighting support. The SCSO's newest H125, equipped to sling a 210-gallon Bambi Bucket, responds to brush fires around the county to support the fire department — often making multiple water drops to control flames before they threaten homes, Farris said.

"In the state of Florida, brush fires are a big concern," he added. "Sometimes it's hard [for ground vehicles] to reach locations out in the wilderness; we can get there first . . . and we're able to get the fires under control."

And for land and water SAR support, the air unit's H125 is equipped with a Breeze-Eastern rescue hoist, capable of lifting 450 pounds (205 kilograms) with a 165-foot (50-meter) cable. The Aviation Section often receives calls on the numerous waterways of Seminole County to locate boaters or kayakers who have lost their way, and guide ground units to their whereabouts.

Of course, in some cases where water is involved, ground units aren't able to quickly reach a casualty or missing person. When necessary, the air unit can carry and deploy a rescue swimmer who can "determine if the person needs medical attention or not and package them up appropriately," explained Timothy Graham, aircraft commander for SCSO.

For SAR purposes, the Aviation Section decided to use LifePort





The Aviation Section's new H125 keeps pace with a Seminole County Sheriff's Office boat from the Marine Division.



# MIRAGE™

## THERMAL ID FILM

- Pressure Sensitive Self-Adhesive Vinyl for Marked or Un-Marked Police Vehicles
- Increased Unit Identification Day or Night When Using Thermal Imaging Cameras
- Material is Restricted for use by Law Enforcement Only
- 24/7 All Weather Operation

Daylight View



Thermal View



For More Information Contact Us At:  
303.790.7111 or 1.833.790-7111

Or Visit On The Web At:  
[www.Mirage-USA.com](http://www.Mirage-USA.com)

DEVELOPED IN THE U.K.



MADE IN THE U.S.A.

seats on the H125 for their ease of removal and replacement — whether going from passenger to rescue hoist missions or back again. “We can put up to four seats in the back and always be ready for a rescue mission,” said Farris.

The combination of the LifePort seats and the H125’s large cabin also make for a comfortable ride. “There’s a sufficient amount of room to help assist with rescue hoist missions,” said Graham. “We’re able to get two or three persons in the back with plenty of room.”

Moreover, Farris said the open cabin allows for simple communication between everyone on board, plus comfort during long flights — since a typical shift at SCSO covers about 12 hours, and up to two hours at a time can be spent flying each mission before refueling.

In addition to its SAR capabilities, the SCSO Aviation Section also has the ability to support SWAT with its advanced airborne technologies.

“We’re the only county in the central Florida area and in our region of the state [that is] offering these types of missions,” Farris concluded. “Everyone [who has] aviation missions is doing law enforcement, but the fire-fighting is unique; the rescue-hoist missions are unique; SWAT deployments are unique. So we’re offering some special services that are unique to our county.”





# VISIT US ONLINE

The world's best helicopter website has gotten even better.  
More amazing content. Brilliant design. An immersive reader experience.

**The results will blow you away.**



loads  
**2X FASTER**  
globally



enhanced  
**SEARCH**  
capability



exceptional  
**MOBILE**  
experience



totally  
**SECURE**  
browsing





1

1 // A SCSO H125 hovers behind members of the SWAT team during a training exercise. 2 // The Aviation Section was able to budget for an AS350 B3e/H125 (background) in 2013, which marked the air unit's transition to an all-AStar fleet. In addition, it received its new, highly advanced H125 (foreground) this year. 3 // "The [H125] is basically like a patrol car in the sky, except we can see a lot farther — we have all the latest technology on board," said chief pilot Farris.



2



3

## BEHIND THE CONTROLS

The SCSO Aviation Section trains its pilots internally from TFOs, although it hires some deputy pilots from outside the organization as well, since it can take years for a TFO to become fully qualified as a pilot. That path typically begins when a road deputy applies for a part-time TFO position, which can ultimately turn into a full-time position as openings appear.

TFOs receive their initial flight and ground instruction from a SCSO certified flight instructor (CFI) and gradually build up flight hours. SCSO has its own Elite TH-100 advanced aviation training device, which it uses to train pilots and TFOs in procedures such as inadvertent entry into instrument meteorological conditions (IIMC).

"Not only do we train the pilots to do this, but we train the TFO to assist them in an emergency if there's an actual [IIMC] condition," said Farris.

In addition, the simulator is used to teach all TFOs how to land the helicopter in an emergency if the pilot becomes incapacitated for any reason.

Farris added, "The simulator is also a great public relations tool where people who come by and visit can actually experience flying a helicopter . . . and [appreciate] the challenges and rewards of flight."



A member of the Seminole County Sheriff's Office SWAT team practices fast roping from the new H125.

When TFOs have built up enough flight hours and experience, these new pilots move on to initial H125 type training at the Airbus Helicopters factory, followed by taking on a day shift role with the air unit. To move forward into daytime operational flying, pilots are required to have 300 to 500 hours in a helicopter, and must take in-house night ops training and NVG training to move into nighttime flying.

For pilots coming into the SCSO Aviation Section from the outside, the agency looks for applicants to have at least 1,000 hours of flying time under their belts, and previous experience as a ground-based deputy sheriff or police officer.

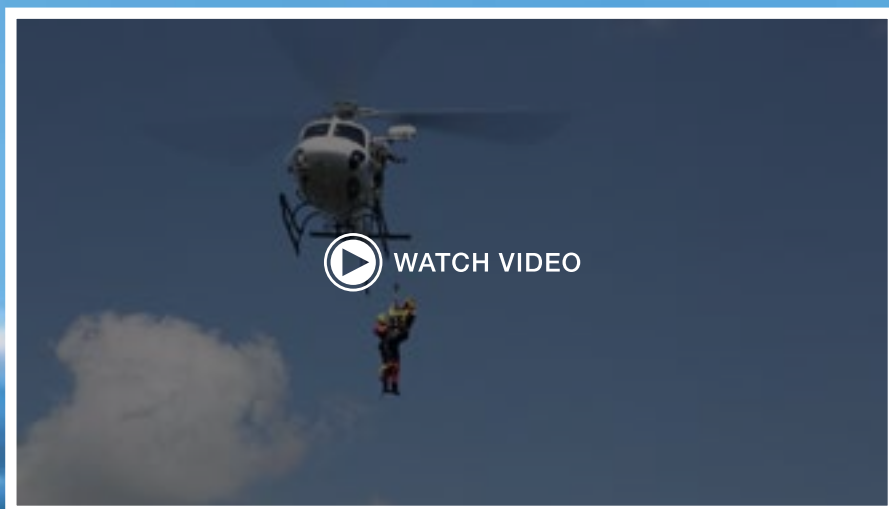
Pilots flying the line in the Aviation Section complete annual refresher training with Airbus in order to stay current. The agency also uses its Elite simulator for instrument proficiency checks to confirm each pilot continues to meet the standards of performance required for an instrument rating. Keeping its pilots current and proficient is central to SCSO's standards.

With consistent training and cutting-edge aircraft, the SCSO Aviation Section is well equipped to support the men and women on the front lines in Seminole County, and to protect those who call the region home. During *Vertical 911*'s visit to SCSO, it was clear that the pilots and TFOs truly love what they do.

"I enjoy every day I come to work," said aircraft commander Graham. "I'm excited to get here because I have the pleasure of flying the H125 . . . and helping to protect people."



**Dayna Fedy** | Dayna is junior editor of *Vertical* magazine. She completed her undergraduate degree in communication studies in June 2017, joining MHM Publishing later in the year to pursue a career as a writer and editor.









# SETTING A NEW STANDARD

The California Highway Patrol looked to Air Rescue Systems for guidance in overhauling its hoist training program.

**STORY AND PHOTOS BY DAN MEGNA**

**LEFT** As the California Highway Patrol transitions its fleet to the Airbus H125, the organization is also adopting new hoist techniques for improved safety and efficiency.

**BELOW** Personnel at a recent CHP training session included, in the top row, from left, Scott Grant, Mike McAuley, Brandon Hallam, and Scott Rodda; and in the front row, from left, Kevin Vinatieri, Scott Clays, Mike Crain, Dan Gallagher, Bryan Souza, Shaun Bouyea, Tyler Johns, Larry O'Brien, Joe Kingman, and Gerry Perez.

Since it was first established in 1929, the primary mission of the California Highway Patrol (CHP) has been enforcing traffic laws and promoting vehicle safety across the state's extensive system of highways and byways.

In the 1960s, the CHP adopted the use of aircraft, a mix of airplanes and helicopters, which provided effective alternatives for traffic control and law enforcement. The CHP's Office of Air Operations (OAO) was created to manage and coordinate the program throughout the agency's eight operational divisions.

The first helicopters were Hughes 500s and Fairchild Hiller FH-1100s. In the 1970s and '80s, the CHP acquired additional rotary-wing aircraft: Bell 206 LongRangers, MBB Bo.105s, and a Eurocopter (now Airbus Helicopters) AS350 BA AStar. The improved performance of these helicopters allowed the CHP to expand its mission capabilities to include medevac and search-and-rescue (SAR) using short-haul and hoisting techniques. These new capabilities were quickly recognized as crucial lifelines, especially for those in rural communities and remote areas of the state.

In the late 1990s and early 2000s, the CHP moved to standardize its helicopter fleet. It began taking delivery of what would ultimately be 15 AS350 B3 AStars, each equipped with rescue hoists and the latest in infrared and imaging technology.

The B3's enhanced high and hot performance was a game changer for CHP's SAR mission and it became a highly regarded workhorse. It excelled in the scorching desert environments supported by CHP's Southern Division and in the Inland Division's high-altitude work in the mighty Sierra Nevada mountain range, home to 14,505-foot (4,420-meter) Mount Whitney, the highest point in the contiguous United States.

In 2015, with several of the agency's B3s eclipsing 16 years of service, a multi-year fleet replacement plan with Airbus Helicopters delivered the first of what will ultimately be 15 H125s, an upgraded and more powerful variant of the popular AS350 AStar (see p.40, *Vertical 911*, Summer 2016).



While the CHP crews maintain currency in conducting human external load missions, the Goodrich hoists installed aboard the new H125s are providing improved hoisting capabilities over the hoists installed on their legacy fleet of AS350 B3s.



"The H125 offers an increase in power, increased gross weight, advanced avionics, upgraded FLIR, more capable hoist, and a full suite of law enforcement radios to meet all our communication needs throughout California," said CHP chief helicopter pilot Sergeant Tyler Johns. "It has increased our ability to do our mission in the high, hot, and heavy scenarios we are routinely faced with in the rescue environment. The increased power means we can have more fuel, more personnel, more equipment, or increased performance margins while conducting high-altitude rescues."

One important performance item Johns highlighted is the time the H125 can sustain maximum takeoff power. He said, "The maximum permissible power that can be used for takeoff (MTO) for a limited time in the H125 is 30 minutes. The MTO for the B3 was five minutes. A lot of our hoist extractions occur at very high altitudes, 10,000 to 14,000 feet, and require using MTO to complete the hoist operation. Having more time allowed in that power range increases our safety in the operation without the undue pressure of rapidly executing a very complex rescue operation."

With CHP's eight operational divisions spread all throughout the

state, the various helicopter units are somewhat isolated from each other and rarely have an opportunity to interact or train together. As a result, many aspects of SAR techniques and crew communications were not necessarily standardized across the organization.

In hoist operations, for example, most crews favored a technique referred to as "static hoisting" as the basis for their missions. As O'Brien described it, "Static hoisting is bringing the helicopter into a hover over the site, then deploying the hoist hook to the ground. Then recover the hook before beginning any forward movement, departing the scene."

However, the individual crews had the freedom to develop their own procedures and methods for communicating. CHP pilot and OAO helicopter maintenance officer Bryan Souza said, "We all operated about the same but perhaps the divisions spoke a different language, like we were not entirely on the same sheet of music."

### AN OUTSIDE PERSPECTIVE

About the time the H125s were coming on line, OAO began





Flight Officer Dan Gallagher pre-flights the hoist hook prior to a training evolution.



Flight Officer Kevin Vinatieri installs the lightweight Human Anchor Plate (HAP) on the LifePort seat rails in the rear of the H125, providing critically needed anchor points for rescuers.

an assessment of existing policies relating to SAR operations. It was noted that while the organization had enjoyed many years of success and a remarkable safety record, it had never invited an independent audit from an outside provider to examine how it was doing business, especially with respect to hoist and external load operations.

OAo officials understood that, given the program's years of success, the suggestion of an outside audit and training provider might be met with skepticism if not outright push-back. But they also understood the potential risks they would assume should they not pursue seeking a fresh perspective.

**“WE USE COORDINATED, COMPOUND PROGRESSIVE MOVEMENTS. SO THE AIRCRAFT IS ALWAYS MOVING EFFICIENTLY. YOU’RE EITHER DESCENDING AND MOVING RIGHT, MAYBE BACK, UP AND LEFT... THAT’S THE WAY YOU FLY THE AIRCRAFT, SO WHY NOT HOIST THAT WAY?”**

So after careful considerations of several independent SAR consultants and training providers, CHP chose Oregon-based Air Rescue Systems (ARS). According to CHP OAO chief flight officer Larry O'Brien, "In my search for a company to provide this training it was essential that whoever we bring on board understand our mission. After talking with several providers I felt most comfortable with Bob [Cockell] from ARS. I felt he really understood where we were and where we wanted to go with the program."

A three-year program was developed, with ARS providing on-site training in seven-day blocks for small groups of senior training pilots and flight officers as a "train the trainer" model.

O'Brien recalled, "This was a big leap for us! We had some real strong personalities, 'Doubting Thomases' at the beginning, who were skeptical. We really had not had an outside agency look at our program and now we're having somebody take a look at what we do and we're opening a window to outsiders to see what's

CHP helicopter flight officers are all paramedics. When necessary, CHP can also pull flight officers from the fixed-wing program who are qualified to run the hoist.



While the CHP's AStars are capable rescue platforms, they do have some limitations, one of which is a maximum allowable weight on the hoist of only 450 pounds (205 kilograms).








CHP crews must be mindful of center-of-gravity (CG) limits during rescue operations. According to CHP chief flight officer Larry O'Brien, "When the hoist boom arm is in its deployed position, with a maximum static load, put us right at the edge of CG limitations. Now with a load on the line in a dynamic situation, the boom arm flexes, which translates the energy back into the aircraft. This movement can exceed the CG limits and begins to drive the aircraft."





"Implementing dynamic hoisting is changing the way we do business," said flight officer Matt Calcutt. "It reduces the amount of time spent in a hover and the amount of time spent going into and out of scenes. So we're reducing risk and increasing safety and overall becoming more efficient with our whole program."

going on. Quite frankly it made us feel a little vulnerable."

ARS vice president Cockell and his trainers were keenly aware of the potentially sensitive nature of the situation. The CHP crews were seasoned SAR professionals with years of successful missions to their credit, often in extreme environments. ARS on the other hand was an unknown outsider to the CHP, and earning the crews' acceptance wasn't at all guaranteed.

Cockell said, "Look at their long history, they've been doing this for many years. So we knew [they] were going to have a lot of strengths going into the process. Just the experience, flight time, and their working environment is so varied, so I knew there would be a great capability that would surface. With this in mind, I toned the training toward that, to use what they have been doing and not just discard or disregard all their collective past knowledge. We needed to honor the proficiency and the legacy of the program they created."

The ARS course utilizes a "crawl, walk, run" approach to teach indirect vertical reference (IVR), a method for precision hoisting that emphasizes dynamic, fluid aircraft movements and precision load control techniques.

Courses begin with two days of classroom instruction covering operations safety, risk management, crew resource management (CRM), "rotor-flow dynamics," and the physical laws and constraints relating to hoisting and load control. An afternoon is then dedicated to aircraft rigging and equipment familiarization to include ARS' innovative AStar Human Anchor Plate (HAP) and the new Goodrich hoists installed on the H125s.

The AStar HAP was designed by ARS along with the Utah Highway Patrol to provide much-needed additional anchor points inside the rear cabin of AStars configured with LifePort's rear seat mounting rails. Meanwhile, the Goodrich hoist has performance enhancements over the CHP's previous model and enhances mission capabilities. It has an increased load capacity allowing "two up" attended hoist rescues. Additionally, in the dynamic hoisting environment, the increased speed of the hoist aids in load control and ability for precision hook placement. It also means less time in an out-of-ground-effect (OGE) hover during the actual hoist operation.

The balance of the course instruction is conducted in the field. Each student is given the opportunity to perform literally dozens of hoist evolutions each day in progressively challenging real-world environments.



# ***YOUR MISSION*** **SAVES LIVES**

## ***CLEAR IMAGING IS CRUCIAL***

FLIR continues to redefine what's possible with a complete, mission proven line of high definition EO/IR sensor options. Unmatched, multi-spectral HD imaging solutions, with ITAR free options, and world-class service and support.

UltraForce 350-HD



Star SAFIRE 380-HD



Star SAFIRE 380-HDc



The World's *Sixth Sense*®



CHP flight officers practice transitions into and out of the helicopter during training evolutions.



ARS instructor David Arias (left) looks on as Officer Shaun Bouyea (on the hoist hook) and Officer Brandon Hallam familiarize themselves with hoist hardware and procedures.

## TONE, TEMPO, AND TIMING

At the core of the IVR method is the communication that must exist between the flight officer/hoist operator and the pilot, and the ability to accurately express one's needs, directions and information.

Most traditional hoisting techniques utilize rigid commands to direct single-path or "one-ended" movements of the aircraft. Flight officer Matt Calcutt said, "In our old way of communicating we would open and close a command before issuing another. For example, if the aircraft needed to go 'forward and left' the command would be given, 'forward' to a particular point and then a second command of 'left.' So the pilot would follow that 'forward' command: 5... 4... 3... 2... 1... stop. Then be given the 'left' command: 5... 4... 3... 2...1... stop. This creates a right angle."

The ARS method promotes "compound movements" like forward

and left or down and right. Voice inflections are used to convey to the pilot such things as rate of closure. Calcutt explained, "A command delivered such as 'easy left' lets the pilot know he has more ground to cover than if the flight officer uses an inflection to say, 'eeaaassy left' which would convey a shorter, more precision movement of the aircraft. The whole goal is to have that pilot fly that aircraft as long as they can and then pass the control of the aircraft to the hoist operator who gives clear verbal commands to the pilot to precisely position the aircraft."

"What we teach is a casual conversation that's very fluid, based on the 3 Ts — tone, tempo, and timing — in our message," said Cockell. "We use coordinated, compound progressive movements. So the aircraft is always moving efficiently. You're either descending and moving right, maybe back, up and left... That's the way you fly the aircraft, so why not hoist that way? It reduces



the time you're sitting there and it definitely reduces the amount of unwanted movement the load receives due to aircraft stair-step-ping movements."

Another critical element of the ARS method is cable hand input and thumb control of the hoist control's pendant controlling the cable speed. This provides fine control of the load required for precision placements.

Calcutt said, "While the thumb control exercises may be viewed as baby steps in the beginning, they're foundational in teaching a hoist operator the skills of finessing the hook, especially within close proximity to the ground, allowing the load to be placed very gently and with great precision."

Compared to its old method of static hoisting, CHP has now embraced a dynamic hoisting technique. As O'Brien explained, "Our new technique of dynamic hoisting is deploying the hook prior to arrival and then having it arrive in hand as the helicopter holds overhead briefly. As soon as the load is off the ground and clear of obstacles, we transition to an easy forward and then once recovered to the aircraft, [are] cleared for forward flight." O'Brien said the technique is faster and limits the amount of time the helicopter spends in a hover and in the "avoid" area of its height-velocity curve.

Presently, the CHP is operating a fleet of 15 helicopters including eight H125s. Of those, 12 are fully SAR capable. The other three aircraft operate out of the Metro Division in the Los Angeles Basin and are primarily used for law enforcement support. Two additional H125s are expected to join the fleet in the next two years. Budgets will dictate the timing of the remaining purchases to completely turn over the fleet.

In 2017, the 12 CHP SAR aircraft flew nearly 10,000 hours, conducting 471 SAR missions throughout the state. They conducted 351 Advanced Life Support (ALS) medical transports and performed 153 hoist rescues.

With the agency having recently completed its fourth course with ARS, the overwhelming response from CHP pilots and flight officers is clearly energized enthusiasm. O'Brien said, "The ARS training really opened our eyes and gave us a real understanding as to the dynamics involved in hoisting and learning thumb control of the cable. In the past if we developed an oscillation we'd just bring the load up to the helicopter real quick and get out of there. But now, understanding the dynamics of everything, we can now control the load and fix oscillations and bring a controlled load up to the helicopter."

Souza said, "With the ARS training, we

now know what we didn't know. It wasn't that we were doing anything wrong. But now we've just learned better ways of doing it. And by doing this it has increased our efficiency and has helped minimize some of the risks. And the ARS training will help us standardize the training program for hoist operations throughout the entire agency."



**Dan Megna** | Dan served nearly 20 years of a 30-year law enforcement career as a helicopter tactical officer, pilot, and flight instructor with a large Southern Californian sheriff's department. He has been a regular contributor to *Vertical* and *Vertical 911* since 2004.

# You expect excellence and we deliver.

For 25 years, we've provided quality parts, service and aircraft modifications that put your aircraft safely back in the air.



*Proven excellence for 25 years.*

**PARTS • SERVICE • AIRCRAFT MODS**

**Southeast Aerospace**

[seaerospace.com](http://seaerospace.com)

Recent tests have cleared the Cyclone to operate from a Royal Canadian Navy frigate in very rough conditions up to Sea State 6, which is characterized by waves of between 12 and 20 feet (four and six meters) high, and winds of up to 55 knots (100 kilometers per hour).  
**MCpl Jennifer Kusche Photo**





# YEAR OF THE CYCLONE

It's been slow going since Canada's CH-148 Cyclone maritime helicopter procurement was announced in 2004, but 12 Wing Shearwater's hard work is paying off.

BY LISA GORDON



Canada's fleet of CH-148 Cyclone maritime helicopters achieved initial operating capability (IOC) on June 7, 2018, paving the way for the new helicopter's first operational deployment in early July.

Meanwhile, the Royal Canadian Air Force (RCAF) is rapidly phasing out the CH-124 Sea King, with one of the 1960s-era helicopters currently serving out the type's last operational mission at sea with the Royal Canadian Navy (RCN).

As Col Sid Connor said, this is the year of the Cyclone.

"At the beginning of 2018, everything we were doing was about finishing off operational testing to enable us to conduct operations, and to transition both aircrew and maintainers," said Connor, who assumed the role of Wing Commander at 12 Wing Shearwater, Nova Scotia, in July 2017.

**"BY THE END OF 2018, WE'LL BE COMPLETELY OUT OF THE SEA KING BUSINESS. WE'VE GOT AIRCRAFT MOVING BACK AND FORTH FROM EAST COAST TO WEST COAST, AND WE HAVE ROUGHLY 10 AIRCRAFT [ON THE WEST COAST] NOW, ALTHOUGH THAT NUMBER FLUCTUATES."**

"We've flown about 1,200 hours over the last year, split between testing hours and training hours, with some of those on the ship."

He told *Vertical 911* that ship helicopter operating limit (SHOL) testing has been completed. Those evaluations have cleared the Cyclone to operate from an RCN frigate in very rough conditions up to Sea State 6, which is characterized by waves of between 12 and 20 feet (four and six meters) high, and winds of up to 55 knots (100 kilometers per hour).

Though the procurement process has been painstakingly slow since Canada first announced it would purchase 28 Cyclones from Sikorsky in 2004, the pace of progress has picked up significantly in recent years as 12 Wing and Sikorsky work to bring the Cyclone into service.

This year, in particular, has been eventful.

On Jan. 26, 2018, the last Sea King squadron on the East Coast stood down — and within 30 days it was reactivated as a Cyclone unit.

"By the end of 2018, we'll be completely out of the Sea King business," confirmed Connor. "We've got aircraft moving back and forth from East Coast to West Coast, and we have roughly 10 aircraft [on the West Coast] now, although that number fluctuates."

While 443 Maritime Helicopter (MH) Squadron in Patricia Bay, British Columbia, is still flying the Sea King operationally, numbers are being "drawn down" as both aircrew and maintainers enter conversion training for the new helicopter.

Currently, a Sea King helicopter air detachment (HELAIRDET) from 443 Squadron is serving on board the frigate HMCS *St. John's* in the Mediterranean Sea, as part of the NATO-led Operation Reassurance. The mission marks the final operational deployment for the CH-124 Sea King, which began flying for Canada in 1963.

With the ship expected home in early July, Connor said it will be replaced by HMCS *Ville de Quebec*, which will carry the first operationally deployed Cyclone HELAIRDET from 423 (MH) Squadron at 12 Wing.

But before that mission could take place, the Cyclone program had to reach IOC.

That milestone was achieved on June 7, based upon a recommendation from 12 Wing to Maj-Gen Christian Drouin, the commander of 1 Canadian Air Division (1CAD) in Winnipeg.

Connor said 12 Wing had to demonstrate that "we have trained enough people and that we have enough materiel, and we are sustainable, to go out on actual operations."

"Most of what we've done at 12 Wing up to this point has been all about generating that capability."

## **BUILDING CREW CAPABILITY**

Inside the "schoolhouse" at 12 Wing — officially known as 406 Maritime Operational Training Squadron — it's a beehive of activity.

While the building itself is still officially owned by Sikorsky, Canada is expected to assume possession in the coming months.







Download as wallpaper at [verticalmag.com/wallpaper](http://verticalmag.com/wallpaper)

By the end of 2018, Canada's CH-124 Sea Kings (background) will be completely retired, making way for the CH-148 Cyclone maritime helicopter (foreground). **Mike Reyno Photo**



The Cyclone is scheduled for its first operational deployment this July. Lessons learned from that initial mission will be folded into the CH-148 program in "real time," said Col Sid Connor, commander of 12 Wing Shearwater, Nova Scotia. **Cpl Anthony Laviolette Photo**



**1 //** The Cyclone program has logged about 1,200 hours over the past year, split between testing and training. Block II helicopters are being used by the operational squadrons, while earlier Block I models are used for training, pending upgrades. **Cpl Anthony Laviolette Photo 2 //** The Cyclone brings a host of new capabilities to an operational deployment. 12 Wing expects the helicopter and its crews to be challenged by new mission types while on deployment. **Ordinary Seaman Raymond Kwan Photo**

In June 2017, the facility was officially named The Fumerton and Bing Training Centre in honor of pilot Robert "Moose" Fumerton and navigator Leslie Patrick Bing, a legendary RCAF crew who achieved the Air Force's first "night kill" of the Second World War.

"Quite often we name buildings after individuals; but in this case, at the training unit, we train crews," said Col Peter Saunders, director of operational implementation, Maritime Helicopter Project in Ottawa, and former commanding officer of 406 Squadron.

"We build crews here; we build HELAIRDETs. That's what Moose and Leslie did back in World War II. We wanted that to be an inspiration to the members of the squadron and the crews coming through there."

As of late May 2018, more than 120 maintenance personnel and 23 aircrew had completed their conversion training to the CH-148 Cyclone platform at the 12 Wing schoolhouse. (Another dozen pilots were scheduled to finish within the month.)

On the maintenance side, the transition takes between two and four months and involves several different courses of varying lengths. In January, 12 Wing had one maintenance unit; but by September, Connor said there will be three.

"We have generated enough maintainers now that we're maintaining 12 Air Maintenance Squadron (AMS) Cyclones, but we also have a maintenance capability at 423 MH Squadron and we are already training several who will be part of 443 Squadron on the West Coast."

On the aircrew side, the Cyclone is crewed by two pilots, a tactical coordinator (TACCO), and a sensor operator (SENSO).

Connor explained that pilot conversion training takes four to five months, while TACCO and SENSO courses are about six months long.

"We are taking normal Sea King crews into the schoolhouse and

converting them into operational crews, now that initial cadre training is complete."

But regardless of whether they fly in or maintain the CH-148 Cyclone, simulation figures prominently in the curriculum. Connor estimated that perhaps as much as one third of the program is supported by simulators that can "fly" no matter the weather.

"There has been direction for all the fleets to get into using simulation as much as they can," said Connor. "I think the reality of it is there are a lot of things you can train much better in simulation versus in an aircraft. For example, a pilot can work an emergency cockpit fire much more realistically, because you can push beyond what would be safe in an aircraft. Similarly, you can create a warfare environment at a much greater intensity than you would on an actual helicopter, so it's more efficient and better training."

406 Squadron has two simulators used for pilot training and two mission sims used for TACCO/SENSO instruction. Both types of simulators can be linked so pilots and TACCO/SENSOs can train in the same environment.

In addition, noted Connor, the schoolhouse also features maintenance simulators that feature portions of the aircraft with actual parts.

While virtual reality is not currently employed in the schoolhouse, Connor did mention a CH-148 rescue hoist simulator developed by St. John's, Newfoundland-headquartered Bluedrop Training & Simulation. That device is expected to be delivered to 12 Wing shortly and will be used for proficiency training.

## THE FLEET BY NUMBERS

So far, Canada has taken delivery of 15 of the 28 CH-148 Cyclone helicopters ordered.

"If you were to walk around 12 Wing today, you'd count 10 or 11

1





tails,” said Saunders. “We’re in the process of continual delivery.”

By the end of June, he expects Shearwater to be home to six Block II helicopters, which are being used by the operational squadrons. The earlier Block I models are being cycled back to Sikorsky for upgrades; in the interim, those still at 12 Wing are being used for training purposes.

“The main difference between blocks was that the maintenance length in Block I components was not as long as what we’re getting on Block II,” explained Saunders. “The time between inspections has increased. No one else in the world flies Cyclones, so as we gain experience with the Block I, the system as a whole learns how the components stand up.”

One of those lessons was revealed during ship-helicopter trials, when crews realized the external sonar equipment clearance was not as great as it should be when the helicopter was landing on deck. Consequently, the Block II model was modified with a new, contained sonar system.

The first Cyclone will be stationed at Patricia Bay this summer and the West Coast squadron will transition rapidly. Flying will commence by early September, with all Sea King operations ending in December.

“They will be standing up a HELAIRDET and deploying operationally in January,” said Connor, who noted that lessons learned from the first operational deployment in July will be folded into the CH-148 program in “real time.”

As for the Sea King fleet, the airframes that have ceased flying are being stored in Shearwater and Patricia Bay pending a disposal plan from Ottawa. At least one is destined to be displayed at the Shearwater Aviation Museum, the birthplace of maritime aviation in Canada. It’s a fitting tribute to an aircraft that provided yeoman’s service to the country for an astonishing 55 years.

But while it honors the past, 12 Wing is very much about the future.

Connor said Cyclone HELAIRDETs will bring tremendous capability to the field, which may prompt an expansion of their mission portfolio.

“It will get us conducting some operations we haven’t conducted very often; now, the Cyclone will be the first choice [among Allied aircraft]. We may find we’re doing a different mixture of operations at sea.”

While the Sea King had sonar and raw radar, the Cyclone offers capabilities that



2

## Don't Compromise.

Is it just us, or is it misleading that the word compromise contains the word promise? As in, "I didn't get what I was promised, so I had to compromise."

At Wysong, we won't compromise on important issues – like promising an unrealistic delivery date. As your trusted provider of customization, maintenance, repair and refurbishment of helicopters, we will work to quickly and safely get you back in the air. Independently owned by field-tested aviation professionals, we stand behind our work and guarantee 100% customer satisfaction. Call today and speak with a knowledgeable person about your next helicopter project.

LAW ENFORCEMENT | EMS | VIP | SPECIAL OPS  
CUSTOMIZATION | MODIFICATION | RESTORATION

**WYSONG**

T: 423.325.6900 F: 423.325.6905 sales@wysongusa.com www.wysongusa.com

**1 //** A CH-148 Cyclone conducts wet hoist training operations with assistance from Fleet Diving Unit (Atlantic) over the Halifax Harbour, near Shearwater, Nova Scotia. **Cpl Anthony Laviolette Photo** **2 //** The first Cyclone will be stationed at Patricia Bay, British Columbia, this summer. The West Coast squadron will transition rapidly, with flying commencing by early September. **Ordinary Seaman Raymond Kwan Photo**

1



2



are “an order of magnitude better,” including sonar, sonobuoy processing, and imaging radar. Its modern electro-optical/infrared (EO/IR) system is several times better in range in both visual and infrared modes.

But the modern equipment brings its own challenges, too.

“On the aircraft side, the crew had to work hard to get information on the Sea King. On the Cyclone, the aircraft is collecting a vast amount of info, so now it’s about managing and interpreting that information and using it and distributing it,” said Connor.

The simple fact is that transitioning to the new helicopters has presented a steep learning curve for all involved.

Luckily, said Connor, the maritime helicopter community has always been adaptable — and he’s eagerly anticipating the future.

“I think all of us at the Wing are feeling especially lucky that we happen to be the ones here during this exciting year.”



**Lisa Gordon** | Lisa Gordon is Editor-in-Chief of Skies Magazine. Contact her at [lisa@mhmpub.com](mailto:lisa@mhmpub.com).





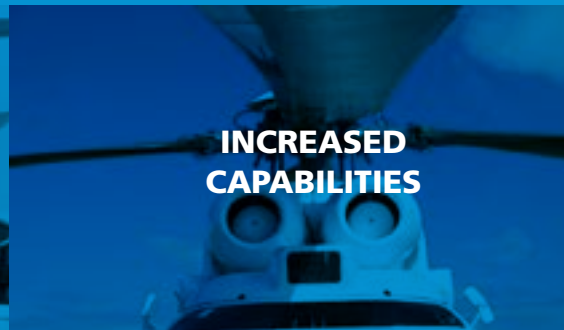
# BIGGER. BETTER. BOLDER.



ENHANCED  
CUSTOMER SERVICE



FASTER  
TURN TIMES



INCREASED  
CAPABILITIES

## TWO INDUSTRY LEADERS SETTING A *NEW STANDARD* IN HELICOPTER MRO

For over a century, customers have relied on StandardAero and Vector Aerospace as the industry experts for operational efficiency, innovation and custom MRO solutions. Today, we're one company – Bigger...Better...and Bolder – committed to providing best-in-class rotary-wing support for our customers!

### PROTECT YOUR INVESTMENT

Designed in co-operation with Robertson Fuel Systems LLC, our **FAA STC approved Crash-Resistant Fuel Tank (CRFT)** for the Airbus AS350/EC130 helicopter family features a number of important safety enhancements, including the introduction of all-new modernized fuel retention technology and the strategic relocation of certain critical components to further enhance safety and ease of maintenance. With successful installations already completed and more deliveries well underway, we're helping owners and operators increase safety and protect their investment.



VISIT US AT  
APSCON 2018  
**EXHIBIT #417**



**StandardAero**

[www.standardaero.com/heli](http://www.standardaero.com/heli)  
[helicopters@standardaero.com](mailto:helicopters@standardaero.com)

+1.204.318.7544

**Contact us today to learn more about how we can support you!**





# BEYOND THE FRAT: LEARN TO SAY NO

Two veteran LAPD pilots recall a decision to turn down a mission — and explain why it was the right choice.

BY JACK H. SCHONELY & MARK BOLANOS

*Editor's Note: Jack Schonely recently retired after a 31-year career with the Los Angeles Police Department, including 18 years with its Air Support Division (ASD) as a tactical flight officer, pilot, and flight instructor. This is the second article in a two-part series in which he and the ASD's former safety officer, Mark Bolanos, recall some experiences that caused Schonely to rethink his personal approach to risk management.*

**JACK SCHONELY:** A very smart safety officer once told me that it is important to slow down and consider completing a risk analysis before jumping into a mission, even one that you assume is "routine." That former safety officer happens to be co-writing this article.

This was very sound advice and as I evolved as a pilot it was clear to me that many do not follow that advice. Countless times over the years I witnessed various personnel at my unit taking calls from "command staff" who made a wide variety of requests of Air Support. The usual response was, "Yes sir, we will make that happen." That is the cop reaction, not one of an aviator.

What I learned over time from lots of discussions with Mark was that the prudent answer should be, "Tentative yes, I will call you back shortly with an answer." That allows a quick risk analysis to be done to see whether the mission should be attempted at all and, if so, how it will be completed safely.

Sounds like common sense, right? Well it is, but law enforcement aviation sometimes falls back into the "cop mode" and forgets

Safely deploying divers from a helicopter demands specialized equipment and procedures. The New York City Police Department Air & Sea Rescue Unit has expertise in diver deployments honed over years of practice. **Sheldon Cohen Photo**









1

that saying “no” to a mission is in some cases the best response for everyone involved. Completing a risk analysis will clearly show whether or not a mission should be accepted.

A real-life scenario will demonstrate exactly what we are attempting to explain. Mark came to me and asked if I was aware of a training day that was being planned to deploy scuba divers into the water from the skids of one of our Airbus AStar helicopters. I was not aware of that training and was surprised to hear about it. It had been years since our aviation unit had done this from a Bell UH-1 platform, and we had denied the request several times after the UH-1 was no longer in our fleet.

We inquired about this rumor and learned that, indeed, this training was being planned after a request came in from “command staff.” We found it odd that the safety officer and the lead pilot of the cadre who would be flying the mission were not involved in the planning.

We immediately had a long discussion of the obvious problems and concerns of completing this high-risk training, and advised our supervisor that a formal risk analysis must be completed. Our first question was simple: What mission were we training for? When would we ever use this technique in a real-life mission? “Putting divers in the water” was the usual response. *That* is not a mission; for what *purpose* would we be putting divers into the water?

It was obvious that we needed to reach out and learn what the *real* experts thought about this training. I was aware that the New York Police Department (NYPD) Aviation Unit frequently deployed divers from a Bell 412 and that dive team members were assigned to the NYPD hangar 24 hours a day. They were well trained and had lots of

practical experience. I contacted a close friend who was a supervisor at NYPD Aviation and told him what was being planned for our over-water training day. His first question was, “You are doing this in a single-engine helicopter without floats?” I said yes, and his quick response was, “Are you crazy?”

We laughed, but he then provided me with a long list of concerns relating to hovering over water and deploying a scuba diver. Many of his concerns were already on the list Mark and I completed, but I wanted to hear it from an expert. Some of these concerns included the use of a single-engine aircraft in a low hover over water, plus some things we were lacking: **aircraft floats, a radar altimeter, a hoist on the aircraft, helicopter emergency egress device (HEED) bottles, current dunker training, seat belt cutters, proper life vests, and pilot experience flying over water.**

But the big concern remained, “What mission are you actually training for?”

## CONSULTING THE EXPERTS

**MARK BOLANOS:** In the previous article (see p.44, *Vertical 911*, Spring 2018), I wrote, “Carelessness and overconfidence are usually more dangerous than deliberately accepted risks.” Unfortunately, management’s decision to accept a mission without managing the risks was unnecessarily placing us in harm’s way. Was it carelessness, overconfidence, arrogance, or ignorance? Whatever the reason, it was wrong.

Fortunately, Jack and I recognized that we didn’t have the training or the experience to conduct this mission as safely as was practical. We knew there were many hazards associated with this mission that

1 // As part of their risk assessment, the authors reached out to the U.S. Coast Guard, undisputed experts in over-water operations. **Skip Robinson Photo 2** // The LAPD occasionally deployed divers when it operated a Bell UH-1. **Glenn Grossman Photo 3** // Proper equipment, both on the aircraft and for the crews, can help manage the risks associated with diver deployments. **Sheldon Cohen Photo**



we didn't know about. In order to adequately identify any hazards and manage risks, we knew we had to quickly learn more about any known hazards, and especially any unknown hazards.

We both, independently, reached out to different operators who were trained in and who had experience with inserting personnel into water. We quickly learned how much we didn't know about over-water insertion operations.

There was one more contact we needed to make, but it had to be done together. I had arranged a meeting with an aviation safety officer (ASO) of an aviation operation that had more experience in over-water operations than anyone: the U.S. Coast Guard.

From the onset, the Lieutenant ASO recommended not using single-engine helicopters for over-water operations, especially at low altitudes without floats. He explained Coast Guard standard operating procedures (SOPs) for free swimmer insertion from beginning to end. He also explained Coast Guard risk management philosophies for the various Coast Guard missions.

We listened attentively as he explained Coast Guard SOPs requiring 10 percent power margin for all operations, as well as the need for aircraft floats, windscreen wipers, multi-engine aircraft, and water survival training for over-water missions. From experience, he knew operations below 15 feet above water, depending on conditions, had a high probability of "whiteout." After the meeting, he showed us their personal protective equipment: dry suits, life vests, HEED bottles, seat belt cutters, personal electronic locator beacons, flares, and signal lights.

He closed by again recommending not operating a single-engine aircraft without floats over water, and definitely not at night without instrument flight rules capabilities and night vision goggles. What an eye-opening education it ended up being.

Jack and I left the meeting unable to stop talking about the need for windscreen wipers. We had not thought about something so simple, yet so important. It was further proof of how little we really knew about this type of operation. It also confirmed that reaching out to experts and completing a risk analysis should be required for any new mission.

His input helped to solidify our position: We were going to recommend a no go!

To further support our "no go" recommendation, we used the Human Factors Analysis and Classification System (HFACS) as a proactive hazard identification tool. This framework can be used as a post-accident investigative guide or as a proactive tool to identify possible causal factors or latent conditions prior to a mishap. It is a great way of finding holes in the "Swiss cheese" of human systems.

Using HFACS proactively helped identify significant issues at the Unsafe Acts level, Pre-Condition level, Unsafe Supervision level, and Organizational Influences level. Had we gone forward with the mission, these issues would have been significant "holes" in the Swiss cheese.

More knowledgeable about the mission and the hazards we faced, we looked at the four basic risk management principles with a new perspective:



2

3





"Accept risk when benefits outweigh the cost" is a basic principle of risk management. Operations such as diver deployments make sense for agencies with real-life missions that call for them, but the associated risks should still be managed through good planning.

TOP Sheldon Cohen Photo // BOTTOM Skip Robinson Photo



## ACCEPT RISK WHEN BENEFITS OUTWEIGH THE COST

- The level of risk was unacceptable for the "photo op" mission

## ACCEPT NO UNNECESSARY RISK

- The department was unable or unwilling to mitigate risks
- Inserting divers into the water could be done with significantly less risk from a boat

## ANTICIPATE AND MANAGE RISK BY PLANNING

- The training mission was accepted and planned without risk management

## MAKE RISK DECISIONS AT THE RIGHT LEVEL

- The decision-makers were not willing or not able to allocate the appropriate resources to adequately mitigate the hazards and reduce the risks

In his book, *Against the Gods: The Remarkable Story of Risk*, Peter Bernstein wrote, "When we take a risk, we are betting on an outcome that will result from a decision we have made, though we do not know

for certain what the outcome will be."

My views on "betting on an outcome" and "accepted risks" (risk tolerance) have evolved over the years. Today, I am much less willing to "bet on an outcome" and I am definitely more deliberate about my risk decisions.

Through education, training, and experience, I am better at identifying hazards and managing risk. I am better at recognizing when I don't know enough about a mission, and I am more willing to reach out to someone who does.

More importantly, when my individual risk tolerance significantly differs from that of the organization, I am much more confident about communicating my concerns and recommending not going forward with a mission!

## MAKING THE RIGHT CALL

**SCHONELY:** It became very clear to us that with the proper aircraft, training, equipment, and experience this mission could be completed safely, but at that time we had none of these, which made this training very high risk and unacceptable. We believed this was all for the "photo op" since an actual mission was never presented to us.

After listening to a detailed brief of the upcoming training day, Mark and I presented our risk analysis and advised the group that we recommended a "no go" for the training. The training day was cancelled, and although we know that not everyone was happy with that, it was the correct call.

That chain of events solidified everything Mark had been teaching me. We would continue to receive mission and training requests from command and specialized units and many of those were safely completed, but we said no to quite a few of the requests and altered others based on a simple risk analysis. We also attempted to share our views on safety and risk with our peers, supervisors, and command so that others would benefit from what we had learned.

I believe the most valuable lesson I learned over the years from Mark was that the time to ask the tough questions is *before* you accept the mission, because if there is an incident or accident you can be assured that the National Transportation Safety Board, the Federal Aviation Administration, your chief, or your sheriff are going to ask those same questions. Those questions become very obvious *after* a tragedy. That is a very simple philosophy that law enforcement aviation crews — or actually *any* aviation crew — can immediately adopt to make things safer where they work. It is about having basic foresight, being diligent, and having the willingness to sometimes say NO.

Certainly a flight risk analysis tool (FRAT) is an excellent start in the decision-making process, but the FRAT is designed to catch big issues related to the crew, weather, machine, and limitations. History shows us that many times it is the little things that are missed that cause the accident. I encourage you to be open-minded, learn as much as you can from the experts, and look at risk in a different way starting today — beyond the FRAT.



**Jack Schonely** | Recently retired after a 31-year career with the Los Angeles Police Department, including 18 years with its Air Support Division as a tactical flight officer and pilot, Jack now teaches tactical classes around the world. He is the author of *Apprehending Fleeing Suspects*. Find more information about his book and professional services at [www.officertactics.com](http://www.officertactics.com).



**Mark Bolanos** | Mark Bolanos has served 20 years of his nearly 30-year law enforcement career as a tactical flight officer, pilot, and aviation safety officer. He earned an Aviation Safety Certificate from the University of Southern California. He is also a graduate of the Aviation Safety Officer Course and the Crew Resource Management Instructor Course at the U.S. Naval School of Aviation Safety.



## RT-7000 AIRBORNE TACTICAL RADIO



## Revolutionary TACTICAL COMMUNICATIONS

- 29.7 – 960 MHz AM/FM P25 Phase 1 & 2
- NVIS-Compliant Touchscreen GUI with Knob/Button Navigation
- Panel-Mount or Remote-Mount Options
- Flexible Architecture - Adapts Easily as Technology Evolves

Cobham Aerospace Communications

**COBHAM**

The most important thing we build is trust.

[sales.prescott@cobham.com](mailto:sales.prescott@cobham.com)



## PORTABLE, RELIABLE, **START PAC!**

- PATENT PENDING DESIGN •
- 28V SAFE LITHIUM ION BATTERY •
- WEIGHING ONLY 14 LBS •
- 1800 PEAK AMPS ENGINE STARTING •
- 100-240V AC INPUT •

**www.STARTPAC.com**

OR TOLL FREE 844.901.9987



# Mission POSSIBLE

Pioneers in alpine rescue, the Austrian Police Air Support unit has been protecting the residents of Austria for more than 60 years.

**STORY & PHOTOS BY TOMAS KIKA**



Download as wallpaper at [verticalmag.com/wallpaper](https://verticalmag.com/wallpaper)

Austrian Police Air Support pioneered fixed-rope rescue techniques in Austrian Alps. Today, these techniques are still used as a primary means of rescuing people from steep or inaccessible terrain.





WATCH VIDEO

"Libelle, there are six uninjured people near Martin Busch Hütte in need of evacuation from steep terrain," comes the scramble message from Tirol's Emergency Coordination Center over the digital radio for the Austrian Police Air Support base in Innsbruck.

Pilot Hans Schlager and operator-rescuer Franz Markart don't waste a second. Their polished Airbus AS350 B1 is pushed out of the hangar, helmets are put on, rescue coordinates entered into the moving map, and in less than three minutes we're airborne towards the majestic panorama of the Ötztal Alps.

"Police Mike after takeoff, direction Vent," Schlager states briefly as he scrolls through the moving map on his Apple iPad to find the coordinates close to the little village of Vent.

"Police Mike, roger, QNH 1014, proceed south of the airport and report leaving the CTR," confirms Innsbruck Tower, as the air base is situated next to the runway of the Innsbruck International Airport, known worldwide for its spectacular but difficult

approaches. It gets busy here during the winter and summer high seasons, and rescue helicopter traffic requires precise coordination in special corridors.

It's the latest weekend of the skiing season with gorgeous weather attracting hundreds of ski touring fans, but a Tirolean phenomenon — the warm wind called Föhn — makes for a somewhat bumpy flight. Passing through the valley we fly over several groups of ski tourers, none of them indicating that help is needed. Then we spot a skier who keeps pointing toward the steep slopes above us.

Schlager performs a toe-in landing on a three-foot-wide ski route at the bottom of the valley so that Markart can ask for more details from the skier in person. We learn that a group was on an uphill climb when an avalanche went off just few meters below them. Scared, they called for help. Soon we have visual contact with them. In such cases with no injuries, it is generally Police Air





Support who rescues people from the alpine terrain.

"We fly to every reported avalanche with possible victims, pick up uninjured people but also dead bodies, and perform the whole spectrum of search-and-rescue tasks," Schlager explains as we head toward the group of stranded skiers. "It's very often that we're coming to a scene of an accident after the patient has been evacuated by a HEMS [helicopter emergency medical services] machine to collect his equipment or to do some photo documentation for further investigation."

Assessing the 30- to 40-degree terrain where the skiers are located, Schlager concludes, "That's no-go for a hovering pick-up." We spiral back down to the valley floor to prepare for a fixed-line rescue. Schlager lands but keeps enough collective pulled in to keep the machine light on the old, deep, and unstable snow. Markart and I unpack the 20-meter (65-foot) rope with trapezes and evacuation triangles; when everything is ready, Markart

attaches the line to the hooks of the B1, and Schlager lifts off.

As the silver Ecureuil appears smaller and smaller above our heads, the rope tightens up and we're smoothly lifted off towards the scared ski tourers grouped around a rock massif. The evacuation procedure is seamless and our B1 keeps flying back and forth between the rock and the bottom of the valley carrying Markart plus two skiers at a time, most of them wearing their own climbing harnesses.

In the final lift, we collect their skis and backpacks, then Markart takes down the names and personal data of our rescued friends. We unhook and coil the rope, place the rescue equipment back in the baggage compartment, and wave goodbye to the skiers, who will make their way back down the valley on their own. Eighty minutes after we took off, we return to the base in Innsbruck. By the end of the day, we will have completed five of these avalanche missions.

Scrambled to every avalanche accident, Austrian police helicopters play an important role in search-and-rescue activities, including shuttling mountain rescue dogs to the scene.



Captain Hans Schlager is the chief pilot and head of the Austrian Police Air Support base in Innsbruck, responsible for the vast majority of alpine technical rescue missions.

Single-engine Airbus AS350 B1 and B3 helicopters are the workhorses of high alpine operations, due to their unbeatable power-to-weight ratio.










Although rescue callouts peak during the winter ski and summer tourist seasons, in truth there is barely a low season for the crews of Austrian Police Air Support.



Austrian Police Air Support trains its pilots in-house



A full-page photograph showing a helicopter, identified by the tail number OE-BXM, hoisting a rescue team over a steep, snow-covered mountain. The team consists of several individuals in blue and orange gear, suspended by a rope. The background is a clear blue sky.

Austrian Police Air Support operator-rescuers are also fully qualified police officers, responsible for routine law enforcement tasks in addition to their duties in the air.

## BIRTH OF THE 'DRAGONFLY'

Helping those in need is something that the Austrian Police Air Support unit has been doing for more than 60 years. The call for coordinated rescue operations in Austria that came after an avalanche accident in 1953 was followed only a year later by heavy floods in the Gastein Valley. In 1955, a so-called "Department 27" was set up under the Ministry of the Interior, and in autumn of that year a military aviation base in Langenlebarn hosted the first police flying course.

However, the first police air rescue mission in Austria was not performed by helicopter. In March 1956, police pilot and inspector Erhard Landl transported an injured skier from a high alpine location in K  thai to Innsbruck on board a Piper airplane equipped with skids for landings in snowy terrain. (Another fixed-wing record came in 1960, when a police airplane landed near Adlersruhe at some 3,454 meters/11,332 feet above the sea level near Austria's highest peak, Grossglockner.)

This help from above quickly became a key element of rescues in the Austrian Alps, with their hundreds of peaks and countless tourist and climbing routes in remote locations. The first two Austrian Police Air Support bases were established in Innsbruck and Salzburg in 1956, followed by a base in the Austrian capital of Vienna (Meidling) in 1957, and one in Klagenfurt in the south of the country in 1959.

The very first helicopter to enter service with Austrian Police Air Support was an Agusta-Bell 47 (OE-BXB) in 1956. However, fixed-wing aircraft played a dominant role in the early stages of the unit until the first Bell 206B JetRanger entered service in 1967. Thus was helicopter rescue born in Austria, although still in a rather unorganized form. Two more bases were set up in Graz and Hohenems in Vorarlberg between 1966 and 1968, with a final base established in Linz in 1975. The eight helicopter bases in the Austrian Police's network (including a second base in Vienna) were given the call signs "Martin 1" through "Martin 8."

Not only did the Austrian police pioneer high-altitude landings in the Alps, but two inspectors and helicopter pilots from the Innsbruck base, Peter Strasser and Norbert Winter, developed special fixed-rope helicopter rescue techniques that in various forms are still used today for extractions in locations where landing is not possible. These rescue capabilities were enhanced with the upgrade to A  rospatiale (now Airbus Helicopters) AS350 B1 and twin-engine AS355 N and F2 helicopter models.

The 1980s also brought a medical aspect into the Austrian Police Air Support's rescue tasks. Initially, doctors would join air crews only





Police helicopter crews in Tirol interact with mountain rescuers on practically a daily basis.

for medical calls; later, medical personnel were added as full-time, on-duty crew members. However, as the new millennium approached, the private automotive club ÖAMTC took over HEMS tasks and police helicopters started focusing on more than just rescue. After leaving the HEMS field, Austrian Police helicopters abandoned their historical call sign of “Martin,” which is now being used by Heli Austria’s helicopter emergency medical service Martin Flugrettung in Salzburg and Tirol (see p.62, *Vertical 911, Fall 2015*). Instead, the police helicopters adopted the call sign “Libelle,” meaning “dragonfly,” which they still use today.

In 2008 and 2009, the Austrian Police Air Support unit received eight brand-new Airbus EC135 P2+ twin-engine helicopters as part of an upgrade that also included the acquisition of an AS350 B3. Today, its fleet consists of 17 helicopters, including four new Airbus H135s (to replace its AS355 Ns) and two H125s on order. The EC135 P2+ represents the backbone of the unit’s SAR operations, with the AS350 B1 and B3 being used in mountain areas due to the better performance of single-engine aircraft at high altitudes. The unit employs 44 pilots as well as 20 technicians who are responsible for aircraft maintenance.

## HELP FROM ABOVE

Rescue still remains among the top tasks of the Austrian Police Air Support unit today, but only when medical services are not required, as with our evacuation of stranded skiers. Each of the unit’s eight bases has a helicopter, pilot, and operator-rescuer ready to respond to rescue calls anytime between sunrise and sunset.

For night missions, the unit flies with two pilots and a camera operator in its EC135 P2+ helicopters, which are equipped with forward-looking infrared



**Proven results**  
**millions of dollars saved!**

Technician induced damage results in lost time, insurance costs, and brand damage.

**Our program can fix this!**

For more information on our **Aviation Maintenance Never Events®**  
[convergentperformance.com/amne](http://convergentperformance.com/amne)

Aviation Maintenance  
**Never Events®**  
Eliminate the six most common aviation maintenance errors.

**Contact us today:**

411@convergentperformance.com  
1.719.481.0530





The Airbus EC135 P2+ is currently the primary helicopter model in the Austrian Police Air Support fleet. The organization is expecting further deliveries of the latest EC135 variant, the H135.



The dedicated EC135 P2+ at Vienna International Airport lifts off for surveillance flights up to six times per day.

(FLIR) cameras and Spectrolab SX-16 Nightsun spotlights, plus night vision goggles. These extra machines based in Vienna, Salzburg, and Klagenfurt are not equipped with rescue and climbing accessories, as their primary missions involve monitoring and supporting police forces on the ground. They are located at the same bases as the rescue machines, with the exception of the FLIR-equipped EC135 in Vienna, which is based at Vienna International Airport in Schwechat. This aircraft takes off up to six times daily in order to monitor the area and conduct classified security flights in accordance with international agreements.

"Apart from this, the helicopter is still on duty whenever a scramble message comes from any part of the region that belongs to its range," explained Patrick Fritz, a young but nonetheless experienced pilot. "The FLIR helicopters are on duty 24/7. The crew exchanges always at 7 in the morning and 7 in the evening. Our pilots rotate through the bases according to the roster."

Fritz is one of the flying instructors for the new pilots that Austrian Police Air Support trains in-house. He explained, "Our school under the direction of a colleague, Michael Korvas, has one Bell 206B3 JetRanger that is being used for training purposes solely. It's a great machine. We equipped her with upgraded landing skids, as we did with all of our EC135 P2+s. They've got the tallest landing skids possible and it's fantastic, especially when landing in the fields or uneven terrain."

In a land with so many mountainous areas, firefighting from the air is extremely important, and this is another domain of Austrian



Police Air Support. Using the popular Bambi Bucket, the unit flies many training exercises and real missions in cooperation with professional and volunteer firefighters. Beyond dropping water, the helicopters perform a wide variety of tasks when it comes to wildland firefighting, including transporting people and material and monitoring the progress of fires.

**“WE HAVE TO BE POLICEMEN, SO-CALLED ALPIN POLICE. THERE IS A TEAM FOR EACH BASE THAT ROTATES AND USUALLY SPENDS ONE OR TWO DAYS A MONTH SERVING ON THE HELICOPTER, OTHERWISE WE PERFORM ALL THE REGULAR TASKS OF THE POLICEMEN.”**

Other duties include assisting during flooding events, responding to traffic accidents, and visiting crime scenes in remote locations. The occasional need to photograph crime scenes or evacuate dead bodies necessitates that all crewmembers be police officers.

“Each operator-rescuer has to be a police mountain guide,” said Markart, who like his colleagues in the role assumes multiple duties on the aircraft in addition to serving on the ground. “We have to be policemen, so-called Alpin police. There is a team

for each base that rotates and usually spends one or two days a month serving on the helicopter, otherwise we perform all the regular tasks of the policemen. The exception is the fixed team of FLIR operators at Vienna International Airport.” Special duties for these officers include law enforcement tasks in cooperation with

the Austrian Police’s Cobra commando unit, and providing monitoring and support for VIP movements and large public events such as the Vienna City Marathon or European soccer championships.

As I discovered during my own time with Austrian Police Air Support, the unit’s helicopters can be flying almost nonstop during the busy seasons. But in truth there is barely a low season for Libelle in Austria, since the main task and bottom line of all the unit’s helicopter flights is to look after the safety

of the country’s inhabitants — regardless of the time or place. ❖



**Tomas Kika** | A helicopter pilot and rescuer, Tomas draws on his hundreds of hours spent rescuing and training at the end of a line to provide instruction in helicopter rescue techniques. This unique insight into the world of helicopter rescue is reflected in his writing and photography, but his rescuer’s helping hands and paramedic skills are always his first priority.

Together, the pilot and police mountain guide who compose an Austrian Police Air Support crew can handle the vast majority of tasks that come their way.



## MARKETPLACE \\\

TO PLACE AN ADVERTISEMENT IN VERTICAL'S MARKETPLACE, CONTACT **CARLA MCKAY** AT 866.834.1114 OR **CARLA@MHMPUB.COM**

## Don't be **ANTISOCIAL.**

The world's best helicopter magazine has gotten even better.  
More ways to connect and interact with helicopter professionals worldwide.  
**Keep in touch.**

verticalmag.com |       

**Vertical**  
THE PULSE OF THE HELICOPTER INDUSTRY

# THE PROFESSIONAL AIRCRAFT MOVERS

NOW WITH  
**THREE SPECIALIZED  
COVERED TRAILERS  
FIXED & ROTARY WING**



Driven by our Customers' Success

**CONTACT US TODAY &  
START SAVING MONEY!**

www.calgarygooseneck.com  
403.266.2468 | 406.450.0170  
doug@calgarygooseneck.com







- **FAA PART 145 REPAIR STATION**
- **DEPOT LEVEL MAINTENANCE & REPAIR**
- **TAILORED MAINTENANCE PROGRAMS**
- **CUSTOM PAINTING BY INDUSTRY CERTIFIED PAINTERS**
- **MORE THAN 17,000 PARTS ON-HAND**
- **MRO - ONE STOP SHOP**

📍 690 AVIATION BLVD, ENTERPRISE AL

☎ 334-347-1240

✉ CUSTOMERSERVICE@ARISTAAS.COM

🌐 ARISTAAS.COM

## YOUR EXPERTS IN HYDRAULICS

**Bell 206 // 407 // 212 // 214 // UH-1H**  
**Sikorsky S-76 // S-70 // UH-60**  
**FAA ZS4R711M // EASA 145.6670**

**COMPLETE OVERHAULS // SEAL CHANGE**  
**EXCHANGE UNITS // COMPONENTS AVAILABLE**



**HASE**  
HYDRAULIC SPECIALIST  
HELICOPTER ACCESSORY SERVICE EAST, INC

☎ (850) 456-8339

✉ paul@hase-fl.com

📍 10102 Aileron Avenue, Pensacola, Fla.

**www.hase-fl.com**

# **HELICOPTER HANDLER™**

The easiest way to move skid equipped helicopters!



**Heavy Duty XL Model**

helicopterhandler.com  
info@helicopterhandler.com

**1-800-456-9450**

**29 YEARS!**

**Helicopter Ground Handling**

**Chopper Spotter**

*Still a better idea*



Rosemount, MN 55068  
Ph: 1 608 537-2049  
info@chopperspotter.com

**www.ChopperSpotter.com**





# BROWN HELICOPTER INC

PENSACOLA, FLORIDA • FERGUSON AIRPORT 82J

*Serving the Industry Since 1978*

Huge inventory of Sikorsky and Bell parts as well as those hard to find parts.

We ensure a rapid response to all orders and inquiries to keep you in the air.

10100 Aileron Ave Pensacola, Florida 32506 | P: 850-455-0971 | F: 850-456-8231 | E: sales@brownhelicopter.com

## TWO SIZES

- UP TO **8,000 LBS** CAPACITY
- UP TO **15,000 LBS** CAPACITY

**LIVE DEMOS**

**APSCON BOOTH S2**





**WIRELESS REMOTE CONTROL LANDING DOLLY**

SEE FOR YOURSELF HOW **HELIWAGON** CAN CHANGE THE WAY YOU MOVE YOUR HELICOPTER



(877) 435-4946 | brad@heliwagon.com | [www.heliwagon.com](http://www.heliwagon.com)



## HELICOPTER PARTS SALES

*Check Out our Huge Inventory! Over One Million Items!*

We have a large inventory of quality parts from reputable sources, for outright sale and exchange.

**ACCESSORIES • COMPONENTS • INSTRUMENTS**

Airbus Helicopters, Bell Helicopter, MDHC, Schweizer, Sikorsky, Lycoming, Rolls-Royce, Turbomeca

**Check out our website!**

**WE BUY:**

- Light and medium turbine helicopters
- Parts, components and inventories
- Distressed and run-out airframes



Toll Free 800-585-7004 USA & Canada Only.  
TEL: USA 1-608-756-3632 • FAX: USA 1-608-756-2606  
email: [info@tradewindinternational.com](mailto:info@tradewindinternational.com)  
[www.tradewindinternational.com](http://www.tradewindinternational.com)

# PLATINUM

## Simulators

Flight Training Devices



**IIMC Training**

**Emergency Procedure Training**

**CRM Training**

**Confined Space Training**

**Hover Training**

**Currency Training**

**Train often and always be prepared**

**Safety First**

[platinumsimulators.com](http://platinumsimulators.com)  
+1-760-683-8922





**ISR Rotorcraft**

**Paravion<sup>®</sup> Technology Inc.**  
[www.paravion.com](http://www.paravion.com)

**Paravion<sup>®</sup> Technology, Inc.**  
 is a leading supplier of aircraft accessories to the general aviation marketplace.

**ONE-STOP SERVICE, INSTALLATIONS, COMPLETIONS, ACCESSORIES, AND SUPPORT**

- Operator's Stations	- Camera Mounts	- Air Conditioning
- Monitor Mounts	- Searchlight Mounts	- Synthetic Long Lines
- Engine Relight	- Primary Flight Controls	- Tooling
- Blade Folding	- Door Opener Kits	- Instrument Panels
- Mapping	- Seat Belt Kits	- Blade Tie Downs
- Heliporters	- Heater Systems	- M/R Tab Tool Kits

2001 Airway Avenue, Fort Collins, CO 80524 // (970) 224-3898 // [paravion@paravion.com](mailto:paravion@paravion.com)



## Supporting the world in the Past, Present & Future

**With our global inventory, extensive experience and universal service, we are qualified and prepared to provide you with:**

- Fuselage and tailboom structural repair
- Extensive parts inventory
- Completions
- Refurbishments, exchanges and modifications
- Maintenance
- Components and overhauls
- D.A.R. designee on-site
- Non-destructive testing and inspections
- Avionics

**Van Nuys Airport**  
 16425 Hart Street | Van Nuys, CA 91406 | 818-997-7667  
[RotorcraftSupport.com](http://RotorcraftSupport.com)



# NOWHIRING

## EXPERIENCED HELICOPTER MECHANIC

### THE SEMINOLE COUNTY SHERIFF'S OFFICE IS NOW ACCEPTING APPLICATIONS FOR AN EXPERIENCED HELICOPTER MECHANIC.

The successful candidate will be responsible for ensuring the Sheriff's Office owned and operated aircraft are airworthy by FAA standards set forth and are maintained in accordance with the manufacturer's instructions for continued airworthiness.

#### MINIMUM REQUIREMENTS

- A&P license with AS350 experience.
- Inspector Authorization (IA), Avionics (FCC), and Breeze rescue hoist experience a plus
- Must be willing to relocate to the area of the Orlando Sanford International Airport
- Ability to communicate effectively, both orally and in writing
- Ability to work as a team and independently to carry out assignment to completion

**FOR  
FURTHER  
INFORMATION &  
TO APPLY PLEASE VISIT:**

**WWW.SEMINOLESHERIFF.ORG  
/EMPLOYMENTS.ASPX**

### TIME IS RUNNING OUT!

The **Fall Issue of Vertical 911**  
will be here before you know it!

**Ad Deadline: Sept. 21<sup>st</sup>, 2018**

**Carla McKay**, Marketplace Sales Manager  
carla@mhmpub.com // 519.748.1591



**Rosen**  
SUNVISOR SYSTEMS

*Rosen Sunvisor, not just for planes anymore!*

- New Sunvisor II for Helicopters and Light Aircraft
- Upgrade Existing Sunvisor Systems to the New Sunvisor II
- New Sunvisor II for Helicopters
- Upgrade Existing Sunvisor Systems to the New Sunvisor II
- New Sunvisor II for Helicopters

WWW.ROSENSUNVISOR.COM 800.284.1677

## V1000 HELICARRIER

**TIME EFFICIENT  
GROUND HANDLING**

**EASY ONE PERSON  
OPERATION**



**HELI  
TOW CART**

**TOLL FREE +1 (866) 561-8588**  
info@helitowcart.com

**HELITOWCART.COM**

## NOW HIRING EXPERIENCED PILOTS

The **Sonoma County Sheriff's Office** seeks  
experienced Helicopter Pilots for Law Enforcement missions.

If you are an experienced helicopter pilot and welcome an exciting career  
supporting law enforcement activities, consider this new and unique opportunity.



For details, and to apply, visit  
**www.yourpath2sonomacounty.org**





SAFETY FIRST CUSTOM  
**MAINTENANCE STANDS & HANGAR EQUIPMENT**

— ERGONOMIC SPECIALISTS PROVIDING **S·A·F·E** WORKING ENVIRONMENTS —



Visit **SAFE Structure Designs**  
at APSCON **Booth #533**



**Jenna Hoeg**  
Account Executive  
sales1@SAFE-2.com



702-209-8811 | **SAFE-2.com**



**Johnny Buscema**  
President & CEO  
Johnny@SAFE-2.com

# Final Approach

interviewed by Elan Head

Brian Bihler, Chief Pilot, Metro Aviation



*Brian Bihler was recently named chief pilot of the helicopter air ambulance (HAA) operator Metro Aviation, based in Shreveport, Louisiana. Bihler joined Metro in 2009, serving as an HAA pilot, instructor, check airman, regional training manager, and most recently assistant chief pilot. Before that, he spent a decade flying with the Charlotte Mecklenburg (North Carolina) Police Aviation Unit.*

## **V911: How did you get started in aviation?**

**Brian Bihler:** I was a police officer first. I always wanted to start flying, so I went to a flight school in North Carolina and started my flight training. From there, I was very blessed that the aviation sergeant from Charlotte Mecklenburg found out that I had my license. He ended up asking me to come out to the aviation unit full-time, and I spent the rest of my [law enforcement] career at the aviation unit.

## **V911: What was your favorite part about law enforcement flying?**

**BB:** It was a different challenge every day. We were pretty fortunate; we had a joint venture with the Charlotte Fire

Department so we did training for short-haul missions. We were part of the SWAT team and we also did rappelling and sniper shooting out of the aircraft. It was always a new mission. We had our hand in a lot of different things; it was pretty exciting.

## **V911: What motivated your decision to move into helicopter air ambulance flying?**

**BB:** Well, my dad lives up in Pennsylvania and my wife and I wanted to move closer to family. I was ready to transition out of the police department role and move into HAA flying, so I took a position up at Allegheny General Hospital as a line pilot.

## **V911: Coming out of law enforcement flying, what was the biggest change you noticed going into that new role?**

**BB:** The biggest change was probably the different regulations. In the police department we operated under [Federal Aviation Regulations] part 91. When you get into HAA, you're part 135, so things are definitely stricter and more detailed. With part 135, most everything is laid out for you, so it was a different way of flying.

## **V911: What were some of your favorite things about flying HAA?**

**BB:** I felt like in the air ambulance role I was actually making a difference. . . . There were many times when we had a very, very sick patient on board; I can remember a couple of them being children. I heard the nurses say, "[We] really need to get to the hospital without delay," and being able to use my skill to get somebody from point A to point B in an expeditious manner might have helped save that person's life.

## **V911: In your new role as chief pilot, what are some of the things that you want to focus on?**

**BB:** Integrating new ideas while maintaining proven methods. Working as part of a team for continued success. Upholding and promoting Metro's industry-leading standards. Implementing skills and values that my predecessor, Paul

Morrow, demonstrated that inspired me and other colleagues. [Paul] was here when Metro was actually formed; he was here from day one and grew his experience as the company expanded. He started as a line pilot and did almost the same exact thing I did. When I started at Metro, Paul was my direct supervisor and I valued everything that he did and thought very highly of him. He helped turn a company that was a very small into a huge company. We're no longer a small organization . . . we have close to 500 pilots.

## **V911: What's the most challenging part of having to oversee so many different programs and so many different pilots?**

**BB:** Integrating new technology, having pilots be intentional about safety, things like that. Our programs are scattered all across the country, so communication and standardization is a big thing. We're trying to make sure everybody is informed on the latest rules, regulations, policies and procedures . . . keeping everyone informed about what's going on in the Operations Department, I think, is probably one of the bigger challenges.

## **V911: What advice do you have for someone who wants to go into law enforcement flying, air ambulance flying, or both?**

**BB:** Well, I think that you need to know that you're going to face challenges and that you're going to need to overcome obstacles. The most important thing is to persevere and stay focused on the goal. You take one step at a time, tackle issues that arise, and ask for help when you need it. I think that as with anything in life, we need to take mistakes in stride; we learn, and we keep going.

Support is key. I had a couple of great mentors when I started out. As pilots we try to help each other out, pay it forward. It's a process. No one knows everything there is to know about aviation, and I think as a pilot you're always trying to learn and improve, and assimilate technological advances.

*This interview has been edited and condensed.*





# DO MORE WITH METRO

Metro specializes in aircraft completions for EMS, Law Enforcement, VIP and Utility aircraft. Our 160,000+ square foot facility in Shreveport, Louisiana is equipped to handle everything that goes into the completion. Nothing is left to chance, saving time and money where it matters most.

VISIT US AT APSCON 2018, BOOTH 821





**GO ABOVE AND  
BEYOND FLIGHT**