

RotorHub



VOLUME 15 NUMBER 6 DEC 2021/JAN 2022

WWW.ROTORHUB.COM

Single all the way

Leonardo's AW09



**ROBINSON'S
LEADING LIGHTS**

Kurt Robinson interview

**ALL-SEEING
EYES**

EO/IR systems

**CLEAR AND
PRESENT DATA**

Cockpit technology

EDITORIAL

Tel: +44 1252 545993

Managing Editor

Glenn Sands
glenn@hmg aerospace.com

Contributors

Peter Donaldson, Michael Doran,
Emma Kelly

ADVERTISING SALES AND MARKETING

Tel: +44 1252 545993

Publisher

Mark Howells
mark@hmg aerospace.com

Sales Manager

Shelley Potts
shelley@hmg aerospace.com

Marketing and Communications Manager

Emma Walker
emma@hmg aerospace.com

PRODUCTION AND DESIGN

Production Manager

David Rogers
Tel: +44 7986 658483
david@hmg aerospace.com

Production and Design Editor

Steve Lodewyke
Tel: +44 1252 545993
steve@hmg aerospace.com

Graphic Designer

Paul Firth
paul@hmg aerospace.com

CIRCULATION

Subscription Enquiries

Tel: +44 1252 545993
subscriptions@hmg aerospace.com

MANAGEMENT

publishing@hmg aerospace.com

Managing Director

Mark Howells

Director

Becky Howells

RotorHub is published six times per year – in February/March, April/May, June/July, August/September, October/November and December/January – by HMG Aerospace Ltd. Distribution of *RotorHub* is carefully controlled for industry-related individuals. Non-qualifiers can subscribe annually for £90.

Articles and information contained in this publication are the copyright of HMG Aerospace Ltd and may not be reproduced in any form without the written permission of the publisher.

Design and layout by

Vivid Associates Ltd – vividassociates.com

Printed by

The Manson Group, St Albans, UK

© HMG Aerospace Ltd 2021 ISSN 1754-520X



HMG Aerospace Ltd

Cody Technology Park,
First Floor Building A8, Suite 1038,
Ively Road, Farnborough,
Hampshire, GU14 0LX, UK
Tel: +44 1252 545993

5 EDITORIAL COMMENT

A head full of ideas

6 NEWS

- Airbus delivers first H160
- Californian wildlife agency gets MD 530F
- Leonardo signs up US EMS operators
- Ka-62 achieves Russian certification
- Bell secures Ukrainian corporate customers
- Beijing Police to receive two AW139s
- THC orders 26 Airbus helicopters

EXCLUSIVE INTERVIEW

14 ROBINSON'S LEADING LIGHTS

Despite being dismissed by many in its early days, Robinson has gone on to become a world-leading OEM. The company's president, Kurt Robinson, discusses the secret of its success.

FEATURE

18 SINGLE ALL THE WAY

Kopter set out to bring the latest helicopter technology to the light-single market with its SH09 programme, and now, with Leonardo's weight behind it, the renamed AW09 seems destined for a bright future.

FEATURE

23 TRACK AND TRACE

The second part of *RotorHub's* look at the modular airborne mission system suite recently demonstrated by Nova Systems and GVH Aerospace.

FEATURE

26 HAPPY TOGETHER

RotorHub attended the inaugural European Rotors show in November to catch up on developments in the rotorcraft industry.



Page 46

Front cover: The AW09 flight test campaign has been continuing in Switzerland with the third prototype, which has been flying since 2018. Kopter plans to introduce two more prototypes as the new light-single helicopter moves towards certification. (Photo: Thomas Frevillier)



Page 14

FEATURE

31 ALL-SEEING EYES

Locating someone in need of rescue or tracking a criminal trying to evade capture has never been easier thanks to recent advances in EO/IR imaging systems.

FEATURE

35 IN SAFE HANDS

RotorHub hears from organisations that are working to encourage a strong safety culture in commercial helicopter operations.

FEATURE

39 VIRTUALLY IMMERSSED

With their use of virtual reality technology, VRM Switzerland's new simulators could have a big impact on the way pilots train.

FEATURE

41 GO WITH THE FLOW

The latest airborne sensor systems are turning helicopters into increasingly effective platforms for monitoring oil and gas pipelines onshore.

FEATURE

46 CLEAR AND PRESENT DATA

Cockpit technology continues to evolve as avionics developers introduce new capabilities that reduce pilot workload and improve safety.

FIVE QUESTIONS TO...

50 ... LCI'S JASPAL JANDU

RotorHub talks to Jaspal Jandu, CEO of aircraft lessor LCI, about the impact of the pandemic and other issues affecting the commercial helicopter market.



HeliOffshore was formed to enable competing offshore operators to collaborate on safety matters, according to its CEO, Tim Rolfe. (Photos: Airbus/HeliOffshore)



IN SAFE HANDS

Operators need to be rigorous in their approach to managing the risks inherent in flight operations, and **Michael Doran** examines efforts that are helping to build a strong safety culture in the commercial helicopter sector.

An article about safety can take many different paths, but this one is looking at the subject from four angles that, when combined, are a complete safety toolkit for the helicopter industry. *RotorHub* talks with people who set the guidelines, see if they are met, build the safety culture and help customers pick safe operators.

HeliOffshore is a trade association focused on safety improvement in the global offshore helicopter industry. It has around 110 members from various stakeholder groups, including the energy sector, helicopter and platform operators, OEMs, safety consultants and training providers.

The organisation was formed in 2014, which CEO Tim Rolfe says was at the end of a tough period that was the driver for the

industry to come together and take safety out of the competitive environment.

“While it had to remain a very competitive environment where we should always expect people to compete on a commercial basis, there seemed little benefit in competing on a safety basis,” he explains. “So, to enhance safety, could we put all of our safety minds together, in a non-competitive way, to come up with recommended practices and gain the experience of multiple operators from all over the world?”

HeliOffshore is a member-driven group, with Rolfe’s team pulling the inputs together to help set the priorities and define the workstream before turning projects over to the member community so that it can share its expertise.

“There’s an enormous amount of work and commitment from the members who develop the documents, which have to be thorough, meaningful and adaptable,” he emphasises. “There’s no point in producing something that just sits on a shelf, so we have to give people something they find useful.”

Group effort

The organisation has an intranet that members use as an online community, enabling them to talk to each other and develop their work in a safe environment. From that collaboration, a document is published that is shared with all members and made available to the public.

Some of the projects worked on cover areas such as flightpath management, ▶

flight data recording, human hazard analysis, health and usage monitoring systems and, most recently, a recommended practice for wind farms.

In 2021, HeliOffshore focused on developing an implementation toolkit that guides operators through the documents and what needs to be done. It is also a feedback loop to HeliOffshore that keeps the documents alive by comparing what works and what does not.

Accepted standards

In addition to the collaborative efforts of its members, the organisation works with other industry bodies, including the International Association of Oil and Gas Producers, which in 2020 published its Report 690 – Offshore Helicopter Recommended Practices – with input from HeliOffshore.

“It’s really around standardising the expectations from the client’s perspective to provide that simplification, and it refers to a lot of the HeliOffshore practices and documents, which is extremely helpful because now we’re taking out a lot of that variation and pointing towards what is considered across the community to be best practice,” notes Rolfe.

As crew resource management was drawing the attention of commercial airlines in the 1990s, a group of students studying human resource factors at the



“The difference between LOSA and every other audit is it’s totally non-jeopardy, totally confidential and anonymous,” says Stephen Ingham of the LOSA Collaborative. (Photo: LOSA Collaborative)



As far as civil helicopter operations are concerned, VyClimb’s Michael Benton believes that the SAR sector represents the benchmark in terms of its approach to safety. (Photo: Michael Doran)

University of Texas carried out around 500 cockpit audits for a US airline that had enlisted the institution’s help to expand its understanding of the process.

In the group was Dr James Klinect, now the founder and president of the LOSA Collaborative, who helped to develop a threat and error management (TEM) framework identifying events that pose a potential safety risk during aircraft operations and that therefore need to be properly managed by flight crews. For TEM, the events fall into three categories: threats, errors and undesired aircraft states.

To improve safety, through training or other measures, operators need to know how well their crews manage these events, and that’s where the line operations safety audit (LOSA) comes in. This is a peer-to-peer process in which an observer sits in the cockpit and watches the flight crew to capture data on their TEM performance under their natural working conditions.

Stephen Ingham, a career pilot, leads the LOSA Collaborative’s rotary-wing and aeromedical programmes and is involved in the airline programme, and he tells *RotorHub* that a LOSA is nothing like an airline check flight.

“The difference between LOSA and every other audit is it’s totally non-jeopardy, totally confidential and anonymous, and we don’t record names, dates or flight numbers,” explains Ingham. “Also, pilots can say they don’t want a LOSA observer in the cockpit, and we say OK and look for another flight.

“Before we do a LOSA, we must have an agreement from senior management

and/or the unions that, no matter what we find, it cannot affect the career of any individual in that airline, so the pilots have confidence in us as observers, and that’s what differentiates LOSA from a line check.”

The LOSA process looks to identify what is happening in the group as a whole, rather than focusing on an individual’s performance on any given day. The observers don’t read the operator’s procedures beforehand to avoid any bias towards looking for errors. Instead, they just concentrate on what actually occurs.

“I want them to shadow the crew from briefing all the way through until the shutdown checklist has been performed and they say goodbye,” he confirms. “We look for strengths, what they do well, what the company does well, and when we present our final report, it includes all the threats, errors and undesired aircraft states we have seen.”

Relative performance

The LOSA Collaborative has worked with over 75 airlines and aircraft operators, including CHC Helicopter, Air Methods, Metro Aviation and Helicopters New Zealand, carrying out more than 25,000 observations. When it produces its findings, it presents operators with snapshots of various aspects showing where they rank in comparison to the industry.

“If you have graphs comparing your organisation with everybody else, then it’s very hard to deny when you have to do something,” adds Ingham. ▶

With a flying career that has spanned helicopter combat missions to emergency medical services, as well as management roles in training, compliance, operational control and NTSB investigations, Michael Benton has a clear perspective of what safety is all about.

Now the president and CEO of VyClimb Consulting, he asserts that the effectiveness of a safety programme can easily be measured by walking up to a pilot or mechanic and asking them if they have one and then what they know about it. “Basic questions about who runs the programme, how often they have meetings and if issues are reported, addressed and fixed tell me how healthy the safety culture is.”

Having a policy is one thing, but getting it implemented needs the buy-in of everyone, which Benton says starts from the top and goes all the way down to the people on the line. “It’s easy for the CEO or head of operations to say they support a safety management system [SMS] and they’re all in, but it’s a whole other thing to show up to the meetings and do the work.

“The reason why you don’t get buy-in and it fails is if you’re not getting feedback or loop closure, or you don’t see examples of how things are progressing,” he explains. “Why go to the effort and maybe risk getting the spotlight put on you if it’s not doing something?”

No room for complacency

Almost counter-intuitively, it can be a challenge to implement an SMS at an operator that has been in business for a long time and has a low accident rate, which can lead to complacency and unwillingness to change.

“A mistake a lot of companies make is they think the absence of an accident equals safety, which is not the case, because they could just be lucky and the next accident could be right around the corner,” he notes. “They might have people who have been there 20 years and know what feels right, but what happens when new people come in and don’t know?”

The sector that Benton says is the closest match to the discipline he has experienced in the military, and the one he uses as a



“Regulations are the absolute minima” when it comes to ensuring safety, notes Aerossurance’s Andy Evans, so clients often want higher standards from their helicopter operator. (Photo: Aerossurance)

benchmark, is search and rescue. He attributes this to the higher risk environment of SAR operations.

“They’re going out in very marginal weather, there’s that urgency, the rescue mentality, and the stakes are so much higher. From what I’ve seen, they have a higher standard of hiring and training, and I feel like they take it a little more seriously.

“People always say safety is the first priority, but sometimes it comes along as an afterthought. And that’s something we’re trying to change to make sure people advocate that they are their own best safety officer.”

Organisations that contract for air services have an important duty of care to their employees, and Aerossurance, a UK aviation safety consultancy, provides them with the expertise they need to select the right operator.

Founder and director Andy Evans tells *RotorHub* that the process encompasses identifying the client’s needs, developing tenders and contracts, and doing performance and safety audits over the contract’s life.

“That links with helping our customers ask for the right things and getting them to understand that regulations are the absolute minima, because very rarely does anyone have an accident who didn’t have an approval and use licensed pilots,” he says. “Appointing a safety manager and

buying a book with some procedures in it is not managing the risk in any meaningful way.”

Clients, such as those in the oil and gas industry that contract for offshore flights, need to set the standard for what they will accept, including safety, with some consideration of what the risks are in the operating environment. This involves a risk assessment to cover the gap between what’s available and what is wanted, and how that gap is to be managed.

“So that’s what we help our customers do, to specify standards that are potentially higher than the regulations, be they on the equipment list, the qualifications or how you manage the air operator.”

In practice, that means Aerossurance works with a client to build up a set of standards it can take to potential service providers to indicate the bare minimum that will be accepted. Evans points out that some customers get caught up in trying to write the solution, but it is far better to specify the outcome you want and let the operator work out the best way to achieve it.

On-site inspection

“You want to see that they have an SMS, understand the risks and are managing them, and the best way is to visit the operator to see examples and make sure they’re talking about the right things,” he explains. “On the other side, there are some things you need to specify to create a level playing field.

“You would expect an operator SMS to think about controlled flight into terrain and manage that risk, but you probably want to specify certain equipment that will mitigate the risk, so asking for a terrain awareness and warning system is very sensible. That means every bidder who comes in will say they have that equipment.”

Aerossurance audits the operators at various stages of the process, and Evans will shortly be going to West Africa to carry out that task for an offshore drilling project.

“We did an audit before the contract was signed, so we’re quite confident, and we will do this one to demonstrate we’re getting exactly what’s been promised, then we might go back to follow up in the future.” ■