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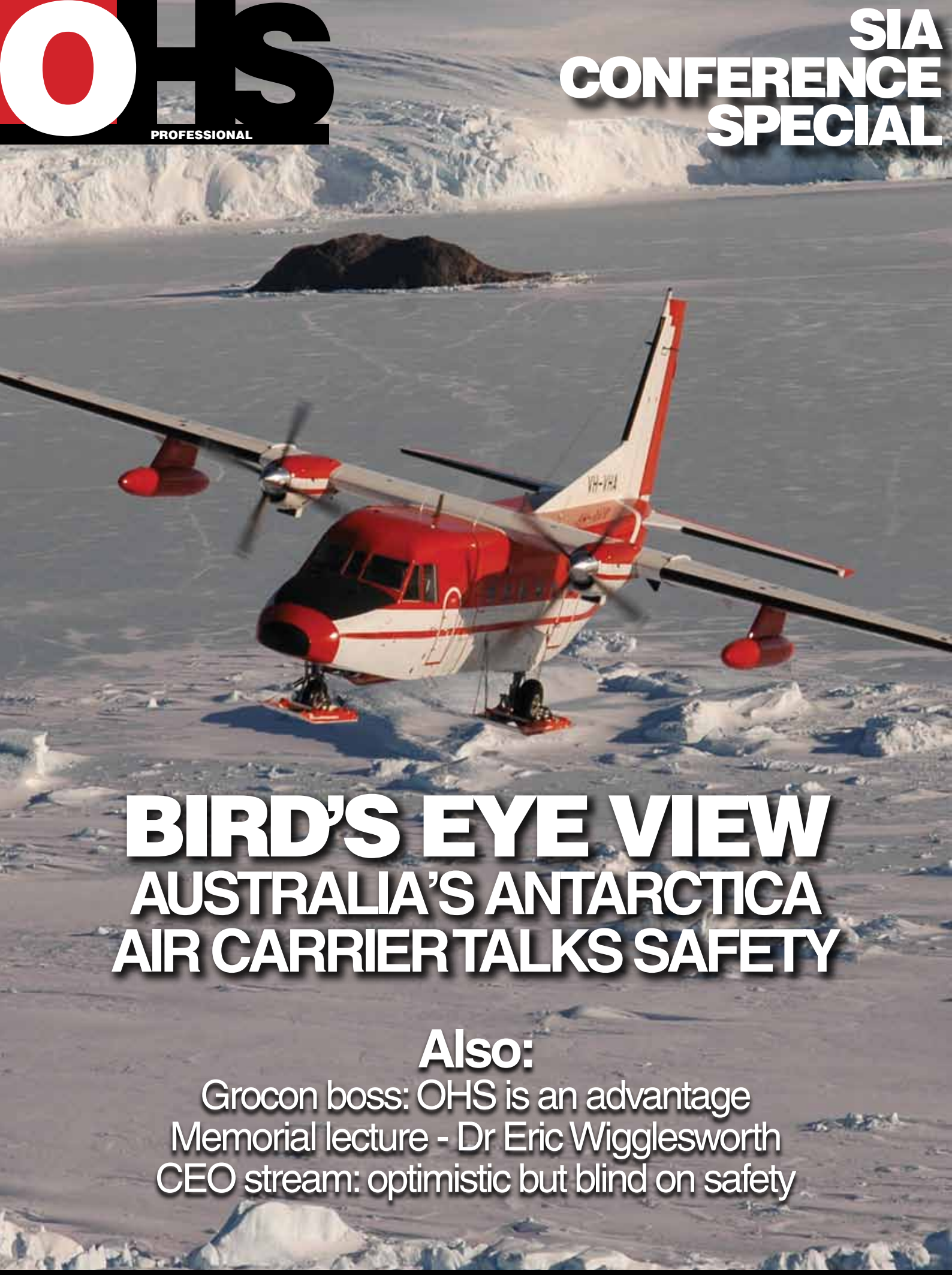

BIRD'S EYE VIEW
AUSTRALIA'S ANTARCTICA AIR CARRIER TALKS SAFETY

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A PUBLICATION FOR MEMBERS OF THE SAFETY INSTITUTE OF AUSTRALIA INC.

Bird's eye view

Skytraders Chief Pilot and Director of Operations Terry Vickers talks about safety challenges of operating in Antarctica

Background

In 2000 the Australian Antarctic Division (AAD) called for expressions of interest from companies to implement a Transport system that would move the division from reliance on shipping as a means of accessing Antarctica into the future.

Skytraders was successful in that process and over the 10 years since has implemented an innovative and progressive system that is now seen in many ways as leading the development of aviation technology in cold climates.

Australia claims an area approximately the size of Australia. During the Austral summer this area will have about 450 expeditioners spread across Australia's three bases of Casey, Davis and Mawson. On top of this there will be a number of field parties placed remotely.

Skytraders aircraft will roam in support of these bases and projects throughout the AAT. One of the interesting factors in Skytraders is interdependency between Skytraders and the Australian Antarctica Division. Two very different cultural organisations with a single purpose.

There are a number of factors that contribute to safety and the management of the risks that this operation presents.

Aircraft

A lot of this progression has been in the form of new aircraft types such as the Airbus Military C212-400 and the A319. The C212 aircraft has been the first transport category aircraft to be certified on skis in some 40 years. While the skis are the visible modification there have been other significant changes to the aircraft to enhance safety in this unforgiving environment.

Aircraft of this design, while robust, are not designed and engineered for the significant loads presented to the aircraft by virgin terrain as found in out field landings. While the skis have been designed to meet these loads, the carriage of the forces generated into the aircraft present major continuing airworthiness issues. Data loggers on each landing gear were introduced to the aircraft. These measure the G loads that are being generated during takeoff and landing. The data gathered is then analysed and the data used to generate inspections of the aircraft if required.

The Airbus A319 is a significant advancement in aircraft type. Its speed and range has improved the reliability and safety of the intercontinental operations between Hobart and Wilkins Runway in Antarctica. Its speed has decreased the predictive window required due to weather. While weather services have improved over time, it does change rapidly. The ability to carry out approaches in Antarctica and return to Australia without landing if required adds significantly to ensuring safe outcomes.

Both these aircraft add significantly to the safety of just being in Antarctica. In the last season they were involved in medivac operations for the Chinese, French and United States Antarctic programs. One of these involved a 19 hour operation by the C212 aircraft across Antarctica to then meet up with the Airbus for a flight back to Hobart of a seriously ill passenger.

People and Training

The selection of the right people is of paramount importance in achieving safe outcomes for these operations. This not only extends to technical skills such as those required by aircrew and engineers, but extends to personal skills and personality. It takes three years to make a C212 pilot technically qualified as pilot in command to handle the challenges that Antarctica throws up. This is done through a competency-based system where pilots will be classified as to the types of operations they can take on over time.

Clearly the selection process must identify those pilots and engineers that enjoy the challenges and remoteness that they will encounter; as a general indicator, personnel that enjoy and are active in mountain climbing, bush walking and general outdoor activities are selected. While risk taking is a necessary part of these activities, it is the recognition that these risks can be managed and anticipated that is an important trait that we are looking for.

The company has a policy of upgrading its C212 crew to the Airbus as it feels it is easier to make an Antarctic Pilot an Airbus Pilot than an Airbus Pilot an Antarctic Pilot.

The company has a very active staff retention policy as it sees its people as an essential part of the Safety and risk management.

Safety System and Risk Analysis

While the aircraft are the visible component of the operations it is the safety and risk analysis systems that minimise the risk that operating in this environment presents. For an aviation company where the focus tends to be on the insular factors affecting operations, in Skytraders case, we deliver people to a greater background risk by just being in Antarctica. Weather and the exposure to the environment presents significant risks no matter how prepared the expeditioners may be.

Skytraders activities are embedded in the wider operations of the Australian Antarctic Division. The AAD has a long history of safe operations and a well developed safety culture with processes that manage the needs of their expeditioners. Our own processes look closely at the touch points that we have with these processes as it is in this area of major risks in making assumptions that an issue has been addressed.

Skytraders safety systems are primarily proactive in focus. Risk analysis of operations are carried out for all operations or group of like operations. These are not just about identifying risks with risks, likelihood and consequences. Instead it leads to a Job Safety Plan (JSP), which in effect becomes an operations manual with full directions for any particular operations.

This is seen as an essential component for our operational theatre as the only likely people to come over the hill in the case of an emergency are in fact Skytraders personnel. Given the overriding factor of weather dictating activities in Antarctica, and despite all the best intentions, it is important that all contingencies are explored at the planning stage.

It is interesting that a positive outcome of these processes has been recognition by the Civil Aviation Safety Authority that these processes are integral to our Extended Twin operational approval.

Skytraders systems have also been adapted to manage the tyranny of distance and remoteness brought about by having our aircraft, crew and engineers operating remotely for some five months a year. Our systems enable personnel to report a safety item or recommendation into the system and then observe the actions and receive feedback as it happens.

When a safety item is logged, there will be an immediate automatically generated email sent out to all the responsible managers. The item will be prioritised and a team established along with a completion date. This will be fed back to the reporter and others through the system and then any updates will be broadcast.

This feedback system is seen as an essential component of the process and ensures that reporting is rewarded with actions.

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