# Search & Rescue International 2017

## Conference Chairman Report

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### Overview

The Search and Rescue International 2017 Conference and Exhibition was held at Nîmes–Alès–Camargue–Cévennes Airport in the South of France. The conference itself took place in the new Sécurité Civile complex, close to their main aircraft hangars where the large exhibition was held on both days. Main sponsors were Bristow, CHC, Viking, SMP Aviation, Sentient, Babcock and the Cobham Helicopter Academy. On the evening of 19 October, a Conference Dinner sponsored by Bristow, was held at a local priory. As usual, the whole event was organised by a very efficient team from Tangent Link. After the Conference, on 20 Oct 17, guests were invited to join the 60th Anniversary celebrations for the formation of the helicopter group within Sécurité Civile. This report summarises the main presentations at the Conference, and any errors or omissions are purely down to me as the Conference Chairman.

### Opening Addresses

The Welcome Address was provided by Walter Riccardi, the Head of Research at the SAR Centre in Lyon, who officially welcomed the delegates and briefed on the French system of SAR. This was complemented by an International view by David Edwards, a SAR Expert from the US Coast Guard who chairs the ICAO SAR Working Group. He reminded the conference of a few challenges facing all SAR: the need to recover the remains of people killed in disasters; the constraints of international rules; the need to develop more night capabilities; and the technical limitations of equipment such as PLBs.

### Mountain SAR and Recovery

We then heard a harrowing account of the French mountain recovery operation following the Germanwings crash in the Alps, presented by Colonel Thierry Carret from the ECASC, and Col Frederic Petitjean, Director of Medical Relief in the affected area. The crash site was in severe mountain terrain, and at first they had to assume the worst case of wounded personnel, no access, and poor weather. Initial inspection by Col Petitjean confirmed that there would be no survivors, so the operation became one of recovery, but with difficult access and poor weather. The operation was in 3 phases: Search, Recovery and Visits. Particular challenges were sensitive handling of family members, and an influx of some 500 press, all demanding information. The French departmental, regional and national structure stood up immediately and worked well. One particular enhancement to the onsite commander was a small staff who could make rapid assessments of changing events to assist him in effective and timely decision making. The topic then moved on to avalanche rescue, and Mario Silvagni, an engineer from Turin Polytechnic, described items useful for avalanche rescue, such as airbags, portable O2 systems and beacons. He then described how an autonomous quadcopter could be programmed to perform a systematic search to find buried personnel by locating their beacons. Turning to cable car rescue challenges, Stephane Bozon, Commander of the Chamonix Platoon of the Gendarmerie described the operation to rescue over 100 people from the Chamonix -Heilbronner high altitude cable car which broke down with only a few hours of daylight available. Thanks to the exemplary response of Bozon's team, most were rescued before dark using helicopters, and the rest the following morning with only one minor injury. As a result, a new rescue system has been demanded for that cable car complex.


**Outsourcing Transition of Aeronautical SAR**

Damian Oliver, Assistant Director for Aviation from the UK MCA described the journey of transforming UK MCA into one the largest aviation operators in the UK public sector, through the build-up of the SAR helicopter programme. The service had been outsourced from the military and MCA to Bristows as part of a £1.9 Billion contract, involving 22 new helicopters over 10 new bases, as part of a fully managed service. This transition has been a great success, and the service saves thousands of lives every year. Turning to fixed wing outsourcing, Julian Miitchell, Manager of Response Capability in Australia described their SAR region as 10% of the earth's surface, with a clear need for a long range SAR fixed wing aircraft to complement their helicopter fleet. The Challenger 604 was chosen, with 3 aircraft now operated by Cobham from 3 bases across Australia.

**SAR Technical Advances**

The application of technology to SAR was then addressed by Russ Torbet, Director of UK SAR for Bristow. He explained that the change from military to civilian operations moved the focus from operational to compliance. With over 50% of rescues being overland, he judged the main risks to be CFIT, compromise of safety margins, mid-air collision, or a grounding of one type of aircraft. These risks could be mitigated by qualifications, currency, competency, and capability. Future advances in systems would help, such as composite night vision. David Heath and Chris Bergeron of Viking Air Ltd then discussed the cost and operational trade-offs between a helicopter and a small or large modern turboprop aircraft, and describing the potential benefits of a mixed fleet. Finally in this session, Simon Olsen from Sentient provided an impressive demonstration of the search and capability of the new VIDAR technology, which can spot small objects in the water far more effectively than present systems, including the human eye.

**Industry's Technical Response**

Mick Fry from CHC provided a comprehensive insight into the SAR challenges faced by African nations where most people never learn to swim, and equipment is ageing, with a lack of training or proficiency exacerbated by poor coordination and a lack of funds. International help is required, but this must be done in a gradual and sensitive way. Andy Catterall from Cobham Helicopter Services then examined the challenges in establishing and sustaining a suitably qualified and experienced Technical Crew for SAR helo operations. He recommended careful selection of candidates, including use of virtual reality simulators, to ensure candidates have the right aptitude (or indeed to confirm their claims of suitable experience!) in order to avoid wasting money and time on training.

**Air Sea Rescue and Training**

Day 2 of the conference started with Phil Hansen from the UK MCA outlining the aim of the UK Maritime RPAS Pathfinder project which is intended to supplement existing systems routinely in maritime, SAR, logistics, and energy sectors. The challenges are regulation, sharing of information and data processing. Platforms and sensors may be procured off the shelf, but need to be integrated into a multi layered system. Comdt Pierre Bepoix in charge of Fire and Rescue Services Operational Organisation in the Securite Civile, then addressed the issues of night time helo rescue operations. He described the French rescue helo structure, with 23 bases, including 3 overseas, a fleet of 35 EC145s flying in the air ambulance, people/property protection, AFF and logs/liaison roles. 25% of the hours are at night on NVGs and safety is a priority, through coordination by an Air Activity Cell, and deconfliction with the Gendarmes and the military. Turning more to the technical side, Prof Hajek from Munich University described the use of fluid dynamics to model the airflow downdraught patterns below helicopters, as an aid to providing more effective flight simulation, focussing particularly on the complex airflow pattern during an underway ship deck landing.

**The Challenges of Mass SAR Rescue**

David Edwards of the US Coast Guard questioned whether nations were really ready for mass rescue events, pointing out that routine minor exercises were not sufficient. The media and nations involved would react very badly if an operation was mishandled. You need to break down stovepipes and to develop a plan based on realistic scenarios which are exercised and executed with suitable partnerships, eg working with fishing fleets who often will be the first ones on site. Julian Mitchell of AMSA then addressed the issue of long range SAR, using the vast Australian region as an example. Assets available vary from the P3(then P8), vessels of opportunity, airlines/aircraft of opportunity and dedicated SAR assets such as the Challenger contract. He described the challenges involved with the search for MH370 which involved 25 other nations, which were exacerbated by the lack of data and the weather. One exciting enhancement to help with location is the employment of the Thuraya satcom system, which was briefed by Manfred Scheiring, CEO of smp aviation. Based on L Band technology, which is unaffected by weather, enables internet, voice, text and data to be sent and received with BLOS coverage nearly worldwide. Finally, in this section, and for the day, Herman Wilkes, senior advisor to the UAE government, described how the UAE SAR system has been developed and improved in the last 8 years, with an operational assessment and corresponding reports to provide UAE leadership with assurance of system effectiveness.

***Air Marshal P O Sturley CB MBE BSc FRAeS RAF Retd***

***Conference Chairman***