



Aerial Firefighting Europe 2017

Conference Chairman Report

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Overview

The AFF Europe 17 Conference was held at Nîmes–Alès–Camargue–Cévennes Airport in the South of France. There were a total of 500 attendees, from 33 countries in attendance. This was an ideal location as it is the base of the main French AFF assets under the Sécurité Civile department of the Ministry of the Interior, but is also the location of a major project to form a European focus for development of AFF and wider crisis response capabilities. The conference itself took place in the new Sécurité Civile complex, close to the main aircraft hangars where the large exhibition was held. The exhibition was formally opened by the Mayor of Nimes, Mr Jean-Paul Fournier at the Opening Reception on 15 Oct 17. Main sponsors for the overall event were DynCorp International, Viking Air Ltd, Conair Group Inc, BAE Systems Regional Aircraft, Neptune and Airspray along with Air Tractor Europe, Sabena technics, Coulson Aviation, Airbus and Babcock Group. At the end of the first conference day, 16 Oct 17, there was a reception hosted by the Mayor of Nimes at the Roman Museum in Nimes, and this was followed by a Conference Dinner and Awards Ceremony sponsored by DynCorp International in the beautiful Arena of Nimes. The Walt Darran Award was awarded by Johann Goldammer and Richard Alder to Jacques Bonneval for his lifetime contribution to aerial firefighting operations. The planned live flying demonstrations of AFF capabilities took place outside the exhibition hall on 17 Oct in front of a large group of visitors and delegates. The conference itself was followed by an Interoperability Workshop on 18 Oct 17. As usual, the whole AFF Europe 17 event was organised by a very efficient team from Tangent Link. This report summarises the main presentations at the Conference, and outlines the outcome of the Interoperability Workshop. Any errors or omissions are purely down to me as the Conference Chairman.

Opening Addresses

The Keynote address was provided by Christos Stylianides, the European Commissioner for Humanitarian Aid and Crisis Management. He described the threat from wildfires as a pan-European problem, which requires a collaborative solution, and paid tribute to the first responders. Climate change is happening as witnessed in the present fires in Spain and Portugal, so late in the season, and even Sweden and Greenland have suffered. There are clear limitations in what we can achieve, due to the risk of concurrency of fire outbreaks, but it is clear that we need to work together to increase our capabilities, and to improve our responsiveness.

Johann Goldammer, Director of the Global Fire Monitoring Centre, Germany, then described the effect of wildfires on the whole planet through greenhouse gases and pollution causing many premature deaths. He described the work of airborne and satellite projects to monitor the transcontinental effects of fires, including the STARE mission which confirmed the pollution caused by vegetation fires; the CARIBIC initiative whereby sensors are carried worldwide by a Lufthansa airliner; and the BIRD satellite which acquires imagery of wildfire locations and intensities.

The theme of research was then taken up by Katrin Witte, HALO project manager from the German Aerospace Centre (DLR). HALO uses a converted Gulfstream 550 as a high altitude long range (HALO) research platform, which completes 3 large scientific research missions per year.



Interoperability of EU Aerial Firefighting Resources

Richard Alder, General Manager of the National Aerial Firefighting Centre, Australia, then stressed the need to develop interoperability between nations' AFF forces, focussing on the Canadair CL 415 aircraft, introducing Frederick Schwebel from the French Ministry of Interior who described the planned interoperability exercise involving CL415s of France, Spain, Italy and Croatia which was planned to develop AFF Standard Operating Procedures (SOPs). He described the advantages of such exercises in improving Flight Safety, by sharing flying and technical experience through working together in a simulator and on a live flying exercise. He suggested that such cooperation should be planned well in advance, should involve working groups at every level, and should also lead to the exchange of pilots between nations. As examples of how cooperative working could enhance the effectiveness of AFF forces, Monique Pariat, Director General of the EU Civil Protection and Humanitarian Affairs, described the work of the Commission's Emergency Response Coordination Centre (ERCC). She described the voluntary pool of 21 nations and 80 modules, including a buffer capacity of 4 aircraft for the season, and how this was employed in the difficult 2017 AFF season. For the future, she proposed a regional approach, including the use of military assets; she supported the French President's call for a European Civil Protection Force, and stressed the need for better prevention measures, enhanced preparedness, and more use of exercises.

Aerial Firefighting Training and Simulation

Pierre Chicha, CL 415 Safety Officer from the Nimes BASC AFF Centre described the benefits of a multi aircraft simulator to ensure the maximum training value in a safe environment. He described the BASC simulator set up with 8 flexible workstations, which can be configured as different aircraft or helicopters, all of which can interact in realistic scenarios, and is scalable from basic training to the more complex missions. It can also be used to replay actual fire scenarios to ensure that the maximum lessons are learnt, and will be particularly valuable for pilots from all over the AFF community to train and maintain their skills outside the fire season. This theme was continued by Lt Col Meresse, director of the new technology and risk management department at the Valabre site, who stressed the need for airborne and ground firefighters to work together effectively. This is being achieved in France by the intelligent use of simulators, based on realistic scenarios developed by experienced operators. He also explained the work being done on assessing different aircraft types, and on types of fire retardant, as well as the future utility of UAVs in the AFF role.

New Technical Advances

Bill Tart, from DynCorp International, then developed the theme of UAVs in AFF. The shortage of trained pilots and increased capability of drones requires a change in direction for future AFF, but this will need a clear statement of requirement, a solid concept of operations, and a proactive approach. Jeff Berry of CONAIR Group, Canada, then described the development of smarter decision making in the supply chain in dealing with fires over a wide area, in order to reduce reaction times at each stage, and Wayne Coulson of Coulson Aviation described future tanker capabilities, including the novel smart retardant tank with precise GPS drop technology. Joseph Baptiste of Airbus Helicopters rounded off this section by describing internal tank configurations for helicopters, with an option of ground force evacuation, and also the use of water cannons from helicopters to fight urban fires.



AFF Challenges since 2015

Richard Alder described the growing problem of unauthorised drones interfering with emergency air operations, and described how Australia was dealing with this with a combination of safety regulations, and public education, using social media to target those most likely to operate drones in an unsafe manner. Alfonso Andrade, from the Spanish Forest fire Service, then briefed on the 2017 statistics for fires in Spain, and described the trends in AFF accidents over the period 2006-2015, highlighting the need for common sense in controlling flying hours for AFF crews.

Industry's Technical Response

Day 2 of the conference started with an industrial flavour, with Dan Snyder of Neptune Aviation describing the selection and development of the BAE146 as an AFF tanker, and Hugo Arceo of Air Tractor Europe extolling the virtues of the AT802, and its amphibious version, in AFF duties, with its robust serviceability and high drop rate. Antonio Urbano of the Babcock Group then briefed on the exceptional fire season in Italy, and the contribution made by the national fleet of CL 415s both at home (augmented by other nations at key times) and abroad as part of the EU pooling initiative. Virginia Aguilar described the essential elements in an effective AFF strategy in terms of: Prepare, Prevent, Detect, Respond and Recover; and then proposed how the requirements can be met with a combination of space, UAVs, surveillance systems and AFF aircraft. She also mentioned data mining as a means of detecting potential perpetrators of manmade wild fires. Finally, she described the Airbus C295 with its rear ramp and roll on/off tanks, and reconfigurability for other roles.

International Operations

The military view of AFF as a secondary mission was then offered by Lt Col Luke Thompson from the 302 Air Wing, USAF Reserve. He described the Reserve/ANG C130 force of 8 aircraft in the western USA, outlining the logistic implications, training challenges and employment of such a force as a surge capability in conjunction with civilian AFF air assets who acted as pathfinders for them. Further on the international theme, Dody Ruswandi, Secretary General of the National Disaster Management Authority, Indonesia, described the long history of forest fire damage in his country, the cost of which was \$20Billion in 2015, caused largely by slash and burn practices. He described government actions to deal with the problem, and to increase preparedness.

Deep Learning - Research and New Technologies

Moving on to research matters, Dr Frederique Giroud of CEREN, the Cooperative Research Facility in France, described a project to assess the optimum viscosity and ground distribution of aerial delivered fire retardants. Marcello Marzoli, from the Fire Corps, Italy, then described the Advanced Forest Fire Fighting (AF3) EC project, which focusses on innovative active and passive countermeasures, early detection and monitoring, and integrated crisis management. The results of this work have been validated by flight tests and exercises. Melissa Lineberger of the Colorado Center of Excellence for Advanced Technology for AFF briefed on their research into night AFF operations, current technologies, and proposed ways of removing current barriers to a night AFF capability. Finally, Jean-Michel Dumaz of the SAFE Cluster, France, described the challenges of the increasing rural/urban interface with consequent higher expectations from the population in these areas, and briefed on the advances in technology to help in AFF operations, such as mapping software, and flight assistance to enhance situational awareness.

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