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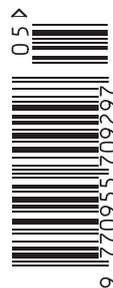
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# - Last WEF at Meiringen

This year was the final chance for Meiringen to play a part in the protection of airspace during the World Economic Forum at Davos, as **Joris van Boven** and **Alex van Noye** describe.

**E**very year, one Swiss air base hosts increased quick reaction alert (QRA) activities during the World Economic Forum (WEF) held at Davos. Responsibility for the task rotates on an annual basis and for this year's event, which took place between January 22 and 27, combat air patrol (CAP) missions were flown from Meiringen in the mountains of the Bern canton. Each hour, two fighters – usually F/A-18C Hornets – maintained surveillance over Davos in eastern Switzerland, armed with live air-to-air weapons. From next year, all Davos QRA sorties will be flown from Payerne.

Budget limitations mean that the peacetime Swiss Air Force is not currently on 24-hour air surveillance standby. However, from 2020 two F/A-18s will be kept on round-the-clock alert at Payerne.

*F-5Es participated in QRA duties during previous WEFs, but this year the Tiger II's returned to Meiringen for training only. The two F-5Es – including J-3081 in Patrouille Suisse colours – arrived at the base during the WEF and took part in an exercise the following week.*



To support the flying activity over Davos this year, several F/A-18s were transferred from Payerne to Meiringen. This was also a final opportunity to witness F-5E operations at Meiringen: the resident Fliegerstaffel 8 was formally disbanded at the end of 2017, but a pair of jets arrived for a period of training after the WEF. As the Tiger II fleet is scaled down, its aircraft are now concentrated at Payerne.

### Swiss air surveillance

Swiss airspace control and anti-aircraft operations are handled by the ThalesRaytheonSystems FLORAKO network. This is operated from four fixed locations on the summits of the Pilatus, Scopi, Weisshorn and Weissfluh mountains. At least one of these command, control and communications (C3) facilities is always connected to the air defence and air traffic control hub at Dübendorf. The monitoring system is operational '24/7' and covers all Swiss airspace. The first FLORAKO unit was activated in 2003.

In Switzerland, military air surveillance is also called Permanente Luftraumüberwachung (PLÜ – permanent airspace surveillance). This ensures uninterrupted coverage under the FLORAKO network, in which an identification officer (IDO) and track monitor (TM) observe the air situation. In peacetime, the primary military command centre is located at Dübendorf air base, and the Skyguide civil air traffic control occupies the same building. The sites of the other operational centres are a national secret. ■



**Top:** F/A-18C J-5016 departs Meiringen in full afterburner on January 25. The Hornets only used the QRA shelters for the morning scramble and at other times operated from the caverns, the characteristic sound of their engine start-up reverberating through the air ducts in the mountains. **Above:** The Hornet pilots used night-vision equipment for missions during the hours of darkness. The F/A-18 also has illuminating strips ('slime lights') at various locations around the fuselage, tail and wings and these were activated during nocturnal formation flying. **Below:** CAP duty for this year's annual meeting at Davos was flown exclusively by Hornets. F/A-18C J-5026 prepares to depart for a night-time mission, armed with a brace each of live AIM-120s and AIM-9X missiles. All photos Joris van Boven and Alex van Noye



**Right:** F/A-18C J-5015 recovers to Meiringen. This jet carries wingtip AIM-9X Sidewinders, a single AMRAAM (to port) and an AN/ASQ-228 ATFLIR (Advanced Targeting Forward Looking Infrared) pod, which can be used for long-range visual identification of suspect aircraft. **Below:** F-5E J-3073 taxis towards one of the base's mountain caverns after its arrival. This jet wears the 'Addio Vandalò' titles applied in recognition of the last ever Wiederholungs exercise training course at Meiringen last year. Former operator Fliegerstaffel 8 disbanded at the end of 2017.



These command centres are part of the Einsatz Luftwaffe (Air Force Operations) unit, the head of which is directly subordinate to the air force commander. The unit consists of the air force operations centre with direct links to emergency organisations including the rescue service and the federal police. It is connected to the two Skyguide air traffic control centres in Geneva and Zürich, and the relevant military and civil aviation traffic control posts in neighbouring countries.

At present, airspace is monitored continuously, but fighter and other anti-aircraft assets are usually only available during the working day. Increased availability of these resources is limited to major exercises, international conferences – such as the WEF – or international crises, including the Libyan civil war in 2011. The heightened readiness status is known as PLÜ+ or Ilana.

### Airspace restrictions

During the WEF, the overall security of Swiss airspace is significantly intensified. The FLORAKO system of fixed radars can be supplemented by two mobile TAFILIR (Taktische Flieger Radar, tactical air radar) systems. Based on the AN/MPQ-64 radar, these Ground Master 200s

are a variant of the Northrop Grumman AN/TPS-75. The mobile radars can be used in areas where there is difficult terrain or where specific coverage is required. In peacetime, the TAFILIRs are stored at Dübendorf and Emmen.

The Swiss Air Force patrols the skies using helicopters, turboprop aircraft and fighters. In addition, Austria, Germany and Italy keep an eye on airspace during the WEF. The Austrian Air Force also flies CAPs, since Davos is not far from the Austrian Alps.

Air traffic throughout Switzerland, Austria, Liechtenstein and northern Italy is restricted within a radius of 25nm from the centre of Davos. Arrivals and departures at regional airports and heliports are subject to specific rules and procedures drawn up by the Swiss Air Force in collaboration with the Swiss Federal Office for Civil Aviation. Visual flight rules (VFR) are stipulated on predetermined routes, and pilots and aircraft require prior authorisation and accreditation. From January 11, each request had to be submitted to the air force at least 24 hours before estimated take-off; then from January 19 the deadline was increased to 72 hours prior to departure. Flights that are not based on defined routes

and flights to Davos require a licence. After accreditation has been granted, a request for each flight needs to be made to the air force, which will make a decision based on operational requirements and safety. As of January 22, the restrictions on flight operations were applicable to all airspace users.

### CAP missions

A WEF day at Meiringen began with the cleaning crew sweeping the runway, then thoroughly inspecting it and the taxi tracks. A yellow mobile control tower was located at the end of the runway and the position of this vehicle indicated which runway direction was in use. This could change several times a day due to the unpredictable wind coming off the mountains. A barrier was set up at the end of the runway for emergency landings.

The first two F/A-18s were launched at around 08.30hrs and usually operated from QRA shelters at the end of the runway. Start-up and taxiing would be completed within ten minutes. The F/A-18s flew CAP missions with two live AIM-120 AMRAAMs on the intake stations and two wingtip AIM-9 Sidewinders. Under the fuselage, the fuel tank carried the legend 'STBY 121.50' – the frequency on which an





intercepted aircraft can access air traffic control and the Swiss emergency services. The frequency is monitored around the clock.

All the fighters took off from the airfield in full afterburner, since its runway is only 7,382ft (2,250m) long. Four of them would remain airborne through the day. Groups of two Hornets departed for each mission – the F-5s were conducting local training and not flying QRA. After each pair of Hornets had departed, the aircraft from the previous wave returned to base. This pattern repeated itself approximately every hour during daylight. The F/A-18s only used the QRA shelters for the morning scramble. For the rest of the day, they flew from the mountain ‘caverns’ on the south side of the base.

The size and layout of the caverns at the base are classified information. The aircraft taxied directly from the caverns to the apron where they crossed a public road. Final pre-flight checks were run on the Hornets next to the control tower. After arming the weapons, the jets taxied straight to the runway.

A barrier closes the road crossing the runway when aircraft are taking off or landing. Another road bisects the base at the end of the runway to the west of the airfield. The gates here remain

closed during all flying activity, since it can’t be monitored from the tower.

When aircraft returned from their WEF mission, they immediately taxied to the ramp next to the control tower, where weapon specialists disarmed the missiles. The two Hornets then taxied back to the cavern and the pilots debriefed their mission. At night, live weapons were removed from the aircraft and stored in an ammunition bunker.

CAP missions continued into the hours of darkness, until 22.00hrs, two F/A-18s departing each hour. Due to night-time safety regulations, the jets departed at slightly increased intervals: the second aircraft was held for five to ten seconds longer than in daylight. After the end of the day’s flying activity, two Hornets were kept ready to respond to a QRA call.

### Future QRA

On February 17, 2014, an Ethiopian Airlines co-pilot took full control of his Boeing 767-300ER after locking his captain out of the cockpit. The co-pilot deviated from the planned Addis Ababa-Rome route and eventually landed in Geneva. He had informed the authorities about the change of course and his intention to apply for political asylum in Switzerland, and was arrested after landing. Because the

incident took place outside Swiss air force ‘office hours’ no fighters could be scrambled. Instead, French and Italian fighters were called to intercept and accompany the airliner.

The incident brought the shortfall in Swiss airspace surveillance into sharp focus and politicians set about improving operational readiness. The first step towards QRA expansion came in January 2016. At this point, two armed F/A-18s were ready to take off within a maximum of 15 minutes, five days a week, from 08.00hrs to 18.00hrs, for 350 days of the year. Last year this presence was extended to 365 days.

The two QRA jets are available for ‘hot missions’ and ‘live missions’. The former involve intercepting an aircraft violating Swiss sovereignty or aviation rules, whereas the latter cover checks on aircraft that require diplomatic permission to fly over Switzerland. Payerne is the centre of the new-look air policing operations, with Emmen or Meiringen available as back-ups if it’s closed. Around 100 personnel will be required for the full QRA expansion and the project will cost approximately CHF30m (€25.6m) per annum.

From next year, aircraft will be on QRA daily from 06.00hrs to 22.00hrs. By the end of 2020 the service will be upgraded to ‘24/7’ standby, 365 days a year. **AFM**



**Above:** F/A-18C J-5016 launches from Meiringen against a backdrop of the Bernese Alps. Fuel tanks with the ‘STBY 121.50’ frequency are a standard fit during the Davos air surveillance missions. **Left:** F/A-18C J-5011 displays special Tiger markings associated with Fliegerstaffel 11. The Meiringen-based squadron is a full member of the NATO Tiger Association.