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OPERATIONS REPORT

GRIPENS ON GUARD AT NATO'S EDGE

How Czechs met challenge of nation's first
overseas air policing mission over Baltic



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BEHIND THE HEADLINES

Craig Hoyle (pictured) journeyed to the Baltic states to visit the Czech air force's historic first Gripen detachment for NATO (cover story P30), and also heard about Lithuania's air force plans (P18). **Stephen Trimble** visited Ottawa for the CANSEC defence and security exhibition (P16) and saw Boeing UAV innovation in Seattle (P24). Elsewhere, **Andrew Doyle** joined former F1 world champion Niki Lauda in Vienna to mark the entry into service of his first Embraer 190 (P6), and **Kieran Daly** looked inside the paperless cockpit in Malahide (P26).



For a full list of reader services, editorial and advertising contacts see P35

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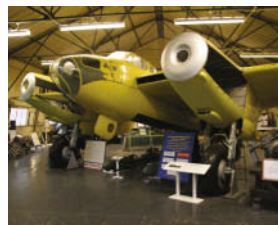
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THE WEEK ON THE WEB

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Last week was the 65th anniversary of the death of **Sir Geoffrey de Havilland**, creator of the **Mosquito**, among other iconic aircraft. Have a look at the obituary on the Flight



blog and see a great image on **Image of the Day** blog. Next week Flightglobal will welcome aviation's highest-profile entrepreneur, **Sir Richard Branson**, chairman of the Virgin Group, as our **Guest Editor** on 8 June. He'll be

rolling up his sleeves and getting involved in the day to day running of the site. Plus you can win a flight. Submit a question to Sir Richard before 8 June and you could win a **free return flight** anywhere in the Virgin network. Read Stephen Trimble's post "**Random 10 List**: things I learned on the F-35 factory tour", of which number eight is: "The lift fan inlet door is also known within the factory as the '57 Chevy hood." See a blog post about Etihad sponsoring English Premiership football club **Manchester City**. Its logo will adorn the kit for the next three years.



Find all these items at flightglobal.com/wotw

QUESTION OF THE WEEK

Last week, we asked: **What's your favourite means of following aviation?** You said:

Online news	Discussion forums	Blogs	Twitter	Magazines
64%	6%	4%	1%	25%

Total votes: 1,222

This week, we ask: **Cockpit automation is cutting pilot workload:**

Good – reduces potential for error

Bad – makes mistakes more likely

Vote at flightglobal.com/poll

HIGH FLIERS

The top five stories for the week 20 – 26 May.

- 1 Flightblogger:** video captures 787 first engine start
- 2 Airbus** production issues delay next Qantas A380 delivery
- 3 Picture:** Boeing completes 747-8F forward fuselage assembly
- 4 UK** government sounds warning on A400M
- 5 British Airways** to ground 16 747s and 757s for winter



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Aero Vodochody

The L-159 is currently "not an ambition but a dream" for Lithuania

AIR DEFENCE CRAIG HOYLE SIAULIAI

Ex-Czech L-159s on Lithuanian air force wish list

Nation could take responsibility for own airspace from 2018

Lithuanian air force leaders have held unofficial discussions with their Czech counterparts over a possible future deal to acquire surplus Aero Vodochody L-159 advanced light combat aircraft. The move comes as Vilnius looks to assess its options for taking responsibility for policing its own airspace from 2018.

Lithuania has operated two Aero Vodochody L-39ZA jet trainer/light attack aircraft since 1998, and had used these for some quick reaction alert (QRA) duties before entering NATO in March 2004. The aircraft are expected to remain in service until at least 2014, having recently undergone overhaul in Romania, but their subsonic performance and lack of radar makes them unsuitable for the air policing role.

While confirming some "commander-to-commander" talks have been held over the more capable L-159, Lt Col Virginijus Steponavičius, chief of staff at Lithuania's Siauliai air base, says that for the moment "there's no real ambition – it's a dream".

NATO has pledged to continue its QRA service for Baltic states Estonia, Latvia and Lithuania until 2018, with detachment slots already allocated to 2011. "In this time we have to show how we will take over the mission from 2018," says Steponavičius.

"It will maybe be one Baltic squadron with three legs, or possibly taken on rotation." However, given current economic conditions and the Lithuanian air force's small size of only around 420 personnel, it might not be until 2024 that such a handover could take place, he cautions. "Today, we need to make a decision that we need fighters," he says.

Lithuania meanwhile expects to take delivery of its third and last Alenia Aeronautica C-27J Spartan tactical transport this year, with the first two examples having already seen use in support of its personnel serving in Afghanistan. The C-27Js have replaced three life-expired Antonov An-26s. The air force's first of two Let L-410 light transports has also recently undergone modernisation, with work to upgrade the second to start soon.

The air force's helicopter inventory comprises nine Mil Mi-8 transports, six of which are in operational condition. Also used to deliver search-and-rescue cover from Aleksotas and Nemirseta air bases, part of the fleet is expected to fly on beyond an overhaul planned for 2017.

"There are some plans to buy some new helicopters, but there's no funding for this," says Steponavičius. ■

See Feature P30

INTELLIGENCE ARIE EGOZI TEL AVIV

Innocon proposes UAV to Uganda

Uganda is seeking to deploy unmanned air vehicles for intelligence-gathering missions along its borders. The government is assessing a proposal from Israeli manufacturer Innocon.

Kampala is evaluating Innocon's Mini Falcon I UAV, says chief executive Zvika Nave. The vehicle has a wingspan of 4.99m (16.3ft), a maximum launch weight of 85kg (187lb) and carries a retractable payload.

Mission endurance for the UAV

is 12h, with an operational range of 95km (51nm).

The Ugandan government several years ago acquired a P92 Echo Super light aircraft modified with an electro-optical payload by Innocon, and briefly used the asset before it was grounded after suffering technical problems.

Uganda's army currently uses a twin-engined Vulcanair P68 equipped with an Israeli-made payload that is controlled from a ground station. ■

UNMANNED SYSTEMS PINO MODOLA GENOA

Italy finishes improved Predator A UAV testing

Italy's General Directorate for Aeronautical Armaments in late May completed a campaign of tests in the USA on a first batch of three improved General Atomics RQ-1B Predator A unmanned air vehicles.

The aircraft are due to be sent in Italy in the near future, where they will join the Amendola-based 28th Group, 32nd Wing: the home of the Italian air force's UAV activities.

The improved RQ-1B features a new, increased span wing, Raytheon Multispectral Targeting System-A electro-optical/infrared payload with laser designator, new operational management software, and a Raytheon 3M avionics suite. The version should have higher safety levels to allow use over densely populated areas.

One of the three aircraft to have

undergone testing in the USA was a previously delivered Italian air force example that underwent extensive modification to reach the new standard. The other two were new production examples built to the enhanced configuration. Italy's three remaining operational Predator As from an initial deal for five UAVs – one of which was destroyed in a training accident in 2004 – will undergo a similar upgrade in 2010.

The eventual six improved RQ-1Bs will be joined early next decade by four more-capable RQ-9 Predator B/MQ-9 Reapers. The Italian parliament approved the acquisition in February 2008 and provided an initial €80 million (\$111 million) until 2011. ■



For more on unmanned air vehicles, visit flightglobal.com/uav



Italian Air Force

The improved Predator A features a new, increased span wing

BALTIC EXCHANGE



NATO's dramatic expansion within the past decade to today's 26-strong organisation has not been without its challenges, particularly for those entrants that lack the resources to rapidly transform their Soviet-era militaries with modern and predominantly Western-supplied equipment

CRAIG HOYLE SIAULIAI

NATO's most recent expansion, in March 2004, included Baltic states Estonia, Latvia and Lithuania, which were collectively unable to defend their airspace from potential threats. The duty of providing air policing, or quick reaction alert (QRA) cover for the nations' 6.8 million inhabitants fell upon the wider NATO community, which is expected to maintain its commitment until around 2018.

Flight International visited Lithuania's Siauliai air base as the fourteenth nation to assume the Baltic QRA mission was less than three weeks into its four-month detachment at the site. Notably for the Czech Republic, the first operational overseas deployment to have been undertaken by its air force since joining

NATO in 1999 is also the first commitment of its kind made by Prague since the end of the Second World War.

Equipped with four Saab Gripen C fighters, the current detachment is drawn from the Czech air force's 211th Tactical Squadron, home based at Čáslav, around 80km (43nm) east of the nation's capital.

Two of the aircraft have been held at readiness to take off within 15min on a 24h, seven-day-a-week basis since 1 May, with the commitment forming part of the wider NATO Integrated Air Defence System. Armaments carried for the Baltic mission are two Raytheon AIM-9M Sidewinder short-range air-to-air missiles and typically around 100 gun rounds per aircraft.

The deployment is notable not only for its historic-first nature, but also because the



The Czech air force scrambled two Gripens within 11min of a potential threat arising

Lt Col David Schreier/Czech air force

Czech air force only began operating the Gripen in 2005 under a 10-year lease deal brokered via Sweden's Defence Materiel Administration (FMV).

In addition, despite having a total of just 12 Gripen Cs and two D-model operational trainers, the service is providing parallel QRA cover for the Czech Republic from Čáslav.

"As one squadron we are supporting two QRAs, so you can imagine the people are busy now," says Czech air force Maj Jaroslav Míka, detachment commander for the Baltic mission and also Gripen squadron commander. The fleet logged more than 6,000 flight hours in its first three years of use, according to Saab.

Preparations for the Lithuanian deployment started in February 2007, with an initial base survey having been conducted later the same year. Materiel preparation work began

last October, with a second site survey conducted in February. "We are not an experienced nation with sending our tactical aircraft abroad," notes Míka.

Czech personnel and Gripens had previously been deployed to Norway, Poland and Turkey for training, and squadron personnel performed a six-month work-up ahead of the Baltic deployment, following a model used by Czech military personnel deployed to Afghanistan and Iraq.

EVALUATION EXERCISE

Final preparations included an air policing evaluation exercise conducted at Čáslav from 9-13 March, which assessed the unit's standards, techniques and procedures against NATO guidelines. The process included support from Czech air force Aero Vodochody

L-159 advanced light combat aircraft, plus transports and helicopters.

The first Czech aircraft arrived at Siauliai on 30 April, with the presence to continue until the German air force takes over responsibility for the QRA mission on 1 September (see box).

Representing the 20th period of cover to have been provided to the Baltic states, the Czech detachment has already been called upon for the first time. A so-called "Alpha" scramble intercept was launched on 21 May, after a civilian aircraft was detected flying along the Russian-Lithuanian border after departing Poland.

"A signal informing about an A-Scramble rang at 17:30. Our pilots were airborne at 17:41 and intercepted a German-registered aircraft at 17:50," says Lt Col David Schreier, liaison officer of the Czech air policing detachment. Restricted from approaching within 1,000ft (305m) of the potential threat, the Gripens monitored the aircraft until it landed at Lithuania's Klaipeda airfield, before they returned to Siauliai.

"We learnt the day after that the aircraft had had a flight plan through that area, but it was not activated by the Brussels flight co-ordination centre," says Schreier. Typical of most recent incidents, the event was the first in several months over the Baltic states: the previous Danish Lockheed Martin F-16 contingent did not conduct an Alpha scramble during its entire tour of duty. US Air Force Boeing F-15s were twice launched from Siauliai between October and December 2008.

Gripens are launched around 10 times a year in the Czech Republic to investigate irregular flight activity, says Míka.

A total of 75 Czech personnel are participating in the Baltic mission, with the majority of these to be rotated half-way through the commitment. The total includes eight pilots and 36 maintenance and logistics personnel at Siauliai and some personnel assigned to a Lithuanian command and control facility at Karmelava.

The mission is planned to total around 290 flying hours and not more than 350 by September, with the latter limit having been established to avoid adversely affecting operations at Čáslav. The air force usually has eight of its 12 Gripen Cs ready for operations each day, and detachment maintenance and logistics officer Maj Pavel Buchta notes: "What you do now, you will see the results 18 months from now."

The planning assumption is for the detachment to fly eight two-aircraft training missions – or Tactical scrambles – a week, up to a maximum of 8h a day and 25h a week. No training sorties are flown at weekends due to local noise restrictions, although the 15min QRA cover is maintained.

TRAINING

SMALL FLEET KEEPS MISSIONS IN CHECK



Craig Hoyle/Flight International

All efforts are now focused on air-to-air skills using weapons including the AIM-9M Sidewinder

THE CZECH air force's deployment of four Saab Gripen C fighters to provide air defence for the Baltic states has highlighted the abilities of a former Warsaw Pact military to transform itself for the demands of NATO, but also exposed the limitations of having a small fleet of combat aircraft.

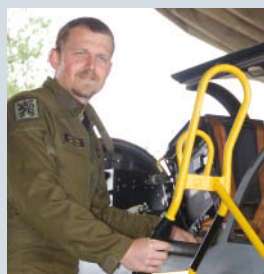
With its 12 Gripen Cs currently required to deliver quick reaction alert (QRA) cover for four months from Lithuania's Siauliai air base, and permanently from their home base at Čáslav, the air force is unable to expand its mission beyond the air-to-air arena.

Seventeen of the air force's planned 21 Gripen pilots – the capped limit for its 14-strong fleet, which also includes two D-model operational trainers – are now air-to-air combat ready and QRA-qualified, while the remaining four started their conversion training last November.

"We do not have enough people or airplanes to make a more complex training," says Maj Jaroslav Míka, commander of the Czech air force's 211th Tactical Squadron and detachment commander for the Baltic mission. "In this four-month period we severely limit

our training capability."

In a bid to redress any training penalty incurred by mounting the parallel QRA duties, the squadron will from September participate in two exercises: firstly hosting Lockheed Martin F-16s from the Texas Air National Guard at Čáslav, and then joining the NATO Tiger Meet at Kleine Brogel air base in Belgium.



Craig Hoyle/Flight International

"The ambition for next year is air-to-air refuelling"

MAJ JAROSLAV MÍKA

Czech air force 211th Tactical Squadron commander

The air force also already has an eye on possible future participation in a Red Flag-series exercise in the USA, with this possibly to be achieved by sending Gripens as part of a combined detachment with the

Swedish air force. However, Míka says no decisions have been made yet with regard to the squadron's aspiration.

But in a move which would support future such deployments, Czech pilots will undertake air-to-air refuelling training during 2010. "The ambition for next year is air-to-air refuelling. Then the ambition can rise," says Míka. "As users we would like to be everywhere."

The Czech Republic's current aircraft are also to receive Mode 4 identification friend-or-foe equipment and Have Quick II secure radios from later this year, but they are not expected to receive Link 16 datalinks before 2015 because of cost considerations.

With a fleet of just 14 leased Gripens, the Czech air force is currently unable to consider expanding its mission to roles such as ground-attack. However, Prague is expected to launch a fighter acquisition early in the next decade, with an outright Gripen purchase likely to be among its available options. Asked whether the nation could buy sufficient aircraft to stand up a second Gripen squadron, Míka says: "I would like to have it." ■

As its existing Gripen deal only covers the support of aircraft operating at their home base, Prague has signed a supplemental deal with the FMV to enable its Baltic duties. This covers some additional spare parts, line replaceable units and ground support equipment delivered to the Czech Republic, from where one logistics flight is performed to Siauliai each week using an air force Antonov An-26 transport.

"Our main ground support equipment and resources are at our home base, and we had to be prepared to fly from an almost bare base," says Buchta, who describes the mission as "the biggest challenge in my career".

Around 80% of the squadron's equipment arrived in Lithuania by road, while more sensitive and hazardous supplies, such as ammunition and missiles, were flown in by An-26. "We have limited airlift resources in the Czech Republic, which is not so good for a detachment abroad," says Buchta. However, its air force will later this year receive the first of four Airbus Military C-295 transports under a deal announced during May.

MAINTENANCE WORK

Minor maintenance and repairs are conducted at Siauliai, while larger activity, such as technical services scheduled after every 200 flight hours and lasting between four and six weeks, are conducted in the Czech Republic.

The aircraft had logged 72h in 48 sorties by 19 May, and Míka says: "We haven't had any major maintenance issues; we keep four aircraft in flying condition." He praises the Gripen's on-board diagnostics system, noting:



The Gripen detachment will continue to protect the Baltic

"Straight after landing you know what it is necessary to maintain."

Some Swedish support personnel are also based at Čáslav under the lease deal, and the air force brought two of these to Siauliai at the start of the detachment. But in a sign of the squadron's independence they soon returned to the Czech Republic. "There was nothing for them to do," says Míka. "We are doing well," adds Buchta. "It was good preparation, and we have found solutions to problems."

TRAINING SCRAMBLES

Czech pilots are managing to conduct some training during Tactical scrambles, for example flying with Lithuanian air force Aero Vodochody L-39s or Mil Mi-8 transport helicopters. However, these are largely limited to flying 2:1 scenarios, says Míka. Visiting pilots are also making use of the mission's protected airspace over the Baltic Sea, which offers a different training experience to the landlocked Czech Republic.

The last Gripen will leave Lithuania on 4 September for its 80min return flight to Čáslav – a distance of almost 1,040km (560nm).

Although the detachment is stretching the Czech air force's small fleet of fighters and testing its aged air transport fleet, the experience is an important one for a country just a decade into its NATO experience. The detachment is also a welcome opportunity for its fighter pilots – capped at flying an average of 150 flight hours a year at home – to taste deployed operational life for the first time. ■

Next week: read our programme update on the Gripen and its future sales prospects



Craig Hoyle/Flight International

MODERNISATION

FROM SOVIET BASE TO NATO STAGE

IN ITS fifth year of continuous operation, NATO's Baltic air policing service is perhaps the strongest symbol of its commitment to augment military capabilities of recent entrants Estonia, Latvia and Lithuania.

Staged from Lithuania's Siauliai air base since the three Baltic states gained accession in March 2004, NATO's quick reaction alert (QRA) duty has involved the air forces of 14 of its other 23 nations. Its 20th aircraft detachment, with four Czech air force Saab Gripen Cs, began operating at the site on 1 May.

The presence of NATO fighters represents a dramatic transformation from Siauliai's not-so-distant past: the base was until 1992 a Soviet facility and housed types including Ilyushin Il-76-based A-50 airborne early warning and control system aircraft and RSK MiG-29 fighters.

The base was in 2004 acquired for the Lithuanian air force, which today has its fewer than 20 aircraft at the site, which boasts a 3,500m-long



Geoffrey Lee/Plane Focus

Germany plans to deploy four Eurofighters later this year

(11,400ft) main runway.

Early Baltic QRA missions required participating nations to provide the bulk of support services themselves, including meteorological forecasts and firefighting cover. However, "the only things now that are left for the nations are the deployment, aircraft, maintenance personnel, jet fuel and meals", says 1st Lt Gedas Virbukas, host nation support co-ordinator at Siauliai.

NATO has pledged to continue its Baltic QRA commitment until 2018, with slots already filled out to 2011. The German air force plans to deploy four Eurofighters from 1 September for a two-month cover period, before replacing them with six McDonnell

Douglas F-4 Phantoms through December. Services will be delivered by France, Poland and the USA during 2010.

Siauliai is the subject of a major modernisation programme, including the construction of new parking aprons, arming/disarming areas, a wing operations building and fuel storage facilities. Being conducted using funds from the NATO security investment programme, the work will also overhaul its current QRA taxiway, parking apron and temporary shelters.

Beyond supporting the current air policing task and domestic operations, the modernisation could in future see the site become a deployed operating base for a squadron of allied fighters, air-to-air refuelling aircraft or strategic transports, says Lt Col Virginijus Steponavicius, chief of staff at Siauliai. Infrastructure work is expected to conclude in 2011. He says Supreme Headquarters Allied Powers Europe is already "waiting for this option". ■

QUICK REACTION ALERT AIR FORCES

Deployment	Country	Type	Dates
1	Belgium	F-16	April-July 2004
2	Denmark	F-16	July-October 2004
3	UK	Tornado F3	October 2004-January 2005
4	Norway	F-16	January-March 2005
5	Netherlands	F-16	April-June 2005
6	Germany	F-4	July-September 2005
7	USA	F-16	October-December 2005
8	Poland	MiG-29	January-March 2006
9	Turkey	F-16	April-July 2006
10	Spain	Mirage F1	August-November 2006
11	Belgium	F-16	December 2006-March 2007
12	France	Mirage 2000	April-July 2007
13	Romania	MiG-21	August-November 2007
14	Portugal	F-16	November-December 2007
15	Norway	F-16	December 2007-March 2008
16	Poland	MiG-29	March-July 2008
17	Germany	F-4	July-September 2008
18	USA	F-15	October-December 2008
19	Denmark	F-16	January-April 2009
20	Czech Republic	Gripen C	May-September 2009
21	Germany	F-4, Eurofighter	September-December 2009

Source: Lithuanian air force

states until 1 September