



Perspectives on the use of Air Power by Russia

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20th May 2015: Lancashire





President Putin Orders Resumption of Combat Patrols 2007

70% of Russians Military Inventory to be modernised by 2020



Russia has circa 60 Tu-95s in the Fleet

24 April 2 TU-95 plus 2 MiG-31 Intercepted by RAF Typhoons



RAF Intercepts running at an average of one per month since 2009



9 Modernised Tu-95MS and 9 TU-22M3 Delivered in 2014



BALTIC SEA

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Finnish Air Incursions 5 in 2014: 2 so far in 2015

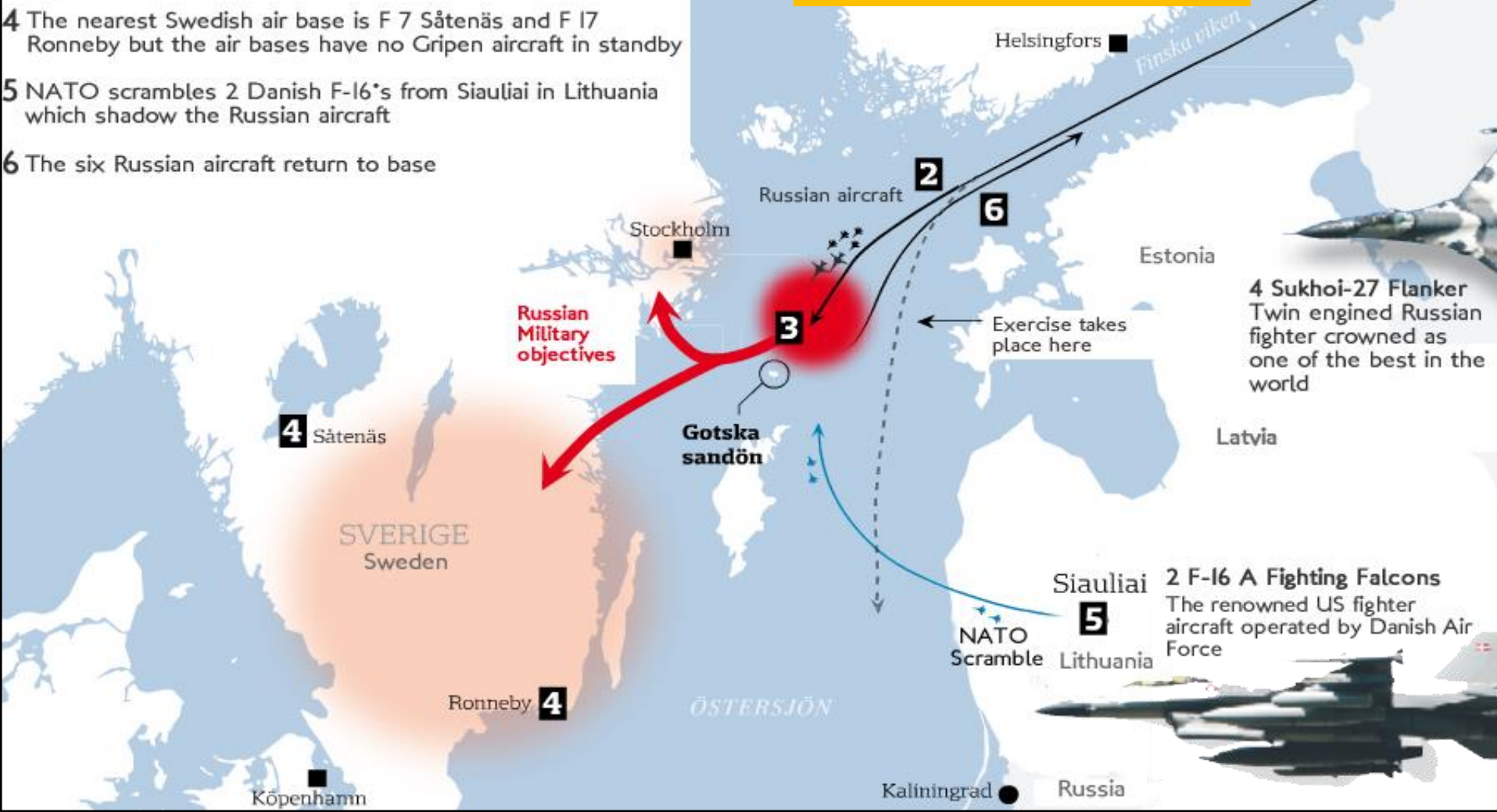
| Year | Intercepts |
|------|------------|
| 2012 | 4 |
| 2013 | 47 |
| 2014 | 150 |

Bomber aircraft surprise on Good Friday

- 1 Two Russian heavy bomber aircraft Tu23M3 Backfire escorted by four Su-27 Flanker over the Finnish Gulf in international airspace
- 2 Instead of flying the normal course southbound towards Kaliningrad, the aircraft turned towards the 'Gotska Sandön'
- 3 02:00 - By the Gotska Sandön, around 32 km from the Swedish border, the aircraft begin their exercise. The objectives lie in the Stockholm area and Southern Sweden
- 4 The nearest Swedish air base is F 7 Sätenäs and F 17 Ronneby but the air bases have no Gripen aircraft in standby
- 5 NATO scrambles 2 Danish F-16's from Siauliai in Lithuania which shadow the Russian aircraft
- 6 The six Russian aircraft return to base

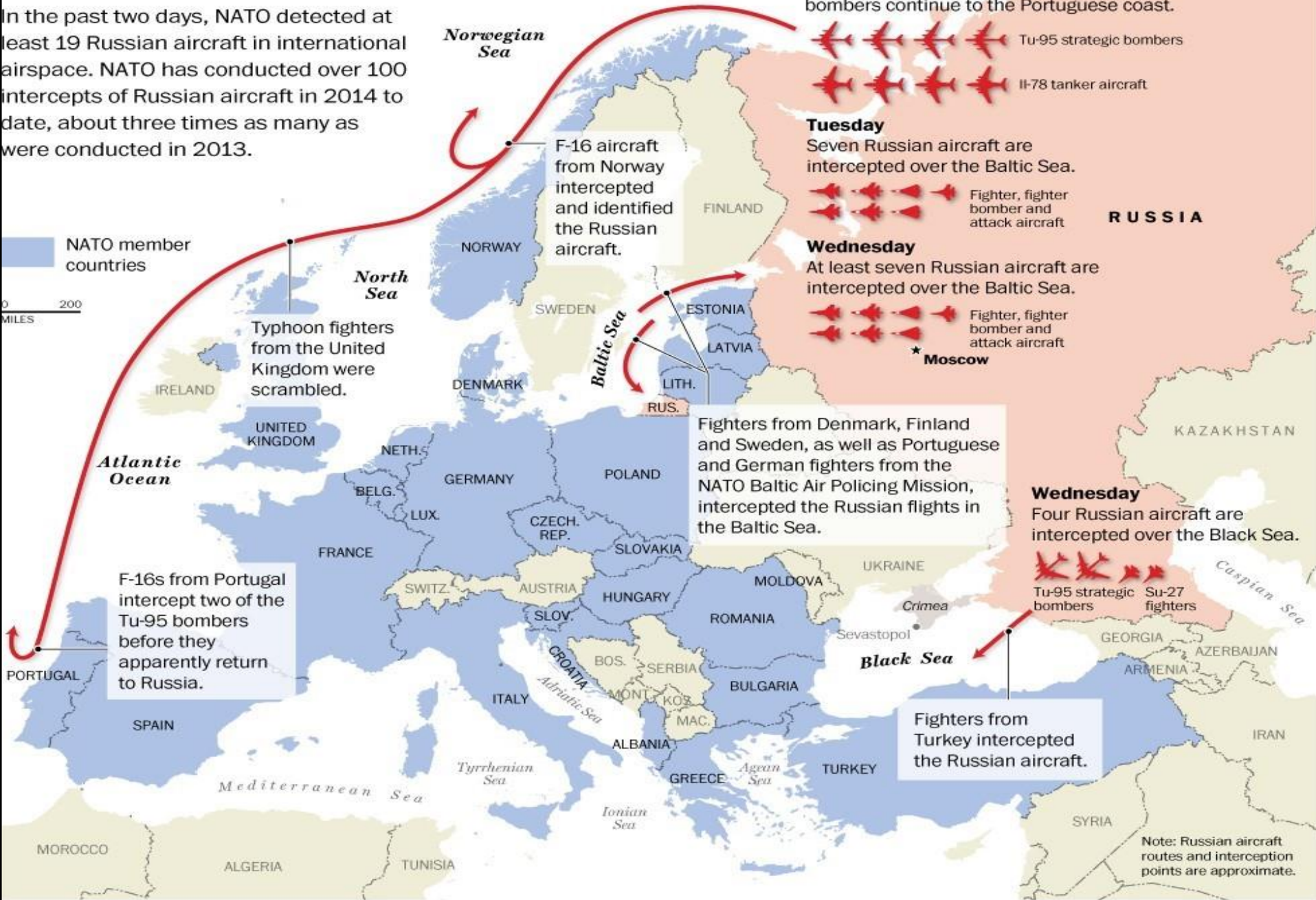
2 Tupolev-22M3 Backfire
Russian long distance nuclear capable bomber aircraft with large payload.

5 Incursions into Finland in 2014; 2 so far in 2015



Two days of Russian aircraft intercepts

In the past two days, NATO detected at least 19 Russian aircraft in international airspace. NATO has conducted over 100 intercepts of Russian aircraft in 2014 to date, about three times as many as were conducted in 2013.



Increased Air Activity over the Baltic

Russia has more than 50 Su-34 operational at Arctic Air Bases

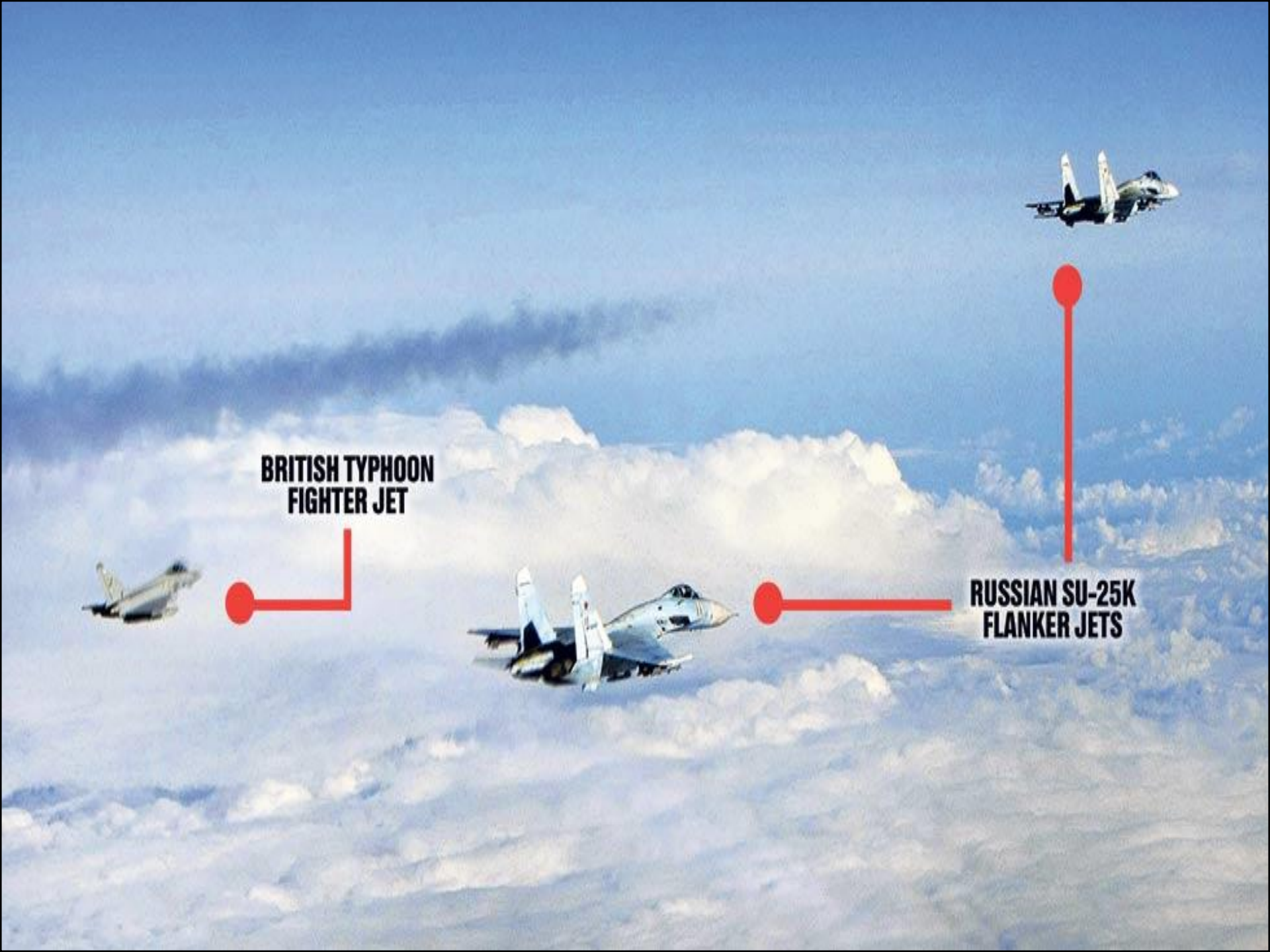
Su-34 First on Exercise in Barents Sea: June 2014



Another 10 Su-34 to be delivered this year



Gulf of Finland: 12 December Russian Aviation Tu-95, Tu-22M, Su-34, Su-27, Su-24 & MiG-31



**BRITISH TYPHOON
FIGHTER JET**

**RUSSIAN SU-25K
FLANKER JETS**



Deterrent Effect of Air Power

Operation Atlantic Resolve





No Current Plans to Deploy the F-22 to the Baltics

Engels Air Force Base

2 of 6 recent accidents involved a Tu-95



**We need to ensure a military presence in the western Atlantic and eastern Pacific (as well as) the waters of the Caribbean and Gulf of Mexico”
Russian Defence Minister Sergey Shoygu; November 2014**



First Flight of Tu-95 Bear 12 November 1952

Some parallels with the V-Force

First Flight of B-52 15th April 1952

20 Variants of the Tu-95



Tu-95V Dropped the largest ever nuclear device in an atmospheric test

Circa 20 IL-78 Midas Tankers



The Japanese Dimension

2003: 24 Intercepts
2013: 359 Intercepts





Ukrayinka Air Base

Regular Snap Drills



18 Hour Flights; ending up with a launch of six cruise missiles

Intercepts by USAF off Alaska & California



Russia looking to Venezuela, Nicaragua and Cuba as refuelling sites



Russian Tu-160 Blackjack strategic bomber

Two Tu-160 bombers completed a record duration flight on June 10

3 per year from 2023

Development history

1975 – development starts at the Tupolev design bureau

December 18, 1981 – maiden flight

1987 – put into service with the Russian Air Force

Russian Air Force has **15** Tu-160 planes in service

There are plans to increase the number of Tu-160 to **30** planes

Global Power Projection



The Tu-160 main role

The Tu-160 is a supersonic, variable-geometry heavy bomber, designed to strike strategic targets with nuclear and conventional weapons deep in continental theaters of operation

Technical characteristics

Dimensions

Wingspan: **55.7/35.6 m**

Length: **54.1 m**

Height: **13.10 m**

Wing area: **360/400 sq. m**

Crew - **4**

Engines - **four NK-32 turbofans**

In-flight refueling system

Weight and payloads, t.

Maximum takeoff: **275**

Loaded weight: **267.6**

Empty: **110**

Fuel: **148**

Normal payload: **9**

Maximum payload: **40**

Performance

Max. speed at high altitude:

Mach 2.05

Max. speed at low altitude:

Mach 0.95

Service ceiling: **16,000 m**

Practical flight range with normal payload: **13,200 km**

Armament

Payload: **up to 40 tons**

Kh-55 cruise missiles

AS-16 Kickback hypersonic missiles

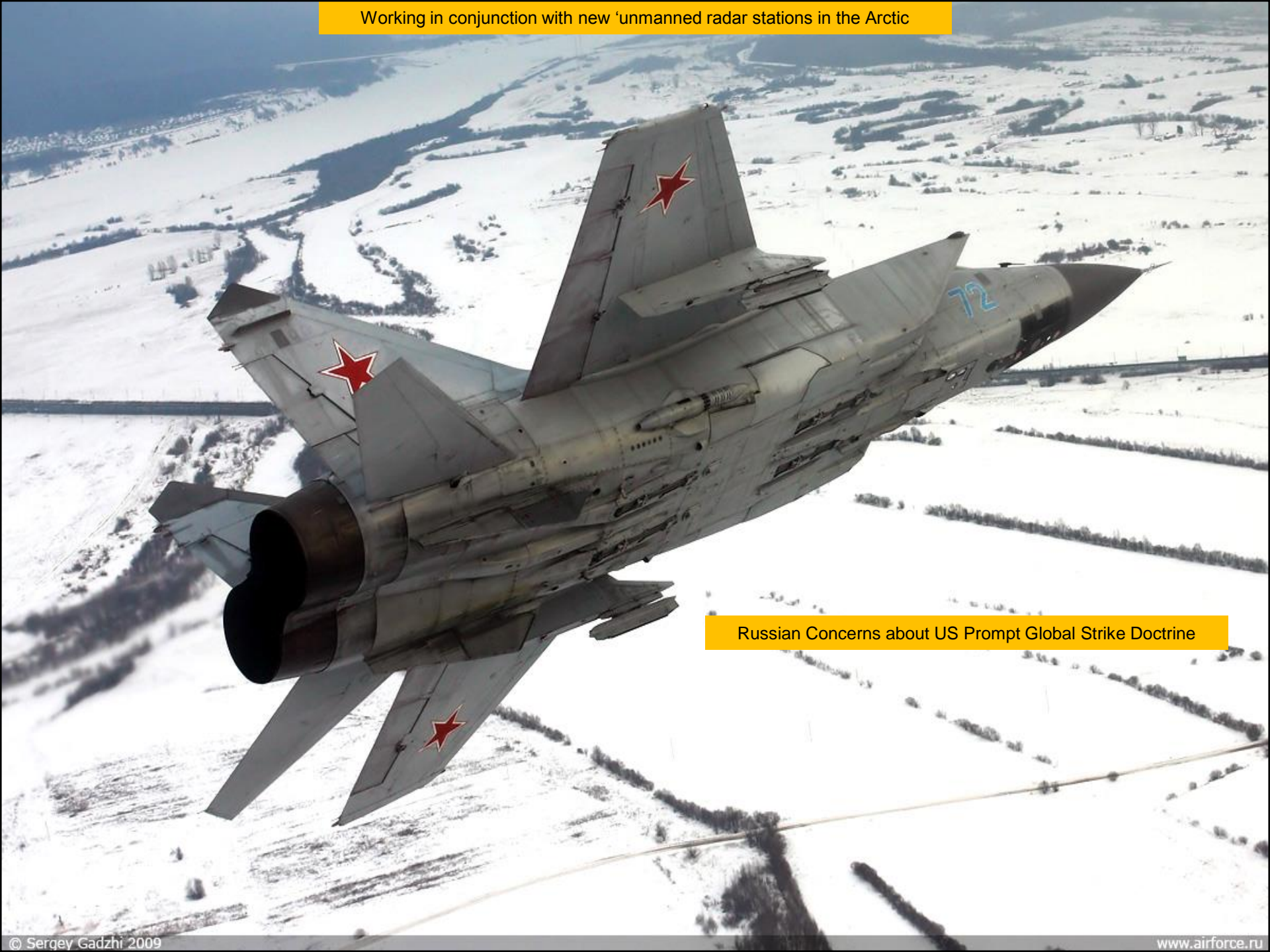
Advanced electronics

Pilots use flight sticks rather than flight control wheels

20-22 Engines per year from 2017



Working in conjunction with new 'unmanned radar stations in the Arctic



Russian Concerns about US Prompt Global Strike Doctrine

The High Arctic: Norwegian Air Force Intercepts

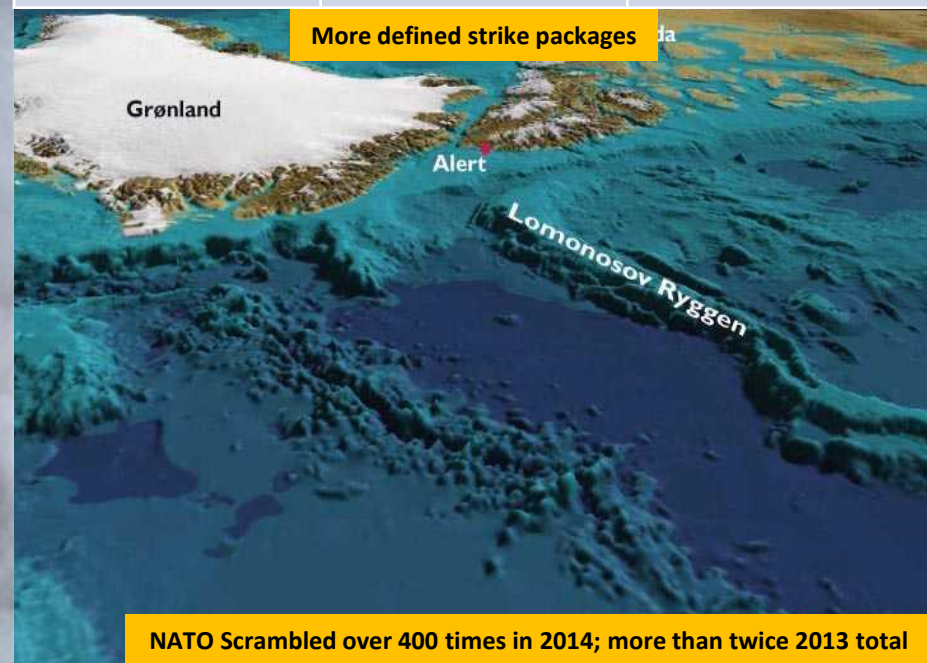


Mid 1980s' Norway was intercepting 500-600 Russian Flights per Year



Its not just the numbers; modern types, new capabilities

| Year | Intercepts | Russian Aircraft |
|------|------------|------------------|
| 2006 | 13 | 14 |
| 2007 | 47 | 48 |
| 2008 | 32 | 87 |
| 2009 | 38 | 77 |
| 2010 | 36 | 37 |
| 2011 | 34 | 48 |
| 2012 | 41 | 71 |
| 2013 | 41 | 58 |
| 2014 | 43 | 69 |



More defined strike packages

NATO Scrambled over 400 times in 2014; more than twice 2013 total

October 29th 2014 Norway







142 New Fixed Wing Aircraft in 2014

Modernisation of the Russian Air Force

135 Rotary Wing 2014

How is Russia going to react to Oil Price Fluctuation?



MiG-31

The Su-27 Flanker is one of the 20th century's best combat aircraft

Russia's Su-27 frontline fighter was declared one of the best combat aircraft of the 20th century according to an online poll by Flight International, a global aerospace weekly published in the UK

The Su-27 Flanker is a multirole, highly maneuverable, all-weather fighter/interceptor plane

BACKGROUND

1969: The Sukhoi design bureau began designing a fourth-generation fighter.

1977: Maiden flight.

1982: Production start-up at the Komsomolsk-on-Amur plant in Russia's Far East.

1989: Russia demonstrates a Su-27 at the Le Bourget air show.

1990: The Su-27 is supplied to the Russian Air Force

Mikhail Simonov, chief designer of Su-27

TECHNICAL SPECIFICATIONS



Armaments:

one 30 mm GSh-30-1 cannon with 275 rounds

up to 6 medium-range AA R-27 missiles, up to 4 short-range heat-seeking AA R-73 missiles

500-kg bombs (total weight up to 6,000 kg, FAB-250) on 4 external pylons

unguided missiles, a KMGU munitions dispenser, spraying devices, and other air-to surface armaments

7th April 2015: Su-27 Intercepts a USAF RC-135U
Over the Baltic Sea

PAK-FA

(Provisional cutaway)

Planeman 2010

