



Learning from the F-16

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April 2015



Denne rapport er en del af Center for Militære Studiers forskningsbaserede myndighedsbetjening for Forsvarsministeriet. Danmark skal købe kampfly i 2015. Som inspiration til den politiske beslutning, er formålet med denne rapport at analysere de fordele Danmark, som del af et NATO køberkonsortium, realiserede i forbindelse med F-16 købet.

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ISBN: 978-877-393-7518

This report is a part of Centre for Military Studies' policy research service for the Ministry of Defence. The purpose of this report is to analyze the benefits that Denmark derived from acquiring a combat aircraft as a member of a consortium of NATO allies to serve as a guide as Danish leaders consider the type of combat aircraft they will purchase in 2015.

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This report is an analysis based on research methodology. Its conclusions should therefore not be understood as the reflection of the views and opinions of the Danish Government, the Danish Defence or any other authority.

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ISBN: 978-877-393-7518

English Abstract

When Denmark chose to acquire a fleet of 58 F-16 combat aircraft in 1975, it received substantial and disproportionate benefits given the way that investment was made and managed. Buying a common aircraft type together with allies deepened Denmark's ties to its Alliance partners, including deploying in multinational formations with those partners. It enabled multinational cooperation to modernize the aircraft at greatly reduced costs over its lifetime. Common aircraft also enabled improved training opportunities for Danish pilots and substantial assistance from the United States when pilot shortages threatened to idle 25 percent of Danish F-16s. Common aircraft *did not* guarantee that Denmark would be as effective as others in coalition air campaigns, however. This required substantial modernization of the aircraft, acquisition of advanced systems and munitions, reorganization of the Royal Danish Air Force, a change in its organizational culture, and sufficient numbers of pilots. Once these adaptations occurred, Danish performance in expeditionary air operations garnered Denmark praise from its coalition and Alliance partners. Danish leaders should cooperate with its allies in a similar way to replicate this experience when they choose a replacement aircraft in 2015.

Dansk resumé

Da Danmark i 1975 besluttede at købe 58 F-16 kampfly var det på mange måder en aftale med substantielle fordele. Den fælles beslutning blandt en række NATO lande om at købe samme flytype betød, at Danmarks relationer til sine alliancepartnere blev styrket, ikke mindst i kraft af fælles deltagelse i internationale operationer. Indkøbet muliggjorde endvidere samarbejde om moderniseringsprogrammer og reducerede levetidsomkostningerne betragteligt. Fælles fly betød også forbedrede træningsmuligheder for danske piloter og vigtig hjælp fra USA, da mangel på danske piloter betød, at op mod 25 % af de danske fly ikke var operative. Men fælles fly betød ikke i sig selv, at Danmark blev en ligeværdig og efterspurgt deltager i internationale operationer. Det krævede en omfattende modernisering af F-16 flyet, indkøb af avancerede systemer og ammunition, en reorganisering af det danske flyvevåben, en forandring af dets organisationskultur og et tilstrækkeligt antal piloter. Kun i kraft af disse forandringer er det i dag muligt for flyvevåbnet, at levere bidrag til internationale operationer som både lovprises og efterspørges af partnere og allierede. For at realisere de samme gevinster i fremtiden, bør danske beslutningstagere søge samme former for samarbejde, når de i 2015 investerer i det kampfly, der skal erstatte F-16 flyet.

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1. Introduction

On 11 June 1975, the Danish parliament authorized the acquisition of 48 F-16 combat aircraft, with an option to acquire 10 more, by a vote of 114 to 48.¹ At 2.65 billion Danish Kroner (DKK), this was the largest military acquisition in Danish history. Each F-16 was expected to have a useful service life of 4000 hours—or roughly 20 years.² The first F-16 was delivered to Denmark in 1980 and deliveries continued through 1985. It was therefore to be expected that they would require replacement in the 2000–2005 timeframe; however, a refurbishment program in the 1990s enabled the planes to fly an additional 4000 hours, or roughly another 20 years.³ This meant an outside deadline of 2020–2025 for a replacement aircraft to enter the Royal Danish Air Force’s (RDAF) inventory. The Ministry of Defence began planning to acquire a replacement combat aircraft in 1997.⁴ Much has happened since then, and the time has now come to make a decision.

This will be a major decision. Politicians will determine how to spend DKK 20–30 billion. What kind of aircraft should be chosen? How many should be acquired? With rare exceptions,⁵ no one will answer these questions directly. This report will not answer these questions either. Rather, it will supplement existing analyses to help inform the decisions of the elected representatives of the Danish people. Two types of existing analyses are particularly relevant to understand the contribution of this report: those produced by the New Fighter Program Office of the Ministry of Defence and those produced by Danish defence analysts.

The decision will be primarily shaped by the analyses produced by the New Fighter Program Office in the Ministry of Defence. The New Fighter Program Office has no plans to produce a recommendation with regard to the type of combat aircraft Denmark should acquire, nor will it recommend how many should be purchased. That is not its purpose. Rather, its studies will analyze four key areas that have been defined as important to consider before choosing which aircraft to acquire: Danish defence and security objectives, the tactical and operational capabilities of each aircraft, their cost throughout their life cycle, and the ability of Denmark to pursue national security objectives through industrial relations with the manufacturers.⁶ The analyses will score the three candidate aircraft and rank them along these four dimensions. This will enable others to determine the distance between each candidate on individual dimensions (i.e., how much better one candidate is over another), how much weight ought to be given to each dimension (i.e., how important the aircraft’s

ability to perform tasks is relative to its life cycle costs, industrial relations, and Danish defence objectives), and how they ought to be combined to produce an overall score.

The decision may also be shaped by analyses made by external defence analysts. Their contributions began in 2007, in anticipation of a decision that was to be taken in the autumn of 2008. Mikkel Vedby Rasmussen and Henrik Ø. Breitenbauch of the Danish Institute for Military Studies examined the general requirements for different types of missions that the Royal Danish Air Force could perform: supporting ground forces in armed stabilization operations, contributing to a coercive airpower campaign, and engaging in a major armed conflict.⁷ They concluded that “there are no given standards for which [type] or how many fighter aircraft Denmark shall need” to execute these missions, and they refrained from providing such standards.⁸ They then argued that these missions would only take place within a coalition context and “[t]hus the most important [point] is not what the aircraft can do, but what it is capable of within a network” of other military capabilities—particularly those of allies and partners.⁹ Thus, for Rasmussen and Breitenbauch, the most important consideration was the compatibility of the aircraft with those of allies and partners.

Jens Ringsmose and Laust Schouenborg, also of the Danish Institute for Military Studies, likewise argued that Denmark’s partnerships would weigh heavily on its decision.¹⁰ Their analysis of the decision to acquire the F-16 in 1975 concluded that Danish foreign and defence officials gave due weight to the signal that their choice of aircraft would send to their partners in the Atlantic Alliance. They also argued that this consideration was perhaps overshadowed by the assessed technical superiority of the F-16 and its comparatively lower price, and the choices made by Denmark’s partners—each of whom independently chose the F-16.¹¹ Ringsmose has argued that these factors also weigh heavily in current deliberations.¹² In particular, he has argued that “Denmark’s preference for the JSF [Joint Strike Fighter or F-35] has in fact been influenced by political considerations and the aspiration to maintain close ties to Washington ... At the same time ... military experts and the political leadership in ... Copenhagen have clearly deemed the F-35 to be the most promising candidate and the most technically advanced.”¹³

This report agrees with Rasmussen, Breitenbauch, Ringsmose, and Schouenborg: The military and political partnerships enabled by Denmark’s purchase of combat aircraft *should* weigh heavily on the decision. This report also recognizes that the technical capabilities, costs of purchase, life cycle costs, and industrial considerations—the subjects analyzed by the

New Fighter Program Office—also matter, and probably in that order. Furthermore, like these other contributions to the political deliberations, this report does not recommend a particular type of aircraft be purchased, nor does it recommend that a specific number of aircraft be purchased. What, then, is its contribution?

History may not repeat itself, but it often rhymes. I therefore reflect upon the Danish experience owning and using the F-16. Analyzing this experience should deepen the reader's understanding of what Rasmussen, Breitenbauch, Ringsmose, and Schouenborg imply but do not elaborate upon when they argue that military and political partnerships have weighed heavily on these decisions in the past and should weigh heavily today.

Specifically, 35 years of experience suggest that the choice of an aircraft also used by many allied air forces enabled multinational cooperation and the coordination of efforts to modernize aircraft at greatly reduced costs. Common aircraft also enabled the leaders of the Royal Danish Air Force (RDAF) to improve the training of Danish pilots for coalition air operations. Finally, this also enabled Denmark to receive substantial assistance from the largest user of the same aircraft type when Danish political, civil service, and military leaders together failed to recruit and retain sufficient numbers of highly trained combat pilots to man the aircraft fleet.

On the other hand, having an aircraft that was common with Allies *did not* guarantee that Danish combat aircraft would be as effective as those of others in coalition air campaigns or be the favored instrument of Danish military policy. This required substantial modernization of the aircraft, acquisition of advanced systems and munitions, reorganization of the RDAF, a change in its organizational culture, and sufficient numbers of pilots. Once these adaptations were made, the Danish performance in expeditionary air operations garnered praise from its coalition and alliance partners.

Therefore, the conclusion of this report is that when Denmark purchased its F-16 fleet, it bought more than just 58 aircraft; it also deepened its ties to its Alliance partners that paid massive dividends over the years that followed. Danish leaders should use the acquisition of combat aircraft today to replicate this experience. In the following, I elaborate upon these arguments after briefly discussing the history of the RDAF and its expeditionary operations.

The report is built upon extensive research in the secondary literature on the formulation and evolution of Danish foreign and national security policy, including the works of Danish and other scholars. Primary policy documents, including the defence agreements reached by the political parties of the Danish parliament since 1968, the Defence Commission Reports of 1988, 1998, 2008, and the Bruun Report of 2003 were also consulted. Furthermore, the report utilizes the public statements made by the commanders of Tactical Air Command Denmark (TACDEN), articles published in the RDAF magazine, *Flyvevåbnet*, mission reports, and other one-time RDAF publications. Many officers, serving and retired, were interviewed. Unclassified data and information about Danish participation in operations and exercises was obtained from U.S. Air Force (USAF) sources. The USAF Historical Research Agency archives at Maxwell Air Force Base in Alabama and the NATO archives in Brussels yielded many unclassified and declassified reports concerning points of interest. Finally, many of these sources were obtained with the consent and unprecedented cooperation of Danish Defence Command, the New Fighter Office, and the RDAF Air Staff—for which I am very grateful.

2. A Brief History of the F-16 Experience

Denmark is a small state with limited resources in a geographic location that rendered it both valuable and difficult to defend. The flat terrain of Denmark presents few barriers to invasion. It sits astride the entrance to the Baltic Sea, the key waterway connecting the Baltic to the North Atlantic Ocean. Its possession, Greenland, is strategically located between Europe and North America,¹⁴ and Bornholm provided a window into the eastern bloc during the Cold War.¹⁵

Danish statesmen found themselves reluctantly drawn into the bipolar alliance structure of a divided Europe during the Cold War.¹⁶ They crafted a grand strategy for a small state—attempting to displease no one. They understood that Bornholm and the Danish straits rendered Denmark a key target in any conflict between East and West¹⁷ and that Greenland's role as a way-station for American strategic forces added to Denmark's strategic value.

Denmark joined NATO as a founding member and recognized that it would be a consumer of security rather than a provider.¹⁸ The resources that they allocated to the military were recognized as inadequate for the task of self-defence: “few policymakers seemed to envisage

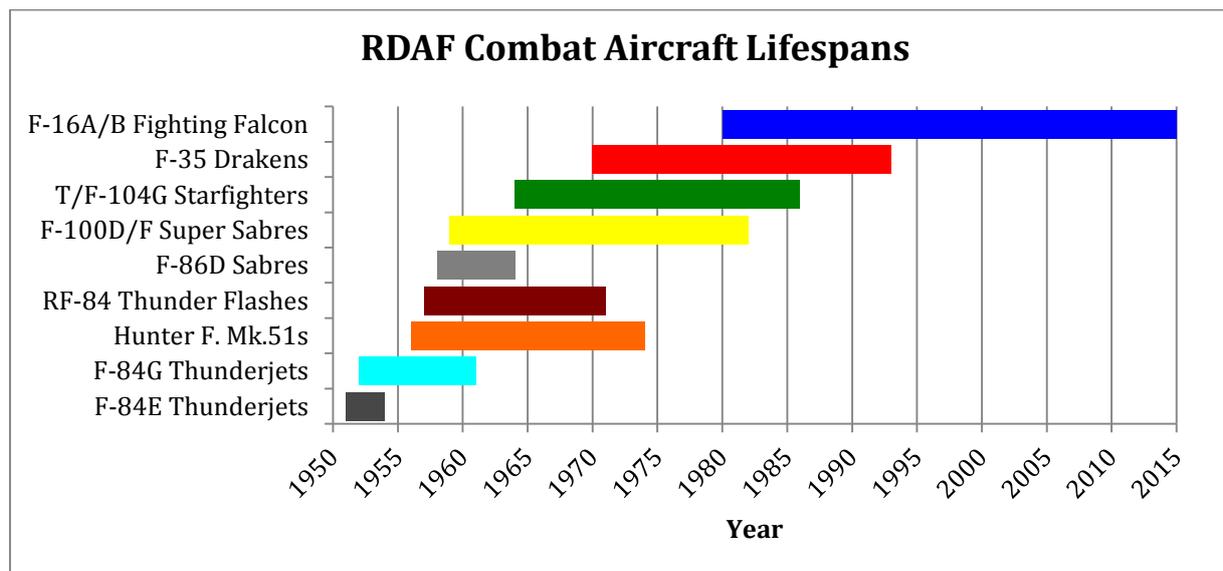
that the Danish military would be able to defend the country for long.”¹⁹ Rather, defence spending was “enough to qualify for the NATO guarantee, but not enough to put up a meaningful deterrent.”²⁰ And always below NATO targets.²¹

Furthermore, Denmark’s defence posture was designed to avoid provoking the Soviet Union. Denmark regulated the access of its allies to its territory, refusing to permanently station foreign troops or nuclear weapons on its soil.²² They (like the Norwegians, Swedes, and Finns) subsequently used this situation to argue that the Nordic region was an area of low tension that both superpowers ought to respect.²³

Greenland, however, was a different matter.²⁴ Denmark signed a bilateral agreement that permitted American airfields, access to its airspace, and implicitly, nuclear weapons.²⁵ Danish statesmen used this to their advantage. “There is little doubt that the US bases in Greenland were often part and parcel of the discussions and deliberations about the appropriate size of ... Danish military expenditures.”²⁶ With some minor perturbations, Denmark’s strategic dilemma and policy of minimal Alliance contributions remained unchanged throughout the remainder of the Cold War.²⁷

The RDAF was built primarily with equipment provided by the United States under the Military Assistance Program (MAP).²⁸ Denmark received many types of aircraft prior to 1967, when MAP assistance ended. This varied inventory required a broad support, training, and personnel structure that was at times beyond that of the RDAF.²⁹ Many of these aircraft remained in the RDAF inventory well into the 1980s, as shown in Figure 1. Prior to the F-16, Denmark used national funds only to purchase 30 Hawker Hunter daylight fighter aircraft from the United Kingdom in 1956³⁰ and 46 Saab *Draken* fighter-bombers from Sweden in 1968—its first self-funded large military acquisition program.³¹

Figure 1: RDAF Combat Aircraft Lifespans



After MAP assistance ended, Denmark was under considerable pressure from Allies to increase its military capabilities—or at least halt their decline.³² In this context, Denmark opted to join a consortium of European NATO countries considering the recapitalization of their fighter jet fleets in May 1974.³³ The consortium considered the Saab AJ 37 *Viggen*, the Dassault *Mirage* F1, and the F-16 *Fighting Falcon*. Although the contribution that the aircraft would make to the NATO alliance was the decisive factor in the military-technical aspects of the decision, Danish decision makers worked hard to ensure that the choice of aircraft could not be seen as indicating their degree of fealty to the Alliance, to Europe, or to Nordic cooperation.³⁴ The government established a committee to evaluate candidate aircraft “solely based on technical and economic considerations, and to downplay the obvious external dimension,” except for the consideration of standardization among the consortium members.³⁵

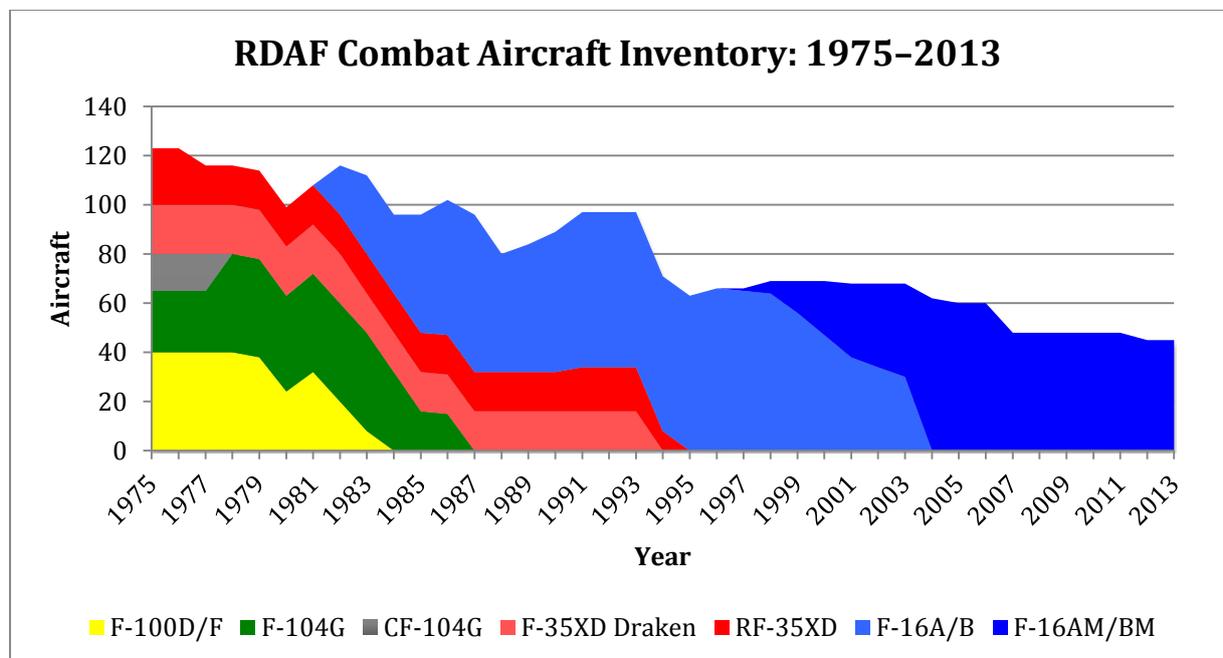
Perhaps due to this framing of the question, the choice of which fighter aircraft to purchase actually preceded the Danish decision to buy one—and it was in effect decided by others. The USAF announced its selection of the F-16 and committed to purchasing 650 in mid-January 1975.³⁶ A few weeks later, the European consortium assessed the F-16 to be both technologically superior and less expensive than the *Viggen* or *Mirage*.³⁷ The Defence Ministry committee concurred on 5 February.³⁸ The Danish government confirmed the choice of the F-16 on 28 May and, along with the Netherlands and Norway, signed a Memorandum of Understanding with the United States on 30 May.³⁹ Even then, however,

the decision was not final, as the Danish parliament conditioned the purchase on all four consortium countries acquiring the same aircraft and Belgium did not sign the MOU until 9 June. The Danish parliament then authorized the acquisition of 48 F-16s, with an option to acquire 10 more, on 11 June 1975 by a vote of 114 to 48.⁴⁰

The American attitude toward Denmark’s defence efforts changed for the better after this decision. The American Embassy in Copenhagen reported that the “Danish military forces are modestly advancing toward NATO force goals but significant deficiencies remain. Visible progress, however, is being made in hardware modernization, after a protracted [*sic*] and sometimes tortuous course, the Danes decided to buy the F-16.”⁴¹ Still, absent significant increases in defence spending, little could be done to change the general conception of Denmark as NATO’s weakest link.⁴²

Denmark’s initial F-16s began to arrive in January 1980. The fourth and final F-16 squadron was established in 1985, giving the RDAF six fighter squadrons—four with 52 F-16s and two with 32 *Drakens*.⁴³ As shown in Figure 2 below, the F-16s replaced the aging American aircraft that the RDAF had received in the 1950s and 1960s and have constituted the majority of the combat air fleet ever since.

Figure 2: RDAF Combat Aircraft Inventory: 1975–2013⁴⁴

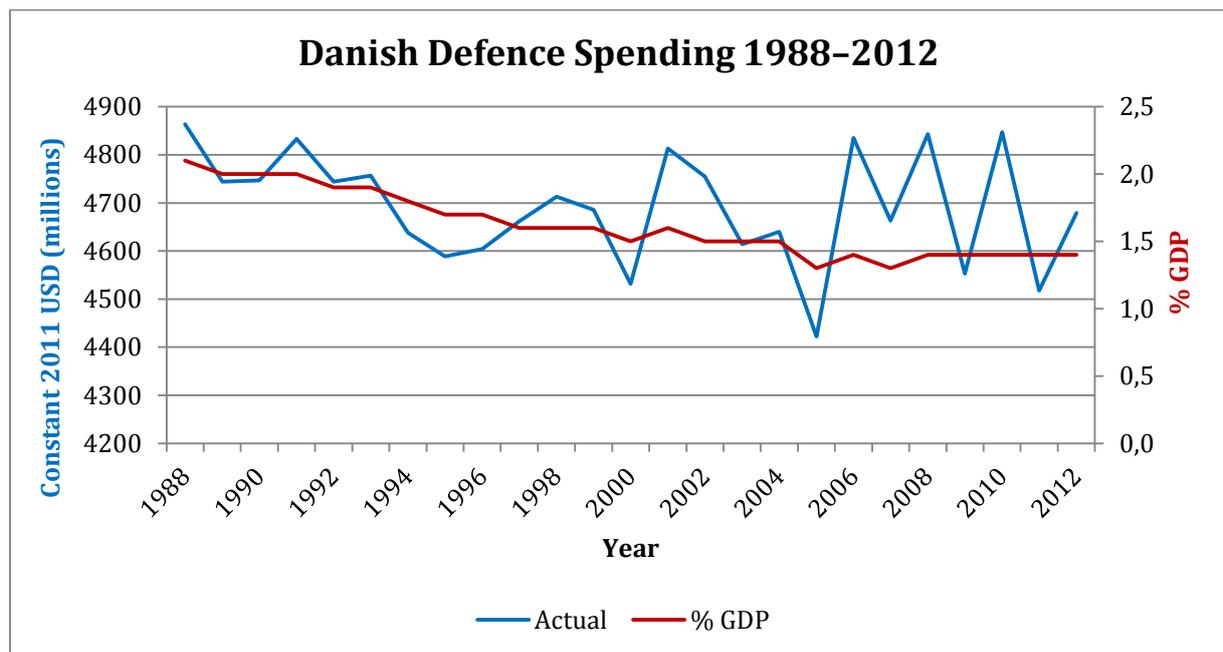


These aircraft were primarily intended to defend Danish territory from hostile forces. “The primary mission of the Air Force in wartime [is to] combat hostile aircraft forces. Air threats

are to be countered with an air defence consisting of combat aircraft, missile systems, and gun systems. Combat aircraft will also take part in the fight against hostile land and naval forces.”⁴⁵ During the 1980s, F-16 pilots spent an average of 70–80 percent of their training time on air-to-air missions and 20–30 percent on air-to-ground missions.⁴⁶ *Draken* pilot training, on the other hand, emphasized air-to-ground combat 70–80 percent of the time, with the remainder dedicated to air-to-air scenarios.⁴⁷

After the Cold War, the conventional threat to Denmark abated: it went from being a frontline state to being surrounded by friendly countries that had pledged to defend its security.⁴⁸ Most Western political leaders reduced defence spending in both relative and absolute terms. Denmark’s “peace dividend” can be seen in Figure 3. Danish defence spending has consistently declined as a percentage of GDP, as has actual spending in constant dollars, although that measure has fluctuated significantly since 2001.

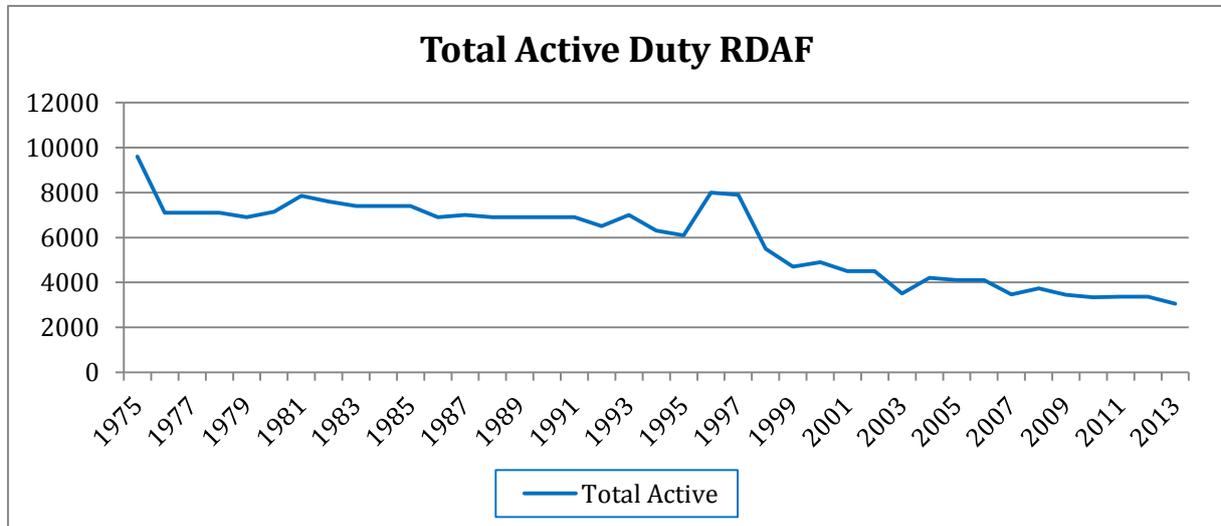
Figure 3: Danish Defence Spending 1988–2012⁴⁹



These reductions had a significant impact on the size of the Danish armed forces, including the RDAF. Figure 4 below shows the total number of active duty airmen in the force. Those numbers dropped from 6,900 airmen in 1990 to 3,050 in 2013. Figure 2 above illustrates how the combat aircraft inventory was cut in half, from 98 to 48. Indeed, with only 30 of those 48 combat aircraft operational at any point since 2010, the useful inventory is less than

one-third of what it was when the Berlin Wall fell. As these two figures show, the post-Cold War era has been one of consistent reductions and adjustments for the RDAF.

Figure 4: RDAF Total Active Duty Force⁵⁰



Despite these significant reductions, Danish grand strategy changed significantly after the Cold War, and its military has been far more active. The “task of the Danish Armed Forces ... changed in nature from being an element in a reactive, deterrence-based guarantee of security to also being an active and confidence-building instrument of security policy.”⁵¹ Denmark considered using its armed forces, including its combat aircraft, in missions beyond territorial defence. It deployed its combat aircraft over Kosovo in 1998–1999, Afghanistan in 2002–2003, periodically over the Baltic states in 2004–2014, over Iceland in 2009 and 2010, Libya in 2011, and in Iraq in 2014–present. Furthermore, its C-130 Hercules aircraft have also been deployed in operations, as in Kyrgyzstan in 2001–2002 and Mali in 2013 and 2014. Figure 5 summarizes these expeditionary experiences.

Figure 5: Danish Air Expeditionary Operations

	<p>Kosovo: Operation Determined Falcon</p> <ul style="list-style-type: none"> - 15 June 1998 - 2 + 2 F-16 - 1st expeditionary operation <p>Operation Allied Force</p> <ul style="list-style-type: none"> - 13 October 1998–June 2000 (operations: 24 March–6 June 1999) - 4→8 + 1–2 F-16, 120 personnel - 220 missions, 442 sorties, 4 strikes, 24 bombs - 1st strikes since 9 April 1940
	<p>Kyrgyzstan/Afghanistan: Operation Enduring Freedom</p> <ul style="list-style-type: none"> - 20 December 2001–September 2002 - 1 C-130H + 53–73 personnel - 448 flying hours, 590 tons of cargo - 1st global deployment; 1st EPAF deployment - October 2002–October 2003 - 6 F-16 - 743 sorties, 4347 flying hours, 19 laser-guided bomb strikes - 1st precision strikes; 1st close air support
	<p>Baltic Air Policing</p> <ul style="list-style-type: none"> - 2004: 1 July– 30 October—5 F-16s, 6 pilots, 60 personnel - 2009: 2 January– 1 May—4 F-16s, 45–50 personnel - 2011: 2 September– 4 January 2012—4 F-16s, 45–50 personnel - 2013: 3 January– 30 April—4 F-16s, 45–50 personnel - 2014: 1 May– 31 August—4+2 F-16s, 50 personnel



Iceland Air Policing

- 2009: 4 – 30 March—4 F-16s, 48 personnel
- 2010: 8 – 29 March—4 F-16s, 52 personnel

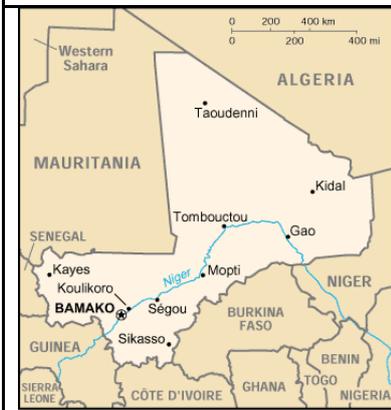


Libya: Operation Odyssey Dawn

- 20 – 30 March 2011
- 4 F-16s, 39 missions, 102 PGMs
- 2nd only to USAF

Operation Unified Protector

- 31 March–31 October 2011
- 4 F-16s, 561 missions, 821 PGMs
- 4th behind the US, UK, and France



Mali: Operation Serval/ MINUSMA

- 2013: 17 January– 17 May—1 C-130J, 40 personnel
- 2014: 1 February–June—1 C-130J, 60 personnel



Iraq: Operation Inherent Resolve

- 2014: 27 August– 10 September: 1 C-130
- 2014: 2 October– Present: 4+3 F-16 + 140 personnel
- 219 missions, 168 PGMs (as of 17 February 2015)
- 2014: November–present: 1 C-130J

In each case, the RDAF participated with a limited number of combat aircraft as part of an American-led coalition of air forces, either within or outside of NATO command structures. Danish competence increased in each case as a result of improved aircraft and weapons systems, retention of trained and experienced pilots, retooling of the service for operations, and the development of a reputation amongst allies for effectiveness. The following sections address how and the degree to which the choice of the F-16 in 1975 facilitated these developments.

3. We Got It Together: Multinational Procurement and Modernization

Denmark's initial 58 F-16s were purchased as part of an order for 998 combat aircraft for the USAF, Norway, the Netherlands, and Belgium—and constituted the smallest portion of the order.⁵² As such, Denmark received a “volume discount” on the aircraft price. But this was only the beginning of the economic benefits enabled by acquiring an aircraft with a configuration that was common to multiple allies.

While the mantras of interoperability and standardization have only gone so far in NATO as a whole, the common configuration of the F-16 fleet across the members of the Multinational Fighter Program (MNFP) has enabled multiple forms of cooperation and efficiencies that derive from economies of scale. First, a common aircraft enables the cooperative procurement of spare parts by the consortium members.⁵³ Second, this has allowed a division of labor in maintenance between the European Partner Air Forces (EPAF) members of the MNFP. The Norwegians, Dutch, and Danes in particular decided to cooperate in maintenance tasks by engaging in a division of labor. The Norwegians focused on microwave equipment, for example, while the Dutch have handled analog components, and the Danes have specialized in repairing and replacing all digital circuit boards.⁵⁴ This specialization allowed each partner to develop deeper competencies and expertise in the maintenance of their share of subsystems and permitted efficiencies to be had from economies of scale. Furthermore, the MNFP countries agreed to maintain a common knowledge base of their experiences in operating and maintaining their portion of the F-16 fleet. Sharing information derived from the use of a large number of aircraft has allowed users to anticipate maintenance issues based upon the experiences of others, analyze the

effects of different use patterns, and therefore engage in better fleet management—including extending the life expectancy of the fleet as a whole.⁵⁵ Finally, common configurations enabled the MNFP partners to share spare parts and even munitions when necessary. Thus, for instance,

when the Europeans ran low on precision-attack munitions, the U.S. quietly resupplied them. (That explains why European air forces flying F-16s—those of Norway, Denmark, Belgium—carried out a disproportionate share of the strikes in the early phase of the campaign. The U.S. had stocks of the munitions to resupply them. When Britain and France, which fly European-built strike aircraft, also ran short, they couldn't use U.S.-made bombs until they had made hurried modifications to their aircraft.)⁵⁶

Furthermore, the MNFP partners signed a memorandum of understanding (MOU), that institutionalized the production and modernization of the F-16, among other things.⁵⁷ This made it much more likely that any improvements, structural enhancements, life extension programs, or updates initiated by the largest fleet owner—the USAF—would also be offered to its partner air forces. Smaller fleets of aircraft, or those purchased individually by nations through foreign military sales regimes, are less likely to benefit from such programs and must make alternative arrangements.⁵⁸ It specified that each country would have a representative on a steering committee (the Configuration Control Board) that would “consider, evaluate and make decisions” regarding modifications and updates to the F-16 fleet.⁵⁹ Each member would have an equal say in these decisions, thereby enabling smaller members of the consortium to potentially drive the aspects of the modernization of the MNFP F-16 fleet. For instance, “The Mid-Life Update (MLU) is an avionics modification program for the F-16 Block 15 A/B and is based primarily upon common requirements of the European Participating Governments (EPG) through the F-16 Multinational Fighter Program (MNFP) Steering Committee.”⁶⁰ Furthermore, despite this equal voice, the MOU established that the cost for all modifications and updates agreed upon “will be paid on a pro rata basis (number of aircraft/engines affected) by each of the accepting parties.”⁶¹ This arrangement therefore distributed costs for common modernization programs according to the relative size of the aircraft fleets being modified. Thus, as the USAF has generally had roughly 70–75 percent of all operational F-16s, it has paid for 70–75 percent of these programs, while Denmark has paid about 6–7 percent of the cost. This includes both major baseline and specialized updates, such as those dealing with electronic warfare capabilities. Furthermore, the smaller EPAF need not build or maintain the organizational infrastructure and technical competence

and expertise required to test, evaluate, and certify the subsystems and weapons associated with these updates and enhancements.⁶² This arrangement has enabled the small EPAF partners—Denmark included—to maintain a fleet of combat aircraft that are individually on par with those of the USAF at a price that is far less than it would have cost to merely maintain a baseline capability.⁶³

Thus, when Denmark bought the F-16, it received even more than “the real benefits of a standardized major weapon, at a cost to each nation which it could *not* afford on its own.”⁶⁴ It also received the opportunity to steer its further development and multiple partners with a much greater number of aircraft with which to cooperate and share costs in its operation and maintenance.

4. Train as You Fight: Red Flag

The F-16s also opened up new avenues of cooperation, particularly in multinational exercises. Although Danish pilots had been sent to the United States for advanced pilot training since the mid-1950s, the RDAF rarely exercised with USAF and other allied air forces outside of Denmark. But the post-Vietnam USAF exercise known as Red Flag pitted pilots against aggressor squadrons that simulated Warsaw Pact tactics, operational concepts, and aircraft performance characteristics in an exercise that quickly became a standard mechanism for building interoperability in an operational environment—that is, training as NATO would fight.⁶⁵

In November 1982, Denmark’s Chief of Defence, General Knud Jørgensen, wrote to the Chief of Staff of the USAF to request that Danish pilots be allowed to participate in Red Flag “at the earliest possible time ... 1984.”⁶⁶ He argued that common F-16s would permit Danes to be integrated into the exercise *and* would also allow Danish pilots to fly American F-16s so as to save on wear and tear on Danish aircraft from the long flight to the American southwest.⁶⁷ He offered to allow American pilots to fly Danish F-16s in the annual RDAF Oksboel Tactical Fighter Weaponry Exercise in Jutland. General Wilbur Creech, the Commander of the USAF’s Tactical Air Command, responded positively, telling his staff to “Work this. Can do,” even though he suggested that the USAF should take its own aircraft and “fly normal ops” if it participated in Oksboel.⁶⁸

The Red Flag initiative led to integrating Danish F-16s closely with those of others. The European states that bought F-16s together—Denmark, Norway, the Netherlands, and Belgium—pooled their resources, and a 16-plane multinational squadron of F-16s participated in Red Flag 84-4 in November 1984.⁶⁹ They were joined by a Danish C-130.⁷⁰ By displaying a keen desire to participate and doing so with other F-16 partner nations, the RDAF demonstrated that Denmark's profile in NATO was not entirely defined by the government's policy of adding "footnotes" to NATO declarations, distancing itself from NATO strategy during the 1980s and the ill will this practice was generating with key allies at the political level.⁷¹

Red Flag enabled the RDAF to improve its ability to defend Danish territory against a large, mechanized conventional force as specified in NATO doctrine. The RDAF emphasized these missions throughout its Red Flag participation in the 1990s. In 1991, RDAF participants trained for air interdiction missions; in 1993, they focused on defensive counter-air missions; and in 1995 their portion of Red Flag encompassed interdiction and transport missions (with two of three C-130Hs participating).⁷²

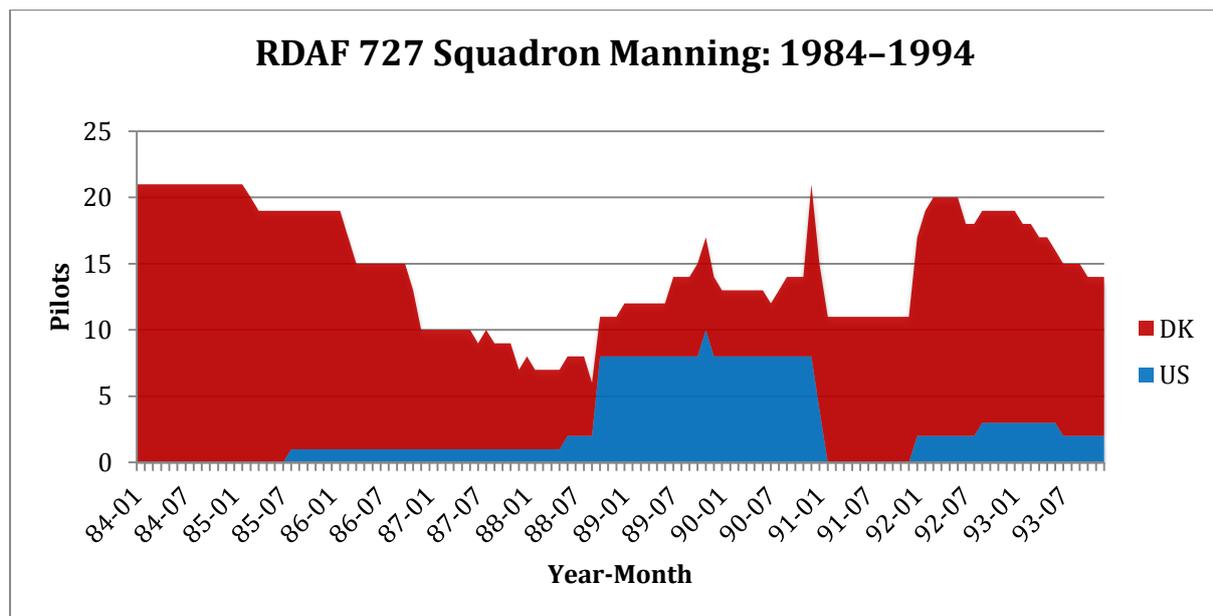
By the latter half of the 1990s, however, American and NATO airpower began to emphasize offensive strike missions, and the RDAF took a decade break from participating in Red Flag. After the RDAF participated in two expeditionary operations—Allied Force and Enduring Freedom—it acted to use Red Flag to increase its capacity for jointness and air support to ground operations. In 2005, RDAF F-16 pilots practiced interdiction and close air support with PGMs.⁷³ In 2008, they again practiced interdiction, close air support, and the destruction of enemy air defence sorties using PGMs.⁷⁴ Finally, they practiced interdiction, close air support, combat search and rescue, defensive counter-air, and escort missions at Red Flag in March 2014.⁷⁵ Such practice is extremely relevant given the current RDAF mission in Iraq, its previous (and likely future) missions in Baltic Air Policing, and the renewed emphasis on sovereignty tasks in the vicinity of Danish air space.

The ability to participate in ready-made exercises such as Red Flag by sustaining a close relationship with the USAF, having aircraft available for pilot training, and, indeed, sufficient pilots to spare for such training is no accident; rather, it is the result of decisions across many areas, decisions that require constant attention. When not given sufficient attention, failure can occur—as indicated in the next section.

5. Who Is Flying the Plane?

Aircraft cannot fly themselves. Although the F-16 represented the largest defence expenditure in Danish history, political, civil service, and military leaders together failed to ensure that the RDAF had sufficient numbers of pilots to fly them. Pilot shortages had been chronic prior to the acquisition of the F-16 and, apparently, little changed.⁷⁶ The RDAF faced a severe pilot shortage in the mid-1980s as the final F-16 squadron was stood up. Each F-16 squadron had 16 aircraft during this period, and the NATO manning standard specified a minimum of 1.5 pilots for every operational aircraft. The full manning of these squadrons would therefore be 24 pilots. Figures 6 and 7 below show the manning of the 727 and 730 squadrons from January 1984–December 1989.⁷⁷ As can be seen, neither was fully manned for the vast majority of the period.

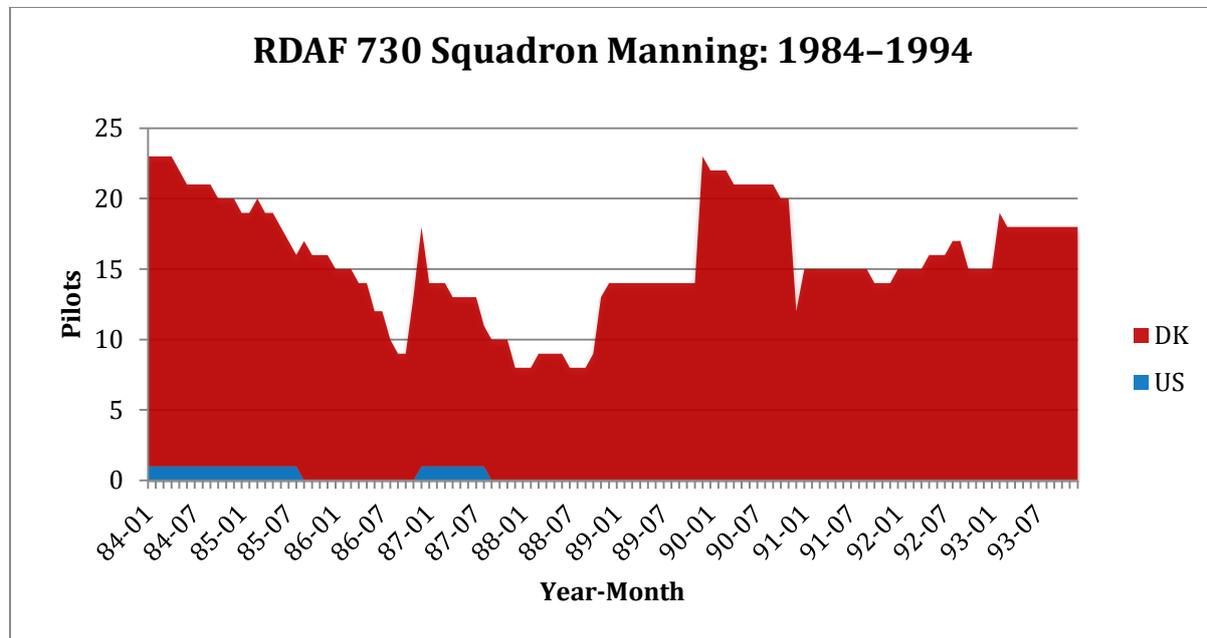
Figure 6: RDAF 727 Squadron Manning: 1984–1994



The 727th squadron was both an operational and a training squadron for the RDAF. It housed instructor pilots and pilots that were returning from their initial pilot training in the United States. It was the first RDAF F-16 squadron and stood up in 1980. After 1985, it never met the NATO standard for being fully manned—and the number of Danish pilots assigned to the squadron began a severe and sustained decline in late 1985. One of the reasons that the 727th squadron suffered continuous shortages was that the new pilots were transferred to the other squadrons immediately upon the completion of their advanced training. But this did not

guarantee full manning of the other F-16 squadrons, as seen with the 730th squadron in Figure 7.

Figure 7: RDAF 730 Squadron Manning: 1984–1994



Fortunately for Denmark, it had purchased an aircraft that was common to many of its allies, its primary ally in particular: the United States. It was also fortunate that the United States believed that Danish air combat capabilities were very important for the security of the Alliance’s northern region and therefore worth an additional investment of American resources to ensure that it was not grounded due to a lack of pilots. The RDAF and the USAF had begun a pilot exchange program in 1984 in order to further train Danish pilots in the use of the F-16 in a coalition context. This program proved successful—as did RDAF participation in Red Flag later in 1984—and it paved the way for further American involvement in the RDAF.

The first American exchange pilot arrived at the 727th squadron in August 1985. But manning continued to decline precipitously over the course of the rest of the decade and the United States sent first one, then seven, more pilots to prevent the collapse of the 727th squadron. In fact, Americans constituted a majority of the squadron, which was converted to full-time training duty.⁷⁸ The 730th squadron was never fully manned to NATO standards throughout the period, despite also receiving American exchange pilots. These USAF pilots were integrated into the squadron but were barred from performing operational missions,

such as the air policing of Danish territory, in peacetime.⁷⁹ In wartime, however, it was unlikely that these pilots would have remained inactive.

The pilot shortage remained chronic throughout the 1990s and preoccupied the RDAF leadership. The two surges in the manning of the 727 squadron—in January 1991 and January 1992—captures the transfer of some of the *Draken* pilots who did not take civilian jobs as their squadrons were retired. Despite this consolidation, neither squadron was fully manned at 24 pilots as the NATO minimum standard would specify, even with three to eight American instructor pilots. As the 1997 Defence Commission put it:

Currently there are problems with pilot retention in the Air Force as the armed forces have experienced a comparatively large purge of pilots to the civilian airline companies. The manning is therefore considerably below standard levels. This is felt especially in the F-16 units in Jutland, and the manning has been below 50% in periods. At the same time the level of experience is relatively low as the purge is mainly taking place among older pilots after the expiration of their mandatory contract period.⁸⁰

In 1998, the RDAF was short of 75 officers, including 42 pilots, for its 60 operational F-16s.⁸¹ Furthermore, although the transport and search and rescue squadrons based at Værløse required fewer pilots and was a higher priority, those units were only “above 80 percent.”⁸² They remained well below NATO standards throughout the decade. To increase retention, the RDAF changed the terms of employment for its pilots, increasing their commitment to the service after pilot training from 8 to 13 years and increasing their pay to a level almost equal to that of a civilian pilot’s salary.⁸³ This increased retention and permitted greater professional development.⁸⁴ But the shortfall of pilots dimmed the ability of the service to step to the forefront of Denmark’s new grand strategy—and reduced the potential return on the investment made into the F-16.

6. Retooled for Expeditionary Operations

The missions of the RDAF changed when Danish elites changed their ideas regarding what military forces could and should be used for after the Cold War. Territorial defence was supplemented by expeditionary operations on the European periphery and beyond. This meant that the Danish armed forces, including the RDAF, had to adapt its weapon platforms,

systems, personnel, and organization to more effectively and efficiently address these new missions. In early 1999 the TACDEN commander, Major General Ebbe Rosegaard, announced that “the RDAF will be restructured following a concept of increased emphasis on international operations somewhat at the expense of the Main Defence Forces ... More precision, more rapid reaction, more deployability and vastly improved Air Command and Control.”⁸⁵

These changes were not in place when NATO called for contributions to Operation Allied Force, which began on 24 March 1999. Denmark’s four F-16s joined the aircraft of 12 other NATO members. “The tasks and exercises that we do every day are similar to the tasks that we will have to perform in this mission. So all is ready,” argued a RDAF press officer when the aircraft deployed in October 1998.⁸⁶ When the strikes began, the leading Danish daily *Jyllands-Posten* referred to them as historic: “Denmark became involved in a military attack against a foreign power for the time since 1710 when Danish aircraft went into action Wednesday night during the NATO bombing of Yugoslavia.”⁸⁷

Yet this was not entirely the case. The initial part of the campaign entailed establishing air superiority and “at least a dozen MIG-29s” defended their territory against NATO aircraft.⁸⁸ They faced the aircraft that intended to drop bombs on Yugoslav territory—a counter-air mission—and American F-15Cs and Dutch F-16s shot down three Yugoslav MIG-29s.⁸⁹ “The Danish F-16s did not participate in the bombing,” Danish journalists noted, “but instead protected NATO’s fleet in the Adriatic against enemy air attacks.”⁹⁰ Danish F-16s lacked the laser-designator targeting pods that were necessary to utilize the laser-guided munitions that the RDAF had acquired a few years earlier.⁹¹ While there were ways that they could have been used, it was simply more practical to let properly equipped aircraft perform the missions, admitted a RDAF officer.⁹²

This was disappointing news for the body politic—and caused a scandal.⁹³ NATO later made additional requests for forces and the Danish parliament approved. Four additional F-16s that had recently completed their mid-life update were deployed to Italy. Still, not all problems had been solved. The new systems available in the MLU aircraft were new to the pilots who had to train on their use while on the way to the theatre.⁹⁴ Danish F-16s were given the opportunity to strike ground targets in the final days of the operation. On 26 May 1999, Danish aircraft attacked targets in combat for the first time since 9 April 1940.⁹⁵ Over the last 2 weeks of OAF, RDAF F-16s were allocated 10 air-to-ground strike missions, three

were carried out, and 24 total munitions were deployed on two.⁹⁶ When Operation Allied Force concluded after 78 days, NATO aircraft had flown “38,004 sorties, of which 10,484 involved strikes on ‘strategic’ and ‘tactical’ targets while another 3,100 were suppression of air-defense missions.”⁹⁷ Denmark’s portion of that effort included 220 missions with 442 sorties, four of which involved strikes—at a cost of 35 million DKK.⁹⁸

The RDAF saw their marginalization in Operation Allied Force as “a wake up call” and determined to correct for the force’s shortcomings. NATO commanders “*emphasized the requirement for an all-weather precision attack capability*”⁹⁹ that Danish F-16s lacked. They continued the MLU refurbishment program for the F-16 fleet, considered purchasing the AGM-154 Joint Standoff Weapon (JSOW) and GBU-31 Joint Direct Attack Munition (JDAM) that had heretofore only been used by U.S. B-2 bombers.¹⁰⁰ Indeed, Denmark was among the first seven NATO countries to procure JDAMs.¹⁰¹ These modernization efforts enabled—but did not guarantee—the transformation of the RDAF; doing so would require further changes in its organization, ethos, and ways of using the new capabilities at its disposal.

The next stage of the RDAF transformation was driven by adaptation to the strategic situation. On 11 September 2001, 19 al Qaeda operatives changed the strategic orientation of the United States and its allies. On 12 September 2001, the NATO nations unanimously invoked the Article 5 commitment that an attack on one was an attack on all. On 7 October, the United States began a military campaign to overthrow the Taliban regime and destroy al Qaeda. The United States then requested that Denmark contribute to the coalition effort with a C-130 and a cargo-handling team, four F-16s, Special Forces, and relevant support and liaison personnel.¹⁰² The Danish approved this request on 17 December 2001 and the contributions were sequenced.

The 2001–2002 C-130 mission in Afghanistan was followed immediately in September 2002 by the requested F-16s. The experience gained through the deployment of the C-130 in conjunction with the Dutch and Norwegians was used to facilitate another multinational squadron.¹⁰³ “Six F-16s were deployed along with six aircraft from Norway and six from the Netherlands, forming a multi-national F-16 contingent,” that was originally authorized for 6 months but extended to a full year on 31 January 2003.¹⁰⁴ 139 Danish personnel accompanied them.¹⁰⁵ Operating 5000 kilometers from Danish territory posed challenges to be surmounted—and they were surmounted given the cooperation that Denmark received

from the partners with which it deployed, none of whom could have sustained such a deployment on their own.

The European Partner Air Forces (EPAF) squadron primarily flew reconnaissance missions for the first 4 months of its year-long deployment. American operations in southeastern Afghanistan increased in the spring, requiring close air support for ground forces. The Norwegians dropped the first munitions on 27 January 2003 in support of American troops in contact, followed by the Danes on 3 February, and the Dutch on 10 February.¹⁰⁶ “F-16 operations in Afghanistan [we]re day or night Close Air Support (CAS) which depend on secure voice systems, a targeting pod, and laser- or GPS-guided precision bombs.”¹⁰⁷ American forward air controllers illuminated the targets for laser-guided munitions,¹⁰⁸ but EPAF F-16s were not capable of delivering precision munitions in all weather.¹⁰⁹ This required the acquisition of JDAM (Joint Direct Attack Munition) kits to convert “dumb” gravity bombs into “smart” precision munitions. Although an agreement to purchase 274 kits to use with the GBU-31 was made on 20 December 2002,¹¹⁰ they did not arrive in time to be deployed. Despite this limitation, the RDAF F-16s flew 743 sorties, dropped 19 laser-guided bombs, strafed enemy forces with machine gun fire eight times, deployed flares and made low-level passes to disrupt enemy combatants, accumulated a total of 4347 flying hours, and rotated 630 personnel through Manas Air Base during their 12-month deployment.¹¹¹

The experience of the Danish F-16s in OEF fed back into how the RDAF conceived its primary mission. “In the Fighter Concept of Operations, we’ve evolved the F-16 into the F-16 MLU. We’ve begun to talk more about the air-to-ground portion of the F-16 than the air superiority portion. It has led us to believe in the future of smart weapons for the F-16. We understand what precision weapons bring to the fight as we work with ground forces to develop a concept of operations, which calls for support to units deep in enemy territory.”¹¹²

Furthermore, the OEF deployments made it “abundantly clear that expeditionary operations required changes in how the RDAF dealt with its personnel.”¹¹³ Major General Simonsen had his staff develop “[a]n Expeditionary Air Force (EAF) construct [that] must support frequent deployments but at the same time aim at putting predictability into the lives of our airmen, so they know when they are going and when they are coming home....”¹¹⁴ In this, Denmark echoed the expeditionary air force construct being developed by the USAF.¹¹⁵

The RDAF leadership was assisted by the 2004 Defence Agreement. It argued that Danish forces

must be able to *participate effectively in high intensity operations* under conditions that are often difficult and unstable in order to provide the prerequisites for stabilisation of areas of conflict and to rapidly deploy forces in such areas. By so doing, *Danish Defence can and must have a much greater ability than before* to participate in peace-support operations, including conflict prevention, peacekeeping, peacemaking, humanitarian and other similar missions.¹¹⁶

The restructured armed forces were focused on maximizing deployable operational capabilities. Territorial defence was relegated to homeland security functions and the mobilization structure that undergirded it eliminated. “The Danish vision—primarily as a function of the new position as a strategic offensive actor—is now close to sharing the US idea as to how armed forces have to be transformed.”¹¹⁷

These political decisions enabled the RDAF leadership to consolidate its transformation agenda and develop an expeditionary air force. Units were “optimized for expeditionary operations.”¹¹⁸ They were organized “at their home base as they will be when deployed. This ensures that chains of command are well known and that the personnel will perform the same duties abroad as they do at home.”¹¹⁹ This built upon the Expeditionary Air Force (EAF) construct that began in 2003. As with that initiative, attention was paid to “[c]hanging the culture of RDAF personnel ... In order to change from a traditional garrison air force to an expeditionary air force, the mindset of the personnel must be changed to ensure that they are prepared to leave their families and secure surroundings at a short notice. In short, we need to get back to soldiering.”¹²⁰

This transformation was solidified in the years between the RDAF deployment to Kyrgyzstan in 2003 and its participation in operations over Libya in 2011. Indeed, they made the outsized contribution to Operations Odyssey Dawn and Unified Protector possible. This effort demonstrated Danish competence to its partners in ways akin to 1994’s Tuzla tank battle and engendered further invitations for its leaders to join a smaller circle of reliable allies to shape Western policy *before* it was decided.¹²¹ This status was recognized at the 2014 NATO summit, when Denmark was included in the core group of Allies recruited by the United States to prepare an air campaign against ISIL and a training mission to enable Kurdish Peshmerga and Iraqi security forces to engage ISIL directly on the ground.

7. Conclusions and Recommendations

The purpose of this report has been to reflect upon the Danish experience owning and using the F-16 to deepen the reader's understanding of what other studies imply when they argue that military and political partnerships have weighed heavily on these decisions in the past and should weigh heavily today. I have argued that when Denmark purchased its F-16 fleet, it bought more than just 58 aircraft. It deepened its ties to its Alliance partners, which has paid very large dividends over the past 35 years. Danish leaders should attempt to replicate this experience when choosing a new combat aircraft type. Before providing specific recommendations in terms of how this should be done, I will recapitulate the argument to highlight the lessons of the Danish F-16 experience. These can be divided into those that were significantly enabled by the choice of the F-16 and those that are largely independent of the specific aircraft.

7.1 F-16-Specific Experiences

When Denmark joined the multinational fighter program, it invested in more than just an aircraft; it joined and helped shape an institution that provided immediate and continuing financial and military benefits, including:

1. A greatly reduced initial purchase price for the F-16 that derived from being the smallest part (less than 6 percent) of a very large volume purchase of combat aircraft.
2. This consortium guaranteed that Danish aircraft would be updated along with—and hence equivalent to—those used by its most common partners: the USAF, the Royal Netherlands Air Force, the Royal Norwegian Air Force, and the Belgian Air Force. Other users of the F-16 did not benefit in this manner.
3. The common configuration enabled fleet management across national air forces through the sharing of performance and maintenance data, collaborative spare parts procurement, a division of labor and specialization in maintenance, and sharing of spare parts and munitions when national stocks are depleted.
4. Furthermore, decisions regarding refurbishment, modernization, and update programs were institutionalized in a committee structure that gave Denmark a far greater voice over the development of NATO combat aircraft fleets than would otherwise have

been the case—and it did so via a cost-sharing mechanism that reflected the small Danish aircraft fleet. In other words, Denmark could advocate for substantial and specialized upgrades to the F-16 and, if it persuaded the other five nations that these modifications were worthwhile, it would only pay 6 to 7 percent of their total cost. Denmark thus received advanced upgrades for much less than the cost of the baseline upgrades purchased by countries that were not part of the MNFP.

5. Denmark was able to use this mechanism to modernize its F-16s quickly to be able to conduct precision strikes—and therefore participate meaningfully in coalition air campaigns—after being marginalized in Operation Allied Force. By 2005, Denmark had the most modern systems in its F-16s of any NATO air force, including the USAF.

Beyond these financial and technical benefits,

6. The commonality of the aircraft enabled the leadership of the RDAF to take the initiative to join the USAF's premiere adversarial live-fire exercise, Red Flag, and do so on terms that were favorable to Denmark.
7. When its combat aircraft deployed to the United States to participate in Red Flag as part of an European Partner Air Forces squadron, it validated Denmark's commitment to cooperation and interoperability in NATO in a way that few other gestures could.
8. Furthermore, this had unforeseeable benefits for Denmark's military capability. When Danish defence policy threatened to idle 25 percent of its F-16 fleet by failing to recruit, train, and retain sufficient numbers of pilots to fly them, the United States invested directly in the RDAF by practically taking over a RDAF F-16 squadron for a number of years to help rebuild a Danish combat pilot corps. This attention was ongoing when the Cold War ended and is not what one might expect given the tensions that Danish policy caused with its allies during this period. Had Denmark not purchased an aircraft that was common with many other partners—particularly one with the capacity and interest to take over Danish national pilot training—it is doubtful that its pilot shortage could have been addressed.

Over the course of the final decade of the Cold War and the first decade of the post-Cold War era, the F-16 purchase thus proved to be a key mechanism for increasing the Danish commitment to NATO *and* NATO's commitment to Denmark in a manner that could not have been appreciated when the decision was made.

Together, these experiences suggest a number of recommendations regarding the selection of the type of combat aircraft it should acquire.

1. Denmark will benefit significantly from selecting a combat aircraft that will be common across many users.
2. Furthermore, Denmark will benefit from choosing an aircraft in common with a very large partner. This has potential benefits in all aspects of the capability, from initial purchase, to maintenance, to fleet management, to pilot training, to equipping with munitions, and even manning—not to mention actual use in coalition operations.
3. Denmark should attempt to institutionalize a favored position in whatever decision-making structure is established to manage the further development, modernization, and updating of whichever aircraft its political leaders choose.
4. Such a position should be defined by equality in the decision making among national users about innovations but proportional in cost-sharing based upon the relative number of aircraft in each nation's fleet. These are political objectives that must be negotiated with partner nations, not with manufacturers.

7.2 General Airpower Lessons

But there are other lessons to be learned from the Danish F-16 experience that can be seen as independent of its specific combat aircraft.

The offensive and expeditionary turns taken by the RDAF in its modernization plans, training, organization, and ethos were adaptations to their interpretations of the larger trends in Western security policy, lessons derived from operational experience, and the desires and directives of Danish political elites—particularly as expressed in the 2004 Defence Agreement. These required agile and dedicated leadership to recognize the need for change and the perseverance to see it through.¹²² It should be expected that further changes in the geopolitical environment, the consensus among Danish elites with regard to their level of

ambition in foreign and security policy, and changes in military technology will require additional transformation in the RDAF.

Therefore, I further recommend that the main political parties of the Danish parliament, through the mechanism of the Defence Agreement, grant priority to initiatives that will increase the capacity of the RDAF to adapt to such changes. This will require vision that looks beyond the period of the current defence agreement or the upcoming general election. Specifically, I recommend that the political parties behind the defence agreement provide incentives and resources for the following:

1. Danish air force leaders—current and future—ought to further integrate themselves into the Western airpower community, remaining cognizant and current in the development of the doctrines and airpower concepts that will animate future operational requirements. Specific mechanisms for doing this exist—from officer exchange programs with Allies, professional military education and developmental opportunities, such as the Combined Forces Air Component Commander (CFACC) course offered by the USAF, multinational airpower centres such as the NATO Joint Airpower Competence Centre¹²³ or the European Air Group,¹²⁴ to multinational exercises such as Red Flag, Green Flag, and Maple Flag, that put these ideas to use in difficult but non-lethal settings.
2. Furthermore, consistent attention to the policies used to recruit, train, and retain sufficient numbers of combat pilots in the service of their country—rather than in the service of civil aviation—are required. No matter which combat aircraft is chosen, they have no utility if there are not enough pilots to fly them. The RDAF currently has about 50 pilots to man its 30 operational F-16s—as well as its 4 C-130J *Hercules* and 3 Canadair CL-604 *Challenger* transport aircraft.¹²⁵ This may be sufficient for today, but two developments suggest planning for shortfalls in the future. The first is that there is increasing demand for civilian pilots among commercial airlines.¹²⁶ This will pose a retention problem for Western air forces in general.¹²⁷ Unlike the USAF, however, which has over 14,000 active-duty pilots,¹²⁸ Denmark has little margin to work with. Second, recent press reports suggest that there is widespread unease with the implications of the defence spending cuts implemented in the 2012 Defence Agreement, including the new personnel system implemented by the Ministry of Defence.¹²⁹ If officer retention becomes an issue in the Danish military, the RDAF

may once again find its squadrons undermanned. Thus, managing the pilot career field within the RDAF should be recognized as a key priority by its leadership, as well as by the leadership of the Ministry of Defence and, indeed, parliament.

3. Finally, the RDAF experience deploying with EPAF partner countries—Norway, the Netherlands, and Belgium—should be further developed. None of the EPAF countries could have deployed and sustained a full squadron of combat aircraft to Kyrgyzstan in 2002, and all received substantial recognition for their collective achievement.¹³⁰ This experience should be prioritized in exercises, such as the biannual Norwegian Cold Response, in which all five EPAF countries (including Portugal) participated in combined air operations in 2007 above the Arctic circle for the first time.¹³¹ Denmark could also work with its EPAF partners to make a coherent airpower package available to the NATO Response Force and/or its Very High Readiness Joint Task Force.

It must also be emphasized that such cooperation requires *political* leadership. The decisions of Norwegian and Dutch political leaders precluded the multinational deployment of the EPAF Expeditionary Air Wing for operations in Libya in 2011, but Danish diplomacy ought to be devoted to encouraging the better integration of air force deployments when they do occur. These should not be pursued on an *ad hoc* basis or handled by other coalition partners. While Denmark need not go as far as the Netherlands and Belgium, which have indicated the ambition to fully integrate their air forces in the coming decade,¹³² Danish leaders should think creatively about how to develop concerted efforts with its EPAF partners.

In conclusion, Danish leaders are going to commit DKK 20–30 billion toward the purchase of a new combat aircraft fleet in the summer of 2015. This report has made specific recommendations to inform this decision, but it has not made any specific recommendations concerning the type or number of aircraft that should be purchased. Instead, its recommendations highlight the benefits that Denmark derived from its acquisition of the F-16 in 1975 and its use over the past 35 years. These benefits were beyond those tied to the specific military and technical capabilities of the F-16 aircraft. They derived from the cooperative institutions that were erected to coordinate the acquisition and management of the program, as well as additional benefits that came from Danish leaders signaling a deeper commitment to NATO and cooperation with their Allies. Danish political elites in

government and in parliament, elite civil servants in the Ministries of Defence and Foreign Affairs, military leaders, and even mid-ranking officers have all borne responsibility for making the F-16 experience beneficial for Denmark. Denmark has developed a combat air force that has proven useful to its grand strategy and will only retain that useful tool if its leaders continue to invest adequate time, energy, and resources into it. Learning from the F-16 experience is but one aspect of this investment.

8. Notes

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- ³⁹ Dörfer, *Arms Deal*, page 200.
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⁷⁸ Personal correspondence with Brigadier General Steen Hartov, Deputy Chief of Staff, RDAF (17 December 2014).

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⁸¹ Defence Commission of 1997, *Fremtidens Forsvar*, page 312. If NATO manning standards are 1.5 pilots per aircraft, then the RDAF had a requirement of 90 pilots. Hence, if it was short 42 pilots, it had 58—or less than 1 pilot per operational F-16.

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- ⁸⁵ Kurt Ebbe Rosgaard, "An Air Force in Transition: To Cope with New International Challenges," *NATO's Nations and Partners for Peace* (February 1999), page 94.
- ⁸⁶ Kristian Bilenberg, "Skrydstrup Melder Klar til Afgang," *Jyllands-Posten* (3 October 1998).
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- ⁹² Jens Grund and Hans Davidson-Nielsen, "Danske Fly Kan Ikke Bruges i Angreb," *Jyllands-Posten* (26 March 1999).
- ⁹³ Simon Andersen and Hans Davidsen Nielsen, "Flyv ikke højere...," *Jyllands-Posten* (1 May 1999). Indeed, the RDAF pilot who "revealed" this information to journalists was investigated by the Danish military intelligence service, FE, who inquired as to whether he had "sought to impede or prevent the ability of Danish forces in Italy to operate" or had "other malicious motives." He was, thankfully, supported by the RDAF who confirmed that the specific capability shortfalls had been published in sources available to the public.
- ⁹⁴ Interview with Major Kim Noedskov, 9 June 2014.
- ⁹⁵ "Danske F-16 Fly Angriber i Jugoslavien for Første Gang," *Ritzau* (27 May 1999); S. V. Svejgaard, "F-16 Over Afghanistan," in *Flyvertaktisk Kommando 1955-2005* (Karup: Tactical Air Command, Denmark, 2005), page 37.
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