

2/2017

Extract from Rigsrevisionen's report on

**the basis for decision prepared  
by the Danish Ministry of Defence  
concerning procurement of 27  
F-35 combat aircraft**

submitted to the Public Accounts Committee

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RIGSREVISIONEN



1849  
147.281  
237  
1976  
114.6  
22.480  
908

# 1. Introduction and conclusion

## 1.1. PURPOSE AND CONCLUSION

1. This report concerns the basis for decision prepared by the Danish Ministry of Defence – and finished in 2016 – concerning procurement of new combat aircraft for the Danish Defence. In the basis for decision, the Ministry of Defence concluded that the procurement of 27 F-35 combat aircraft would meet the level of ambition set out for the new combat aircraft. The ministry estimates the procurement and operational costs of the combat aircraft at approximately DKK 66 billion over the next 30 years. This makes it one of government's largest procurements to date. The basis for decision prepared by the Ministry of Defence led to a political agreement, entered in June 2016, to purchase 27 F-35 combat aircraft – also known as Joint Strike Fighter.

2. The political agreement highlights several risks related to the on-going development of the F-35 combat aircraft. It also appears from the political agreement that the calculations presented in the basis for decision rest on various assumptions concerning optimization and efficiency.

3. The Ministry of Defence is expected to submit a document to the Finance Committee in November 2017 asking for approval of the procurement. The basis for decision will be incorporated in the request for approval along with supplementary details and a specification of the scope of the final procurement made by the Ministry of Defence. It follows that Rigsrevisionen's study has been carried out before the Danish parliament had made a final decision on the procurement of the new combat aircraft. Rigsrevisionen has reviewed the basis for decision to provide the Danish parliament with a sound basis for its decision.

### PROCUREMENT OF NEW COMBAT AIRCRAFT

The agreement to procure new combat aircraft was entered in June 2016 between the following political parties:

- The government (the Liberal Party)
- The Social Democratic Party
- The Danish People's Party
- The Liberal Alliance
- The Danish Social Liberal party.



*F-35 combat aircraft.*

Photo: CPC Collection/Alamy Stock Photo

4. The purpose of the study is to assess whether the Ministry of Defence has provided an adequate basis for the decision to procure 27 F-35 combat aircraft. The report answers the following questions:

- Has the Ministry of Defence carried out an adequate assessment of whether the procurement of 27 F-35 combat aircraft will meet the level of ambition set out for the Danish combat aircraft?
- Has the Ministry of Defence's applied an appropriate model for the analysis of the life-cycle-costs of procuring 27 F-35 combat aircraft?

Rigsrevisionen initiated the study in December 2016.

## CONCLUSION

The political agreement to procure new combat aircraft was made on the basis for decision provided by the Ministry of Defence. It is Rigsrevisionen's assessment that generally the basis for decision is underpinned by thorough analyses and calculations. However, the study shows that the Ministry of Defence has not provided evidence of a number of key assumptions underlying the calculations, nor has it reflected the uncertainty associated with the assumptions. It is Rigsrevisionen's assessment that there is a higher risk – than indicated in the basis for the decision – that the Danish Defence will be unable to perform all the agreed tasks with the 27 F-35 combat aircraft. .

Rigsrevisionen's study shows that the calculation of the necessary number of flight hours is based on assumptions concerning synergy and the pilots' working conditions. However, these assumptions are not sufficiently evidenced nor is the possibility that they do not hold adequately reflected. The study also shows that the Ministry of Defence's calculation of the total number of flying hours for the 27 F-35s does not reflect potential shortcomings of the assumptions concerning average number of flying hours per year or the availability rate of the aircraft. Therefore, there is a risk that the requirement for flying hours has been under-estimated, and the total number of flying hours overestimated. The basis for decision should have highlighted the risk related to the necessary number of flight hours and the total number of flying hours, since both aspects have an impact on the ability of the 27 F-35 combat aircraft to deliver all the required tasks.

Furthermore, Rigsrevisionen's study shows that the Ministry of Defence has estimated the life-cycle costs for the 27 F-35 combat aircraft at approximately DKK 66 billion over 30 years. Generally, the Ministry of Defence has employed an adequate model for calculating the life-cycle-costs, but the ministry has not adequately reflected all the risks associated with the underlying assumptions concerning, for instance, synergy and the pilots' working conditions. Therefore, the ministry may have underestimated the costs allocated to cover risks, which may increase the estimated life-cycle costs. The Ministry of Defence has informed Rigsrevisionen that if these risks materialise, it would expect the capabilities of the Danish Defence to deliver the expected tasks to be affected first.

Based on the results of the study, Rigsrevisionen finds that the Ministry of Defence should improve the Danish Parliament's basis for decision in connection with the submission of the request for approval of the procurement to the Finance Committee by:

- Accounting for the risk associated with the key assumptions, including the inherent risk that the Danish Defence cannot deliver all the expected tasks with the 27 F-35 combat aircraft.
- Updating the estimated costs to cover risks and more clearly reflect the risk associated with the estimated total life-cycle costs.

### PORTFOLIO OF TASKS

In this report, the portfolio of tasks refers to the tasks that the combat aircraft are required to perform in accordance with the basis for decision.

### SYNERGY

Synergy is the reduction in flying hours that can be achieved when flying hours in connection with missions can replace training hours. In assuming that pilots are trained while flying international operations, the requirement for flight hours needed for training can be reduced. The synergy depends on the type, complexity and versatility of the performed tasks. Training obtained during one type of mission does not necessarily make up for training in performing other types of tasks.