OFFPRINT FROM *STRATEGIC OUTLOOK 8*

# Long-term challenges for Sweden's materiel supply

Per Olsson

**Sweden's materiel supply is facing major challenges. The Swedish Armed Forces is facing a deteriorating security situation in our immediate neighbourhood, while at the same time much of its existing military equipment will reach the end of its service life and need to be replaced. Today, there is broad political agreement on the need to increase defence spending in order to strengthen Sweden's military capability, but cutbacks after the Cold War have created considerable equipment needs. Increased costs for increasingly advanced equipment will place extensive demands on efficiency and on prioritising in procurement and utilisation, for both the government and Parliament, as well as for the Swedish Armed Forces. This is in order to maximise the potential capability from the investments that are now being made.**

## A deteriorating security situation after historical cutbacks

Sweden's biggest security policy challenge is Russia's increased military capability and the Russian leadership's increased readiness to use this capability to achieve its political objectives. At the same time, historically stagnating and reduced defence budgets in Western Europe, after the end of the Cold War, have meant that a Western technological advantage over Russia can no longer be taken for granted.

The problems caused by the historical cutbacks in Western European defence budgets have not only had consequences for security policy, but also for the defence industry. From this perspective, even friendly states are competitors. Amongst other things, relatively small defence efforts in Europe have meant that the US has been able to consolidate its technological advantage in an increasing number of areas in the defence equipment market. At the same time, new defence industrial actors have begun to take shares of the international market. For example, South Korea has recently sold artillery, in the form of self-propelled howitzers, to Norway, Finland and Estonia. At the same time, more of Western Europe's traditional export customers, such as India and the Gulf States, are investing heavily in building their own defence industrial capabilities.

Russia's illegal annexation of Crimea in 2014 and ongoing military intervention in eastern Ukraine are major contributing factors in recent years to several Western European countries beginning to increase their defence expenditure, including equipment appropriations. For European NATO members, pressure from the Trump administration is also an important factor, and several pledges have been made to meet the Alliance's objective of spending at least two per cent of GDP on defence. In Sweden as well, defence spending has increased, and there seems to be broad political support for further investments. In recent years, Sweden has decided on or implemented a number of significant arms acquisitions. The Swedish Armed Forces has, amongst other things, been supplied with self-propelled artillery pieces called Archer, and a decision has been made to acquire the latest variant, version E, of the JAS 39 Gripen fighter aircraft submarines of a new class, A26, and the American Patriot air defence system. In addition, decisions have already been taken that a large number of tanks and combat vehicles will be renovated and that submarines from the Gotland class will be upgraded.

FOI Memo 6864
Project Nr I181103
Approved by Mike Winnerstig

October 2019

FOI

## New needs for equipment

Efforts to strengthen the country's defence capabilities are complicated by the fact that the Swedish Armed Forces acquired several of its current systems during the 1990s, and that these will need to be replaced or upgraded within the next ten to 20 years. The early 2000s saw the acquisition of equipment focused on international operations, but the deteriorating security situation in Sweden's immediate neighbourhood has prompted a renewed focus on national defence. This has led to an extensive need for renewed capabilities, such as a stronger air defence as well as modernised control systems and improved logistics. Rapid technological development has also created completely new needs for investments, such as in cyber capabilities. If these systems and capabilities are not replaced or introduced, Sweden's combined military capability in relation to the outside world will decrease rather than increase. These challenges are not uniquely Swedish, but pose problems for most Western European countries. However, this is hardly a consolation, as European countries rely on each other for their security, either through bilateral agreements, within NATO, through partnerships with NATO or through membership of the EU.

Despite the efforts now being made, equipment needs over the next ten to twenty years will be extensive. The Swedish 'Equipment Demand Inquiry' (*Materielbehovsutredningen*) found that up to 168 billion Swedish kronor may need to be injected between 2021 and 2030 if the operational capability of the military units is to be increased in order to address the deteriorating international situation. This includes raising the so-called 'foundation', i.e. bare necessities such as uniforms and spare parts. It includes upgrading the navy's corvettes, but also an improvement of control systems and protection of bases. The inquiry proposes only modest increases in volumes of units, whereas the Swedish Armed Forces, in its long-term study, the *Perspective* study. from 2018, proposes significantly increased volumes of the number of weapons systems and units. If the Perspective study's ambitions were to be realised, this would mean an almost doubled defence budget compared to today.

## High requirements create increased costs

However, the doubling of expenditure does not automatically mean a doubling of the armed forces. This is because the cost of defence equipment has a habit of increasing exponentially over time. For example, the cost of each individual fighter aircraft has historically increased by an average of seven per cent annually, corresponding to a doubling of costs every ten years. The corresponding figure for submarines is four per cent, and seven per cent for naval vessels. This development is a consequence of military equipment becoming increasingly advanced. In addition to growing demands for increased firepower, level of protection and mobility, modern weapons systems also require increasingly sophisticated sensors, such as radar, as well as robust networks for an increased capability to fight alongside other parts of the armed forces.

> "The incentives to keep up with technological developments are strong. Countries that lag behind are at risk of fighting the war of the future with obsolete equipment."

The incentives to keep up with technological developments are strong. Countries that lag behind are at risk of fighting the war of the future with obsolete equipment. On the other hand, there is a risk that too much focus on high quality items will force countries to reduce the number of weapons systems and units, which is what has happened in Sweden. The trend is not uniquely Swedish, however. In recent decades, several Western European countries have chosen to change from quantity to quality. The consequence has been that small countries such as Sweden, Norway and Denmark can now count several types of units in a few or single figures.

## Need for efficiency

There have been numerous attempts to curb the increasing costs of military equipment. For example, in several Western countries during the 1990s, the recommendation was to purchase equipment already on the market or 'off-the-shelf'. The reason was that existing systems could be introduced more

quickly and cheaply than if new equipment was to be developed domestically. International collaborations on equipment were also sought, as it was assumed that these could lead to economies of scale where development costs and other fixed costs would be distributed between a larger number of production units.

Sweden's current principles for equipment supply are formulated based on the insights above, with the aim of counteracting cost increases and reducing the time it takes for weapons systems can be put into service. The government's current principles for equipment supply from 2009, as well as in the Materiel Supply Strategy (Materielförsörjningsstrategin) from 2007 of the Swedish Armed Forces and the Swedish Defence Materiel Administration, state that cost-effectiveness and fast delivery should be prioritised. In the first instance, the existing equipment systems of the Swedish Armed Forces should be maintained. Subsequently, the procurement of equipment already on the market should take place. Only in the final instance should new equipment be developed. In all cases, international collaborations should be considered in order to achieve economies of scale. However, the operational capabilities of military units take precedence over all other priorities. After all, cost effectiveness is not the same as low cost, but is rather a question of the greatest possible result for the expense.

Maintaining certain equipment systems for longer periods of time is one way of maintaining larger volumes of units at a relatively low cost. A nearby example is the Finnish army, which sometimes acquires used equipment and also retains older equipment for longer compared to other Nordic countries. For Sweden, this approach could remedy the decreasing volumes of units, but might also lead to less desirable consequences. Some units would need to settle for obsolete equipment, which would limit how they can be used operationally. In addition, old equipment can cause problems from a supply perspective since spare parts for older systems often cease to be manufactured after a number of decades.

So how does it look for Sweden? The economically large equipment systems acquired and planned in recent times give a clear indication that most of these systems are newly developed. The Archer artillery system and JAS 39 Gripen E fighter aircraft, Helicopter 14 and submarines of the A26 class are some examples. Acquisitions of existing equipment on the market are relatively few; however, Helicopter 16 and Armoured Modular Vehicle 360 are usually mentioned as examples. It is easy to conclude that the Government's principles for equipment supply have not been complied with, but then it is not known how much existing equipment would have been acquired without the principles. In addition, the operational capabilities of the Armed Forces take precedence over all other priorities. This criterion is extremely difficult to assess and may well justify a high percentage of newly developed systems.

In addition, the government and parliament themselves have made considerable deviations from the principles for equipment supply through the designation of three essential security interests. Today, these comprise fighter aircraft capability, underwater capability and the so-called integrity-critical parts of the command and control system area. By highlighting essential security interests, a targeted procurement of fighter aircraft, submarines and command and control systems is made possible, which underlines the continued close relationship between Sweden's Armed Forces and defence industry.

In other words, there is no indication that the acquisition of advanced and newly developed equipment has decreased or will decrease in the near future. There is therefore a risk that the trend of increased equipment costs will continue in the future.

### A need for priorities

However, the question of advanced but expensive versus more but cheaper equipment is only one of the trade-offs that political and military decision makers have to address. For the government and parliament, the first step is the resource issue, where the needs of the Armed Forces are set against other resource needs in society. This also applies to the other parts of the total defence.

Most indications are that defence will receive increased resources in future, but additions must be both adequate and be made available at a rate so that the Swedish Armed Forces can absorb the increase. The Swedish Armed Forces must in turn define a clear order of priority regarding which measures need to be taken first. Either way, investments in equipment need to be made with military staffing, as well as the

other strategies and doctrines of the Swedish Armed Forces, in mind. How well does the equipment supply strategy comply with other military strategic policies? How do we ensure that the equipment supply works together with the reintroduced but limited conscription? These are just a few examples of questions of priority that decision makers face today and in the future.

Long-term planning for the supply of equipment should also include a strategy for the essential security interests. Today, there is no such clear strategy, and also no clear and uniform definition of what these interests are. Under EU law, each Member State has the right to exempt defence equipment that meets essential national security interests from the Union's standard competition rules. But the fact that Sweden has identified whole ranges of capabilities, such as fighter aircraft capability and underwater capability, as essential security interests, creates a need for clear definitions of what these capabilities include. The national security strategy of 2017 emphasises that essential security interests and associated industrial and technical competence should be maintained and developed, if it is militarily and financially rational. But what consequences does this have for the state's relationship with the industry, and what obligations, if any, has the state undertaken? These are questions that need to be addressed in the future.

There are many views in the debate about the benefits and costs associated with an extensive Swedish defence industry, but regardless of the position taken on this issue, long-term investments are required if the country's defence industry is to effectively contribute to the country's defence capability in the future. It is not just about investments in the acquisition and maintenance of equipment to keep the industry running, but also about investments in research and development that will facilitate the emergence of new concepts and cutting-edge technology in order to meet the needs and challenges of the future.