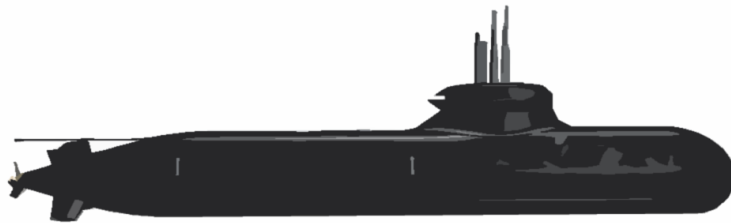




“I’m the one who asked Saab to go into submarines...”



LENA ERIXON

DIRECTOR OF FMV

The Swedish MOD's Defense Materiel Administration (Försvarets materielverk – or FMV) is responsible for providing support to the Swedish Forces with (preferably) Swedish technology or equipment acquired from overseas. It is also involved in the support of Swedish defence technology sold and then used abroad. The almost 'omnipresent' agency has sat in the heart of Stockholm since August 2012, led by the energetic Lena Erixon, who here provides [Georg Mader](#) an overview as the wide scope of her tasks and illustrates Swedish defense culture, all in the context of today's changing regional security-environment to which Sweden has been responding...

Let's begin with highlighting the new regional security climate ignited by the unexpected crisis in Ukraine. While not directly affected, Sweden's politicians and armed forces – contrary to other neutrals who are much closer to the area of conflict – are now adapting to this with increased defence funding and through prioritising certain acquisitions. This significantly influences the work of FMV, right?

Oh yes, it does. There have of course been changes. What happened around Ukraine and Russia affects us all in some way. But not only are the recent events creating a new security situation, this change has also been visible before the crisis. For most of us in Sweden it was clear that after the expenses of the Cold War, we came to something of a period of 'normalisation' in relations with Russia. The Eastern part of Europe became more integrated, becoming members of the EU, and so on. In Sweden there was also the discussion – and the pressure – to adapt to these changes towards peace, increased stability and 'normalisation'. As a result, the expenses for defence were constantly reduced, and by quite a lot. At the same time, the former strict orientation towards neutrality became a non-aligned status and was subsequently supplemented by a declaration of solidarity. This was, or is, an expression of a hope that where we would step up for other countries, other countries – especially those around us – would also step up for us. Quite recently, what we have said in the defense commission is that we want to develop our relationship with NATO. These days, the government made the decision to apply to be a NATO host nation and we will be a part of the NATO Response-Force, together with Finland with which we are working very closely. Both of us will exercise with NATO in-country. All this of course needs to get parliamentary approval and this is an election year. But the government will publically suggest these steps to the Riksdag (Parliament). Of course, relations between NATO, Sweden and Finland are important, if you

just look at the map of the North and the Baltic Sea. For the EU, we are the ones [geographically] closest to Russia. Unsurprisingly, we are very closely working on some projects with the European Defence Agency (EDA). And all these developments are affecting our working-orientation here at FMV and across the other governmental and military bodies.

So how have these substantial developments been mirrored in Swedish defence spending?

It's made quite a difference. In the days of the Cold War, we were almost fully self-reliant in armament, spending almost 3 percent of GDP. The Swedish defence budget for this year was about 47 billion kronor (SEK), which equates to around 1.2 percent of GDP. But last April it was concluded and announced – citing the crisis in Ukraine and the 'unsettling' development in Russia – to increase again, this time by about 10 percent. According to the government, annual defence spending over the next 10 years should rise gradually until 2024, where the annual defence budget would be around SEK 5.5 bn. (€604m), more than in previous estimates.

'We will do a life-extension on the older Södermanland-class because we need to have two – or even better, three – operational submarines in the Baltic at any time'

Whenever anyone meets Swedish military or reads about Swedish defence, FMV is mentioned in some context. The 44-year old Austrian Saab-105 fleet was supported by your agency. In the ‘Gotland’ submarine there are these green FMV manuals. You were on the forefront of the recent issue around KOCKUMS/TKMS. You will ‘own’ export Gripens before delivery. How did the ‘octopus’ that is FMV become so ubiquitous?

(laughing) I didn’t see it that way! But I can explain it – although I do have to go far into the past. After the disaster with the (17th Century warship) ‘Vasa’ with all the lives and valuables lost when it sank (in 1628), it was decided that the King should not select foreign engineers, but that there should be a cadre of own specialists who would concentrate their knowledge and expertise around arms and armament, as well as work on the development and training [in skills to generate those products]. The idea was to have a highly-skilled competence within the armed forces when it comes to defence materiel. The politicians – in the early days the King and later the parliamentarians and the ministers – accepted that they are not automatically the best people to handle these issues.

So your directorate has been part of the armed forces since the 17th century?

It was in a way, until 1968 when we were subordinated under the Swedish Forces’ HQ. Then FMV became an ‘independent’ agency, but within the MOD; which is logical as our ‘platform’ of work is the military’s armament and other defense materiel needs. Of importance is the ‘Swedish model’ of working very close with the public authority, the R&D agency (FOI) and the Armed Forces. And of course the close and good relations, on a daily basis, with the substantial Swedish armament industry...

With the latter being quite remarkable for such a ‘small’ country...

It is. If you look into the history, you know that after WWII Sweden decided to be independent in defence manufacturing. Back then, we found ourselves in a situation right beside the conflict but not really prepared for what that meant. Equipment was quickly acquired from a dozen countries, of which almost all were war-fighting participants at the time. So Sweden decided to become as self-sufficient as possible, to build strong armed forces with its own industry for almost any need. Thus, pretty much all the materiel the Swedish Forces used over the Cold War period was produced in Sweden. That also is the historical reason why today, in this small nation – as in our population of nine and half million, not our territory – there are Swedish fighter planes and Swedish submarines. There is still such a strong defence industry with the likes of Saab, former BOFORS [now under BAE], Hägglunds andr the Saab-Kockums yard. Those and many other companies are also able to successfully compete on the world market as well...

The exports into the world market must be more essential today. Modern weapon systems like the upcoming new Gripen variant or the new submarines that you’re intending to develop are hugely cost-intensive. Will Sweden be able to go on making these types of investments in the future without any help?

Some core capabilities are – and will also in the future – remain in the interests of national security, such as to retain the technological basis for modern fighter aircraft or, in the case of the underwater systems, including the submarines, this is for the moment a nationally launched or re-nationalised programme. But both will have to take in their foreign suppliers and partners, of course. In this aspect you are right – the costs are substantial today and we can less afford to develop and build everything alone when looking to meet the needs of the armed forces in every area. Since around the mid-1990s, partners are increasingly ‘welcome’ to share their costs and our

'Negotiations are going quite well and we expect to have the contract on the 36 orders signed by the end of the year'

industry is exporting defence goods on a (recently) rising scale. The sector is now much more open to competition, in line with what is happening in Europe today. In fact the Swedish defence industry would never survive without exports. These are however covered and handled by our own governmental agency under the MOD: the FXM, led by Ulf Hammarström.

How are relations handled logically between the Swedish Forces, the government and parliament, and with you in between? In the end, it's the politicians buying the equipment...

Yes, after we are all through with providing our expertise, the government – after the parliamentary process – takes a decision to acquire this or that plane, ship, truck, pump – whatever. The relations between the armed forces, the government and parliament are of course that the former needs the decision to be made by the latter, in order to meet requirements. But when they [the armed forces] have got this decision, then it is up to them to give an order to us at FMV to start an acquisition process, to issue RFIs and RFPs, to do contract-negotiations, and so on. The process has changed over time. Previously, there was more direct procurement by the forces, which by the way – after a shift in defence policy some years ago – are now professional forces without conscripts. They now participate in more and more missions abroad. This has influenced

their training, their materiel needs, and many other things. Now every single platform or item – above a certain value or for logistics – that they acquire is processed by us. Here is your 'octopus' again [laughing]. But those altered demands also mean that we ourselves need to adapt, to be more flexible, to provide the latest technology, to be interoperable with other nations...

Which was not the case before...

Not at all. Much of the technology was developed to be used only in Sweden, like the C2- or earlier datalink-systems. Today everybody uses Link-16. Or the first series of 'Gripen' [JAS-39A & -B] – these aircraft were purely tailored to be used only by the Flygvapnet [Swedish Air Force], but now in the world of international missions, our equipment needs to communicate with others. What also is a whole new approach is our relationship with the armed forces. More and more, the life-cycle-perspective comes into consideration.

Is there a separation between divisions or departments within FMV if the materiel is acquired through Swedish production or brought in from abroad? I believe there were recent changes in your structure...

Firstly, no, there are no dedicated people or staff just working on Swedish products or on foreign materiel. These are the same people – they are my experts for everything! Often they are engaged in parallel processes and sometimes some of them are in negotiation-teams abroad – as some are now in Brazil – or are shaping contract details here. They come from different departments, of course. But they're not tailored to where the materiel is coming from. Secondly, yes, from January 2013 on, there was a transfer of personnel from the Armed Forces to FMV. This was necessary as we are now – as said – also responsible for all those life-cycle perspectives, including backup logistics, workshops, services and storages. So we also have to care for the fate

The Södermanland-class for Royal Swedish Navy are being modernised at Kockums, including the installation of the Kockums-developed Stirling AIP system.



of technical equipment over its lifespan, to secure its function with spare parts, and everything else, as well as aspects of modernisation and upgrades. The Forces' so-called 'Technical Office' is thus now part of FMV. This means that we have increased our staff from 1,500 to 3,400.

A number likely to increase further, I assume, when Sweden will again construct new submarines. Could you please give us an overview as to what the recent issues were behind the rift with the German TKMS-run Swedish branch of the former KOCKUMS-yard because of these submarines? FMV played a leading part in that, correct?

Yes, our agency did play an important part in this episode. I will explain, as this is important and of interest, and not only in Sweden. Because of the special conditions in the Baltic Sea, our country remains committed to the maintenance of a national capability for the design, development, build, operation and support of conventional submarines and other underwater-systems. The submarine is one of the most important tools in our Swedish military arsenal. Although there has

been a shipbuilding capability through the KOCKUMS yard for centuries, it was given up in the 1990s mainly because they could not economically and technically cope with the shipbuilding standards on the civilian side. They retained the military one, for things like corvettes. In 1999, the whole yard was sold to German HDW [Howaldtswerke-Deutsche Werft], which in turn was acquired by Thyssen-Krupp in 2003/4. So what was KOCKUMS became a separate Swedish branch next to their own marine-systems division [TKMS]. However, in building submarines, both branches were in competition; the German one and the Swedish one, based on their different propulsion technologies [German fuel-cell versus Swedish 'Sterling'-engine]. When it was decided in 2010 that there should be new Swedish submarines, there was an agreement with them that the IP [Intellectual Property] on that inherited Swedish technology should remain in Swedish hands, and therefore in FMV hands.

And also an agreement for possible exports, right? Although I understand the German side did not support this...

That's about right. But by then it was still our intention to find a solution to work together. However, it was not possible. No conclusion was acceptable from our side. Sweden got very limited support by the German owners to share the costs in this project. It was one of the reasons that we at FMV lost confidence and did not want to move forward with this kind of 'cooperation' together with TKMS on what was then called A26 and which was subsequently terminated. The main issue was their previous decision to downsize export operations and restrict their Swedish-branch from their freedom to independently bid on major ongoing submarine construction projects, such as in Singapore, Norway or Australia. The current six Australian boats [Collins-class] are KOCKUMS designed, by the way. They promoted their own AIP-concept, but we did not like a 'mix' of both technologies. We wanted to keep it divided, with Stirling engines, signatures, et cetera. So we could say that all this was wrong, but in the end they were the owners. That said, their restriction basically removed our ability to pursue our national key-interest and to internationally cooperate on submarines. We could not afford to shoulder these costs alone. We do not want to become a dedicated exporter of submarines, but we need to be able to share the burden when it comes to parts of the boats, their sub-systems, their future life-extensions, their upgrades, and so on. We need real partners for this. But under this regime, with their downsizing of the Swedish branch, it prevented us from maintaining and developing Swedish national security interests in the underwater arena, as there were no prerequisites for Sweden to share the costs. The skilled staff and workers at the site did not see a future. We were losing them to employers like the Norwegian offshore-industry. So we were afraid to lose this whole capability, including the human resource. It was a very unsatisfying situation and in the end, one can say that the sale in 1999 was a mistake...

So, at some point during this unsatisfying process, someone must have had the idea to

ask Saab if they could also build submarines?

(laughing): Yes, the 'someone' was me! I asked Saab to go into submarines. We needed a Swedish entity to consider and manage an orderly takeover, to see if they could form the basis of our future. They have been involved in the Australian boats, but were never responsible for the whole design, the pressure hull. That's new for them. Therefore in late February, FMV ordered a study by Saab, investigating the feasibility of a consolidated security strategy for the underwater sector and the next-generation submarine, both in terms of design and production and long-term supply solution. Based on that study, Saab has meanwhile received contracts worth about SEK 460m [€50m] to generate and finalize the construction and production plans for this NGS, or 'Next Generation Submarine', as we now call it, and for the mid-life upgrade of the older 'Gotland'-class boats as well. They also started to recruit former TKMS-KOCKUMS engineers and shipworkers – over 140 in one month. By April, TKMS has lost almost all human capability to proceed and decided that they finally want to sell KOCKUMS. Then a 'letter of intent', regarding the establishment of a longtime arrangement or framework to sustain the Swedish forces' underwater capability from 2015 through to the mid-2020s, was signed by FMV and SAAB on June 9. Upon receiving the necessary political approvals, it covers potential orders valued at SEK 11bn [€1.2bn]. By July 22, the sale of their facilities in Malmö, Karlskrona and Muskö to Saab was completed, for a purchase price of SEK 34m [€37m]. These steps – after my 'idea', as you've called it – might indeed see Saab becoming a full-service provider of submarines for Sweden – and maybe later for others countries...

Were there not searches or a 'raid' of TKMS-premises by FMV in early April, under the support of the military police? I recall hearing of employees locking the gates and refusing to release confiscated material. Rather unusual for friendly nations...

It sounded more dramatic than it was. There was no violence involved. But it is a fact that we had some hardware material there; Swedish intellectual property. We were required to protect our IP. I also want to emphasise that we have no conflict with Germany, just with this company, TKMS. You are however right – it looks tough for us Swedes. But as explained, it was a key issue for us.

Weren't there also some obligations included, involving the government having to care for the environmental cleaning of the former KOCKUMS shipyard at Karlskrona? Or even to assume ownership of the facility? When I was there with the 1st Flotilla a few days ago, there were fresh Saab signs and flags at the entrance.

The latter is correct, Saab took over those buildings only days before you were there. There is a possibility that the Swedish government is required to take ownership to lease the facility back to Saab, while at the same time assuming liability for that necessary environmental remediation in the yard. But this is not decided yet.

To round things up, the coming A26 or NGS will be built by Saab at the re-nationalized yard at Karlskrona. What timeframes are being targeted? The 1st U-Boat Flotilla at Karlskrona said to me that they hope the Gotland-class will be modernised by the time the first A26 comes in, early in the next decade. Is this how FMV and Saab are planning to time things?

Yes, that is the way it shall happen. Regarding the timeframes in the signed framework-agreement for around SEK 11bn, Saab is ordered to finalise the planning. In parallel, and also included in the framework, the upgrade of the Gotland-class will start in late 2015. The construction of A26 or NGS should then be launched in early 2017 and we hope that the Gotland modernisation and the first operational NGS will coincide in 2023. We will also do a life-extension on the older

Södermanland-class, because we need to have two – or even better, three – operational submarines in the Baltic at any time.

‘We are actively engaged, within the EDA and by Saab, in the development of a collision-warning and sense-and-avoid system for UAVs’

Let's talk about the future of Gripen, your other next critical ‘programme of national interest’. It also has some export-potential, such as to Brazil, after the Switzerland deal fell through. There will be 60 new Gripen-Es for Sweden's Flyvapnet, right?

The Defence Commission of the Riksdag has a proposal for 10 more, but they decided they indeed have need for the 60. A major train of thought now is that we share the costs with an international partner, or several partners. Since Switzerland fell off – although they will need to do something about their fighter programme in the next years anyway – the main focus is on Brazil. Negotiations are going quite well and we expect to have the contract on their 36 signed by the end of the year. Our FMV people are involved in the background in the sense that while it is being overseen by FXM [the Swedish defence-export agency], it is also us who are negotiating with the Swedish manufacturer, with Saab. But contrary to the G2G (gov-to-gov)-leasing with the Czech Republic or interim-solutions proposed to Switzerland or perhaps Brazil, we at FMV will not acquire or own these 36 jets. Nevertheless, there is a Gripen project-body within FMV.

When I was in Switzerland last year, it was always being said that there would only be a single-seat Gripen-E. No F two-seater. Not even for Sweden. Is it true that there are no twin-seaters at all in the distant future? Is that the current status?

Yes, that is the current status for Sweden and it would have to also be the case for Switzerland. With advanced simulation for the tactical systems and by using the Gripen-D for conversion up until 2025, we consider a 'new' two-seater as not necessary. But that does not mean that there will not be one. Brazil definitely wants them and with its industry will even participate in its creation. Of course, FMV will still support the -C and -D-versions for our export customers. The Czech Republic has extended their lease, there is Thailand, Hungary, and others. There is also quite an interest in them on the market, such as in neighboring Slovakia. You know, the Gripen is high-end technology and affordable. Another argument for it, more and more, is in its life-cycle-costs. It's much cheaper to operate and maintain than the other types out there.

The 60 planned are to form the spearhead of the 'Flygvapnet'. So these are undisputed by the Swedish politicians and national media?

Well of course the politicians hope that there will be an agreement with Brazil to share the costs, but even beyond that – for Sweden alone – the Gripen programme will go on. In the current and changing security environment, particularly around our region, we need those new fighters and we need this industrial core-capability. I think there is common sense in that.

As you have said, you at FMV 'acquire' the jets. Are you able to tell if those 60 will be truly new-built? I ask this as the past C-airframes for Hungary turned out to be refurbished A-cells. Is this approach still being undertaken today for the Flygvapnet?

Yes, you're right. For the coming 60 or 70 E-versions, there will be some parts re-used or refurbished. But the vast majority of the new plane will be new-built. In the beginning, it was even planned to use more of the C/D parts in the E-version, but with the other fuselage and the gear somewhere else, most of it will now be brand new. It will be based on trusted technology, but a whole other step further.

What other key-technologies do FMV have an eye on?

Well, the new Gripen will be nothing without proper armament. Of major importance therefore is the METEOR BVR-missile. Other partners, like the UK, are quite impressed by the fact that Sweden will be the first one taking this into operational use. We are also continuing with our artillery output. The 'Archer' programme suffered some problems when the Norwegians pulled out, but we will continue with it. Then there is the renewal of mid-range ground-based air-defence. However, this will not be undertaken alone; it will be acquired from abroad in collaboration with the Swedish industry. Then there are more modern command and control systems being developed to equip the ground forces.

We have spoken a lot about your role in the exports of Swedish-made equipment. But to the contrary, if Sweden buys some equipment – like American Black Hawk helicopters, for example – then doesn't FMV also have a decisive role to play?

Yes, of course. RFIs and RFPs are going out from this building and all negotiations are happening here. We are responsible for all acquisitions. We have people going to Farnborough, Le Bourget and the Dubai Airshow to look into the markets to know what is going on and what is being developed, and by whom. This is not to be confused with what, say, Russia is developing a decade from now or what might be an emerging threat to us. This is more done by FOI and by the forces' intelligence-service.

FMV is directly involved in the developing, collaborative nEURON UAV project



FMV also takes part in a number of multinational development projects, such as in the nEURON UCAV. I'm assuming the Swedish flag in its organigram represents FMV. Are the Swedish forces pressing for a high-end unmanned system in this class? To replace or maybe even to supplement its manned systems?

Yes, this participation in the nEURON project, which is a research and validation programme, also means the involvement of some of my staff. If you look at the long-term defence planning of the Swedish forces, this is definitely part of the future...again – in the long term. I also do not think UAVs will fully replace manned platforms but will become an increasingly invaluable aspect of support over the whole portfolio of armament systems. We have seen this in Afghanistan, to search and control an area very effectively, and at a lower cost. However, this UAV subject has become a little sensitive in the Swedish political debate because of how the U.S. has used them.

We are following the developments of the nEURON without a decision yet as to its [utility]. But we are actively engaged, within the EDA and by Saab, in the development of a collision-warning and sense-and-avoid system for UAVs, which is what they have the most prominent need in seeing to maturity as these aircraft will some day be flying in civil airspace. It is called the MIDCAS or 'MIDair Collision Avoidance System'. We are following these developments very closely because the Armed Forces will definitely need this technology. We will also need it for the underwater arena, since we are a maritime nation. But how we will use all this in the context of upcoming unmanned potential, that's another story...

Thank for your extensive time, Mme. Erixon. All the best for your projects.

Thanks for your professional interest, see you again in Sweden!