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## Round Table discussion on the Netherlands Submarine Service

This is the written contribution on submarine services and the vision paper according to your invitation.

### Swedish principles and perspective

International cooperation and development on submarines has to be seen in a security policy context. The Swedish Government declared the underwater area as an essential national security interest in 2014.

Sweden has a sovereign capability to design, develop, construct and maintain submarines. We have developed a model that effectively minimizes risks and allows us to produce submarines at a low cost.

Sweden is currently in the build phase of the A26 submarine and Gotland Midlife Upgrade programs. These projects will secure our submarine enterprise for a number of years. However, in the longer term it is a challenge for Sweden to fully fund this enterprise. We are therefore looking for strategic partners.

The competence needed resides in the Swedish submarine enterprise, comprising both authorities and industry. The main actors are the Royal Swedish Navy, FMV, FOI and Swedish industry.

The Swedish experience from international cooperation is that it is challenging. Cooperation is less challenging if you have common objectives, cultures and similar approach and ways of working. Our experience of cooperation with the Netherlands, for instance in procuring auxiliary ships, is that it has worked well and been fruitful for both nations.

We have great respect for the Dutch submarine service. The Walrus class sets a world class benchmark for the new submarine program. The valuable experiences gained with the Walrus Class must be an important factor in development of a new submarine.

The submarine's most important characteristic is its ability to remain undetected. Being in control of your signatures allows you to develop a highly capable underwater capability. Only by national knowledge and capability to specify and procure you get a product which you can't acquire on the market. Submarines on the market are optimized for commercial purposes.

Knowing the cost and effort required to maintain a complete capability, our advice to the Netherlands is to seek cooperation.

Swedish submarine design is modular, therefore allowing production of different sections and equipment involving different parties in various locations. It is essential that the process is managed by one experienced submarine builder that can manage the integration.

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There is a potential for a major Dutch industry contribution within the Walrus replacement project. If the Netherlands chose to continue a high end submarine force, a significant domestic submarine engineering knowledge is required.

If a strategic partnership is established, there is a possibility to co-operate on research and development, training, education, maintenance and upgrades that could even more reduce life cycle costs and improve the capability. Sweden and the Netherlands have different operational needs and will therefore have different submarines. The submarines could however share the same “DNA” and have many commonalities on subsystems and components.

## Reflektions on the Vision paper

We have studied the Vision Paper. There are many similarities with Swedish conditions, looking at the importance of submarines, how submarines provide a unique contribution to national security and the need for international cooperation.

I note that the Vision Paper states “Cooperation with Sweden will be heavily influenced by the interests of Swedish industry. This could restrict the possibilities for a good positioning of Dutch industry...” In fact FMV owns all relevant Swedish submarine intellectual property (IP). Industry is acting in line with the national interest, not the other way around. Our objective is to enter a strategic partnership with a suitable partner. In my view the Netherlands would be a very suitable partner. The partnership should be governed by strong government to government agreement and sharing of knowledge and resources.

Noting that the Walrus needs to be replaced from 2025 our experience tells us that it is time to start. The development of a new submarine is a very complex and demanding undertaking where time and effort should be invested early in clearly defining the project order to reduce risk. It is essential to balance requirements and budgets.

Future proofing. The submarine has a relative long lifespan. It is impossible to specify the submarine at the outset to cover the evolution of new technology and threats over the next thirty or forty years. The submarine must therefore evolve during its life to stay relevant. It is often expensive and time consuming to upgrade complex systems. The challenge is to manage this process in an affordable way. Sweden has futureproofed the new A26 class by a flexible and modular design, not only including traditional growth margins. The modular design allows modules to be replaced and new hull sections to be added.

Flexible payload. We recognise the evolution of unmanned underwater vehicles and the possibilities emerging is the use of unmanned off board systems. Sweden has developed a large Flexible Payload Lock that will be introduced on the A26 class. Only your imagination limits what you can do, free of the limitations of the traditional 53 cm torpedo tube.

Availability becomes more important with a small number of submarines. Our experience is that it will be difficult to maintain a capable force with less than four submarines. Sweden has increased the operational availability from over 70 to over 80 % by extending the periods between overhauls and shortening the overhauls. This has been made possible by condition based maintenance, modular design allowing replicable units and expedient upgrades.

SWEDISH DEFENCE MATERIEL ADMINISTRATION

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