

Summary of Sjømilitære Samfund's Sea Power Seminar in Ulvik

The first day was titled **Submarine Capability beyond 2025**

by J J Jensen

This part of the Sea Power Seminar was conducted in English to accommodate the foreign speakers and participants. Hence, this short summary is in English. SMS Vice President, Captain Svein Erik Kvalvaag, opened the seminar and expressed a hope that it would give valuable inspiration for what kind of submarine capability Norway would need and could expect in the future.

Thereafter gave Director of the Norwegian Institute for Defense Studies, Doctor Rolf Tamnes, an overview of the "Strategic setting – National challenges beyond 2025" where he touched upon Globalism and Disintegration with threats from failed and roughed states, insurgencies, criminal networks, terrorism, weapons of mass destruction, long range missiles and cyberspace challenges. Most military powers are now equipped and trained for international operations and there is a shifting balance with more maritime global commons. China is rising quickly as a new superpower and USA is rebalancing with less focus on Europe. There is an ongoing transformation of the Arctic with increasing gas and oil resources and new transcontinental maritime routes which puts greater emphasis on soft securities. Russia is still the great power in the Arctic but China shows increasing interest in the region. Shaping of the armed forces must take domestic and economic considerations and threats and risks must be evaluated. Main roles of future powers are international operations, constabulary missions (such as protecting sovereignty, enforcing law and dealing with soft security), defensive and offensive operations as well as strategic operations.

Norway seems better prepared than many others but will still be depending on allied support. It is, however, mandatory to maintain balanced and collective forces with at least a minimum threshold defense. He concluded that submarines will remain very flexible weapons and will still represent a huge potential in strategic operations.

Chief of Branch Elling Tveit, Director of the Maritime Systems Division at the Norwegian Defense Research Establishment (FFI), gave an overview of nations operating submarines. He started with a trip through submarine history from The Turtle in 1775 to the latest Type 214, state-of-the-art conventional submarine built in 2007. Since the end of the Cold War, the total number of active submarines in the world has fallen, largely as a result of the large-scale decommissioning of former Soviet vessels and as a result of decreasing economies. But the number of countries operating submarines has increased and several countries are planning to renew their submarine fleets. The group of exporting submarines remains relatively small, and France, Germany and Russia are the most active exporters.

The technological development has main focus on covert operations with low signatures and Air Independent Propulsion (AIP) for conventional submarines. Better sensors and effectors against other targets and with different effect than heavy weight torpedoes are developed, and more nations operate with Sea Launched Cruise Missiles.

Acting Commander Norwegian Submarine Services, Commander senior grade Pål Øystein Hope, briefed about the Norwegian Submarine Serviced. National experience from over 100 years in service and some thoughts about the future; with, as he stated, a hope to convince the audience that

Norway needs a strong submarine service also in the future. Norwegian submariners have long and strong traditions having celebrated their 100 years anniversary in 2009 and having started military flying in Norway by submariners in 1912. (See NTfS 4-2012. Red. Anm.).

The Norwegian submarine fleet has consisted of six different classes through the years, from the A-class in 1909 to today's Ula-class, with a total of more than 40 submarines and only one loss; HNoMS Uredd who ran into a minefield during a mission in Northern Norway in 1943.

The Ula-class was delivered from 1989 to 1992 and has been in service for more than 20 years. The class has been designed and redesigned to fit changing environment and missions but the hull is still the same and aging. Ula was designed for anti-invasion and Cold War operations but the situation today has changed dramatically and is much more complex. Complex and dynamic situations demand flexible and dynamic submarine operations and multinational and joint operations call for a wider specter of communications and faster information exchange.

The national politicians have decided that Norway shall have submarines after 2020 and will soon decide if we are going for a System Life Extension Programme of the Ula-class or procurement of a new submarine class. Based on experience from the service update programs, also in other navies, the technological developments and the limited possibilities with the Ula hull, the recommendation from the Norwegian Submarine Service is indisputably that Norway needs new submarines with AIP. In 2025 the Ula-class will be 35 years, so time is of essence.

This presentation was followed by political statements on future submarine capabilities from two Members of the Norwegian Parliament, Svein-Roald Hansen, Labor Party (Ap) and Lars Myraune, Conservative Party (H) who both agreed that Norway should procure new submarines.

After lunch, Rear Admiral Patrick Leroux, Naval Adviser Submarine Division, DCNS, France, together with the Naval Architects Xavier Itard and Janusz Przyklang, gave a presentation on Submarine Capabilities beyond 2025, Research, Development and Driving Factors. They started with an overview of DCNS with its more than 350 years experience in Naval Defense and pointed out the main improvements in submarine technology through the years. Today submarines need to be fully integrated inside naval forces and are thus dependent on interoperable communications and data links. Improved detection and intelligence gathering means requires further emphasis on covert operations, and submarines will be employed in a much larger specter of operations than earlier. Though displacements remain similarly, the number of people onboard has been drastically reduced.

The submarine contractor community is small, and submarines are complex platforms. Modifying existing submarines can only be performed to a limited extent, whilst new designs can be tailor made, even though there are limitations due to natural laws of e.g. balances between weight, volume, electrical and thermal. The decision between the options is a long term political choice and must be made right. Time is an important issue. The most demanding requirements can be met by 80% and the important issues by 95%, but everything is not possible. To obtain a successful result dialogue between user and designer is mandatory, and it is important to develop for the future.

At closing of this part of the seminar, Vice President Kvalvaag thanked the speakers for valuable, interesting and enlightening presentations which convinced the audience of the importance of

submarines in naval sea power and remarked that the Norwegian politicians have agreed to join hands in the effort of procuring new submarines in the future.