MAKING THE RIGHT CHOICE
– COMMAND AND CONTROL
SYSTEMS FOR LAND AND MARINE PLATFORMS

Architecture · Battle Damage Resilience · Usability · Integrated Logistic Support · Through-life Costs

THOR® – TACTICAL HEADGEAR SYSTEM FOR CHANGING OPERATIONAL REQUIREMENTS

savox
You’re never alone
The Savox Tactical Headgear system for changing Operational Requirements, (THOR), has been designed and developed to meet the needs of all arms of the Finnish Defence Forces (FDF), as well as Special Forces, Marine and SWAT units and a wide variety of other potential military and security end users.

**What THOR is**
THOR is a sophisticated, versatile, easy-to-use tactical headgear system offering a versatile and modular head-mounted solution for a wide range of military and security personnel for use in an equally wide variety of demanding and extreme battlefield, covert and security scenarios. THOR has been designed to meet the challenges of changing operational requirements on the battlefields of tomorrow.

**What THOR is not**
THOR is not a simple, ballistic helmet.
Integration Expertise and Pedigree

Finland’s Future Warrior 2020 programme is all about integrating items of equipment on the soldier, which is exactly the kind of work Savox has been conducting and perfecting for many years. The company’s integrated solutions, whether for a fire fighter, a policeman, the coastguard, or a soldier, have all been designed and developed, from the outset, as integrated systems.

This holistic approach ensures the optimum performance under even the most extreme circumstances, without the problems often associated when combining disparate items of equipment from various sources to form a whole solution. Instead of helmet producers, communications providers, or NVG makers all focused on their own core capabilities and working in isolation, all these players and elements had now been brought together to collaborate and make one complete headgear system for the FDF programme from the outset.

And where other companies involved in the programme had no integration experience, it was Savox’ integration expertise, as well as its experience in developing solutions for use in tough environments, e.g. where explosive, fire and mechanical hazards exist, which underpinned its choice as prime contractor by the FDF.

This whole approach has meant that Finland’s future warrior consortium under Savox has effectively started with a clean sheet of paper and set about making the best integrated tactical headgear solution possible, from scratch.

From an Expert Consortium Led by Savox

Savox Communications Oy is one of the largest professional communication solution providers in the world, with operational presence in more than eight countries and over 30 years of experience serving the police, security, fire and rescue, military, maritime and industrial markets. The company offers unprecedented experience in providing communications products designed for use in the most demanding and hazardous environments.

Despite its relatively small size, Finland has a high concentration of high-tech companies all of which, like Savox, are experts in their respective fields. Together with the defence industry partners, Millog Oy, FY-Composites Oy, Savox realized the opportunity for a domestic future warrior programme in the light of existing programmes both within and outside of NATO.
THOR® – Meeting the Needs of the FDF

With a variety of future warrior programmes already underway in a number of countries, e.g. France, UK and the US, Savox and its existing helmet consortium partners, Millog Oy (for NVGs) and FY-Composites Oy (for ballistic protection and the prime helmet producer for the FDF for many years), began discussions in 2004 on the best approach to take for the development of a future helmet solution.

The companies (the consortium) had identified that these future warrior programmes were already facing challenges such as NVG, communications and protection integration problems, though few were addressing this issue as a high priority, focusing more on such things as weapon systems and combat management software.

At the time in Finland, the FDF had not initiated any future warrior programme of its own. This presented an opportunity for a collaborating team of companies to engage with the FDF and show them that the domestic expertise, skills and knowledge-base within the ‘four walls’ of Finland would fully support a programme of Finland’s own and be able to meet the fullest set of requirements.

The consortium shared initial ideas about an integrated modular helmet solution as part of any such programme and then engaged with the Association of Finnish Defence & Aerospace Industries (AFDA), a non-profit organization financed by its more than 50 members and covering the defence industry sector in Finland. [The association’s main mission is to enhance the competitive development of the Aeronautics, Space, Defence and Security Industry in Europe in partnership with European institutions and member associations.] Under the umbrella of this organization, Savox and its colleague companies organized themselves into a single entity for their future warrior proposals, making it easier to hold discussions with the end user and acting as one voice for the whole of the sector rather than separate entities.

After some five years of open dialogue between the FDF and the industry organization the Future Warrior 2020 programme was born. Research began in 2010 with Savox taking the lead as prime contractor role in the FDF PVT02010 Research programme. It was at the RFQ stage, however, when the FDF’s full set of requirements became known, that a large gap for tactical headgear became apparent in the requirement. Savox responded to this challenge in a matter of weeks...
by creating the proposal for a new integrated tactical headgear system and presented it to the customer. The FDF responded by including the headgear requirement as part of the overall Future Warrior 2020 programme and allocated fresh budget for this part of the project.

At this stage, there was no design concept for what was later to be known as THOR, so the industry team set about interviewing all the relevant, different arms within the FDF to ascertain what their needs and expectations would be from a future warrior programme. The team needed to know and understand what these units saw as the most important capabilities from such a programme, and what the different priorities were for each unit.

Once this wealth of data had been gathered – including what capabilities and working principles were expected from new tactical headgear – the data was consolidated and the full set of requirements for a Finnish future warrior programme was presented to the customer’s project steering committee. Based on these findings the future warrior programme was specified and the Savox team began to develop the concept of the THor Tactical Headgear System. It should be noted that during the early discussions the consortium not only produced its system proposals on paper but also as physical prototypes, based on its research. Two major and extremely thorough prototype rounds, one in 2011 and the second in November 2013, were conducted. These included exhaustive field and usability testing. This approach and effort met with a very positive response from the end user, contributing to the consortium, led by Savox, becoming a lead partner for the Future Warrior 2020 Programme.

THOR® – The Best of the Best

What makes the Finnish Future Warrior 2020 Programme one of the most important advanced programmes of its kind in the world is that advantage has been taken from its relatively late start. While this puts time pressure on all consortium members to deliver under a tight timeframe, it has also given the FDF and the consortium the opportunity to look carefully at all other programmes already underway. The FDF’s Future Warrior 2020 Programme manager, for instance, is an expert in all the main programmes happening within NATO and Western Europe, having followed them from their earliest beginnings. These include: the French Félin, German IdZ, Norwegian NORMANS, Swedish MARKUS, and the UK’s FIST programme, as well as the US Army’s FFW programme, part of their broader Future Combat Systems Project. As a result, the most important aspects of each, from an FDF viewpoint, have been selected as relevant, or rejected as unsuitable. Savox also conducted benchmarking with the other Scandinavian programmes, as well as the UK’s FIST programme, to bolster its own expertise and clear understanding of the best possible solutions that would suit the FDF requirement.
THOR® – TacTical HeadgeaR SySTem

The Tactical Headgear Market

Countries with their own future warrior programmes, as well as many countries without, are all potential users of the THOR Tactical Headgear system. The major reason for this is that the Savox product does not have any real competition at this time due to its unique ‘integrated-system’ approach. The Savox THOR Tactical Headgear system is, therefore, a suitable solution to meet the head-gear component of some of the major future warrior programmes currently underway mentioned above. It is, however, those countries with no domestic programmes of their own and which are looking to acquire this kind of capability from existing programmes, which offer the greatest potential markets for the Savox THOR Tactical Headgear system. Markets in the Middle East, Europe, South America and East Asia are of particular importance and are those which might benefit most by adopting the THOR Tactical Headgear system.

THOR®, the Savox consortium has developed an easy-to-use product that can be modified to meet the needs of different users and user scenarios. These might include both operational and training scenarios. The helmet shell, for example, is an individual system component that can be removed during training, while maintaining all other features.

Though lightweight, the THOR system offers state-of-the-art ballistic protection through its ‘boltless’ helmet shell component, which is based on the latest Dyneema® and aramid material technology. The latest thinking in ergonomics has also resulted in ultimate comfort and stability and a system, which does not create fatigue like many solutions currently in use, which rely on basic helmet concepts. Because the main sub-systems and components have also been specifically designed for the THOR Tactical Headgear system, the highest level of integration reliability has been achieved, thereby ensuring total harmony between the individual elements of the core system. In addition, there is also a full degree of flexibility through THOR’s direct compatibility with standard Picatinny rail-mounted accessories, should the end user wish to add these for specific operations, e.g. cameras, illuminators and beacons.

Due to the modular nature of THOR, another major benefit of the system is its ‘long shelf life’, which is a factor hugely important for any operational unit taking a new piece of equipment into service.
THOR® – TacTical HeadgeaR SySTem

Beyond the technological, there are aspects of the Savox THOR Tactical Headgear system, which are very compelling from a procurement viewpoint. Procurement organizations today are trying their best to take on and push through to fruition as many projects as are cost effectively possible. Any procurement that can make their lives easier by streamlining the process will be of major benefit; procuring the Savox system does exactly that.

THOR combines several different elements into a single, fully integrated system. Were a procurement organization to purchase all of those different elements separately, it would need to create individual RFQs for each part of a solution, i.e. for the helmet, for the communications, for the NVG, to name but three and it would then need to manage three, four or five corresponding procurement projects, instead of just one. And three, four or five times the resources will similarly increase costs to the same degree.

From a buyer’s perspective, therefore, the Savox THOR Tactical Headgear system 2020 offers a one-stop shop approach to the procurement of a future combat helmet system. An approach that not only makes it easy to buy but delivers a system with longevity and a fully integrated set of capabilities that will meet tomorrow’s operational needs, all from a single procurement.

Another major advantage of procuring THOR is product liability. Savox takes on full responsibility for the total system ensuring all individual elements have been approved, and have also been integrated correctly to ensure they work perfectly together, as intended, in the complete system. Were each of these items procured separately, however, no single vendor would have overall responsibility for equipment approvals and verification other than for their own items, nor would any one company oversee integration and interoperation between the different headgear components. With no prime contractor to turn to, the end user would end up with the responsibility to assemble the final ‘system’ with all the inherent problems that can result from such an arrangement. If one of the component parts of the system becomes out dated, for example, no one would be responsible for configuration management. In the case of THOR, however, Savox, as overall prime contractor, would be responsible and provide all the compatibility information needed on any components suitable for an upgrade.

In summary, a buyer who opts for the THOR system embarks on a single procurement project and process, with one procurement contract and a single set of documentation. That’s not to mention the peace of mind knowing they have a single prime contractor acting as their point of contact for any, and all, issues.
“TODAY’S INTENSE BATTLE FIELD REQUIREMENTS ARE RAPIDLY CHANGING. THE WAY THAT YOU USE YOUR EQUIPMENT IS CHANGING. THE WAY YOU CAN PROCURE THESE NEEDED CAPABILITIES HAS NOW CHANGED!”

Savox THOR® – TOTAL INFORMATION SOLUTION FOR YOUR PROTECTION.

THOR® – Encapsulated

The Savox Tactical Headgear system for changing Operational Requirements - THOR - is a fully integrated and versatile headgear system able to meet all the needs expected of such equipment from any military force, or security unit, well into the future. THOR is probably the most capable, sophisticated and versatile combat headgear system available anywhere today.

Not only that, but THOR is available to procure through Savox’ efficient, streamlined one-stop-shop that will provide the highest level of after-sales service support throughout the product’s lifecycle, including the fullest, dedicated, spares service.

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NB: Thor

Thor was the Norse god of thunder, an ancient and highly revered divinity who was the patron and protector of peasants and warriors. As a god of might and war he was represented as extremely powerful and fearless, armed with a magical hammer, iron gloves and a belt of strength.