



FINABEL

EUROPEAN ARMY
INTEROPERABILITY CENTRE

NEW TRENDS IN ARMY INNOVATION WEBINAR

On November 24, 2020, Finabel Permanent Secretariat hosted a Webinar on "New Trends in Army Innovation", an event through which we launched our new armyinnovation.eu platform. The webinar was a success, and it focused on the latest trends and projects in army innovation from a military, industrial and academic point of view.



MARIO BLOKKEN

DIRECTOR OF THE PERMANENT SECRETARIAT AT FINABEL



Mr. Blokken introduced the EU Army Innovation Platform, which was created following the request of some of Finabel's Member States.

- The purpose of the platform is to reduce the existing gaps regarding cooperation and knowledge sharing when it comes to innovation and its implementation at operational and tactical levels. Therefore, the EU Army Innovation Platform seeks to create a triple helix between the Army, academics and industries to allow these three actors to maximise their efficiency in Land Forces innovation.
- Despite being challenging, innovation remains necessary to foster improvement and transformations. The innovation process cannot take place without focusing and investing resources in soldiers' training and education first, generating the necessary agility, resilience, and adaptability.



MAJ J. FRANSSEN

INFORMATION & INNOVATION MANAGER OF THE LAND COMPONENT COMMAND AT
THE BELGIAN DEFENCE



Major Franssen presented the latest trends in Military Innovation and placed particular emphasis on the following points:

- **Mobility:** There is a need for lighter and more mobile transport systems in all domains; air mobility in particular could be further improved, as it represents the future for land forces transportation thanks to reduced navigation issues and mobility requirements.
- **Energy shift:** More and more technologies are becoming electricity-based and require a stable source of energy. These types of technologies could significantly change the way we deal with energy and, given the issues currently linked to petroleum-based fuels, moving from liquid energy to high energy batteries and alternative fuels will be fundamental.
- **Fusion:** Soldiers carry a variety of devices, which are extremely heavy and require different types of batteries and battery management systems. Robot dogs, however, represent an innovative solution that can reduce the load of equipment carried by soldiers, increase their mobility and situation awareness skills.

DR. JACK WATLING

RESEARCH FELLOW IN LAND WARFARE AT RUSI



While he emphasised that innovation without failure does not exist, Dr J. Watling also presented three issues that need to be addressed when studying military innovation:

- The need for more modular systems, open architectures and mutually agreed interfaces. In many cases, it is rather difficult to modify the functioning of a system as it often requires the redesigning of a large amount of pieces, new certifications, the withdrawal of older equipment; many aspects which considerably raise the costs for improving new products. In addition, national markets are becoming increasingly small, especially in Europe where military budgets represent only a small fraction of the overall state expenditure, calling for Europe-wide common technical frameworks
- New products tend to respond to very specific needs, have a very limited use and their small-scale production can significantly raise costs. Instead, efforts should be focused on scaled-up, multifunctional and cheap production lines, which in turn make it easier to evaluate to what extent the product can be used by the military.
- Integration is fundamental. Products should be developed to easily be transferred into armies' existing architecture and doctrine.



BEN WOLFF

CHAIRMAN AND CEO OF SARCOS ROBOTICS



- Mr. Wolff presented the history of his firm, whose main goal is “to leverage the best of men and machines to increase output and decrease injuries with dual-use robotic systems”. He added a few recommendations for successfully developing military innovation.
- Mr Wolff explained that it is necessary to set up clear objectives and needs, to work on new paradigms instead of focusing solely on incremental innovation, not to be afraid of failure, to pursue collaboration with other industries, to use existing technologies in order to cut costs and speed up product development, and to invest in sectors the industry is uninterested in. He emphasised that requirements have to follow innovation instead of leading it.
- Sarcos Robotics, which was founded in 1983, has been focusing on the production of exoskeletons assisting soldiers during missions and physical activities such as logistics and handling. The firm successfully built partnerships with other industrial actors and with the military sector itself. Mr. Wolff explained that humans will remain at the heart of technological innovation -at least in the military field- because of their superior analysis and processing skills as opposed to supercomputers’ significant use of energy and technical limitations.



FINABEL'S CONSIDERATIONS ON WHAT HAS BEEN DISCUSSED DURING THE WEBINAR

FINABEL SHARES A VISION OF INNOVATION THAT COULD BE SUMMARISED AS FOLLOWS:

- Shifts in military mobility, energy supply and fusion are taking place;
- More electric devices are necessary as they could be a solution to diesel supply issues and could reduce the load that soldiers have to carry on the battlefield;
- Technology should be considered as a mean to an end and not as an end itself;
- Humans are still better than autonomous systems: AI should complement human intelligence and not replace it.



FINABEL'S CONSIDERATIONS ON WHAT HAS BEEN DISCUSSED DURING THE WEBINAR

Technology is advancing very quickly, and keeping up with the latest innovations can be challenging. The armed forces are always confronted with the difficulties linked to developing new technologies. Furthermore, they need to keep analysing new trends, technologies and innovations to be ready to anticipate any threat or to quickly adopt new systems. In this context, a closer cooperation in the military sector among European states is required to open up European markets to the defence industry instead of limiting it solely to national borders and different regulations, requirements, etc. As Dr Watling stated, greater efforts in creating common interfaces should help prevent redundancy, reduce costs and allow greater efficiency in investments. Indeed, if a common coding language was to be found, Finabel could play an important role in making those recommendations more concrete and could contribute to boosting military innovation by enhancing interoperability between European armed forces. Mr Wolff's intervention also stressed the need to facilitate the creation of partnerships among industrial actors, as this could boost efficiency in investments and increase the ability to "volume up" and adopt an economy of scale approach with new products.

Created in 1953, the Finabel committee is the oldest military organisation for cooperation between European Armies: it was conceived as a forum for reflections, exchange studies, and proposals on common interest topics for the future of its members. Finabel, the only organisation at this level, strives at:

- Promoting interoperability and cooperation of armies, while seeking to bring together concepts, doctrines and procedures;
- Contributing to a common European understanding of land defence issues. Finabel focuses on doctrines, trainings, and the joint environment.

Finabel aims to be a multinational-, independent-, and apolitical actor for the European Armies of the EU Member States. Thee Finabel informal forum is based on consensus and equality of member states. Finabel favours fruitful contact among member states' officers and Chiefs of Staff in a spirit of open and mutual understanding via annual meetings.

Finabel contributes to reinforce interoperability among its member states in the framework of the North Atlantic Treaty Organisation (NATO), the EU, and ad hoc coalition; Finabel neither competes nor duplicates NATO or EU military structures but contributes to these organisations in its unique way. Initially focused on cooperation in armament's programmes, Finabel quickly shifted to the harmonisation of land doctrines. Consequently, before hoping to reach a shared capability approach and common equipment, a shared vision of force-engagement on the terrain should be obtained.

In the current setting, Finabel allows its member states to form Expert Task Groups for situations that require short-term solutions. In addition, Finabel is also a think tank that elaborates on current events concerning the operations of the land forces and provides comments by creating "Food for !ought papers" to address the topics. Finabel studies and Food for !oughts are recommendations freely applied by its member, whose aim is to facilitate interoperability and improve the daily tasks of preparation, training, exercises, and engagement.



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