"Agenda 2030- Hellenic Armed Forces Digital Transformation

in the Age of Artificial Intelligence War"

5TH Athens C4ISR International Conference 19-20 November 2024, War Museum, Athens, Greece



"Agenda 2030"

Greece is set to have the most formidable Armed Forces in its history by the conclusion of the Agenda 2030 initiative, according to Minister of National Defense Nikos Dendias who has emphasized the strategic reforms and investments driving this transformation. "We're not just spending; we're reforming," Defence Minister has said. "The Agenda 2030, which the Greek Prime Minister has called the most comprehensive reform of the Armed Forces in our nation's history, it will elevate our Armed Forces into the 21st century and beyond, both in doctrine and through innovation." Greece dedicates over 2% of its GDP to defense, an investment he considers vital for the nation's security. The comprehensive reforms under Agenda 2030 will give Greece the strongest Armed Forces in its history, playing a key role in enhancing regional stability.

The aim of Agenda 2030 is to create an integrated security and defense system that not only protects Greece's national interests but also strengthens our international standing and contributes to economic growth. The plan is structured around six key pillars:

- 1. Reorganization of Armed Forces structure
- 2. Continuation, acceleration, and optimization of armament programs
- 3. Modernization of conscription and reserve models
- 4. Enhanced support for permanent Armed Forces personnel
- 5. Promotion of defense diplomacy
- Strengthening, restructuring, and upgrading of the national defense industry, including the creation of a defense ecosystem to foster innovation and technology, and the
- 7. establishment of the Hellenic Innovation Center.

The Greek government, recognizing the heightened strategic importance of the Hellenic Air Force, has developed a comprehensive modernization plan within the framework of the "2030 Agenda." This initiative is essential for enabling the Air Force to maintain and strengthen its pivotal role in national defense.

The program focuses on the homogenization and modernization of the Air Force's fleet, ensuring interoperability and efficiency across different aircraft types. Additionally, it aims to enhance the living conditions and support systems for Air Force personnel, acknowledging the vital contributions they make both in national defense and in service to Greek society. The Hellenic Air Force will acquire 200 state-of-the-art aircraft by 2030, gradually removing from operation third- and fourth-generation combat aircraft.

These initiatives will lay the foundation for a robust, modern defense capability, enabling Greece to address current and future security challenges effectively. Minister of National Defense Nikos Dendias has recently outlined the strategic priorities for the Hellenic Navy and defense capabilities at the recent roundtable discussion, highlighting several key initiatives under Agenda 2030.

Greece is advancing with its Belh@rra frigate program, with plans for four ships. These include the integration of strategic weapon capabilities on three of the vessels, specifically cruise missiles for strategic strikes. Greece is also working on its next-generation submarines, though their delivery may span up to twelve years. Alongside new acquisitions, efforts to modernize existing vessels like MEKO frigates are underway. Dendias emphasized the need for a modern, operational fleet, noting that maintaining outdated ships only drains resources without delivering real combat readiness. Acknowledging the strategic significance of the Aegean, Dendias discussed a shift in Greece's defense doctrine. Instead of relying primarily on air forces for anti-aircraft defense, Greece plans to establish a layered anti-aircraft shield that will cover both the mainland and its islands using mobile units and land-based missile systems.

Addressing the increasing use of UAVs in modern warfare, Dendias highlighted the development of the "Centaur" anti-drone system. This system has already been tested successfully on mobile bases in the Eastern Aegean and on Greek frigates in the Red Sea. "Centaur" will equip the Navy's MEKO frigates and eventually play a central role in Greece's anti-drone defense network, covering critical areas and assets across the Armed Forces.These initiatives are part of Greece's comprehensive approach to strengthening its defense capabilities, ensuring deterrence, and safeguarding national interests amid regional challenges.



Digital superiority on the battlefield

Hellenic Armed Forces Digital Transformation in the Age of Artificial Intelligence War

Interoperable network and digitisation give the edge in multi-domain operations (MDO). A real-time common operating picture enables armed forces to act earlier, faster, autonomously and more precisely. Rheinmetall, an expert in digitalization and system integration with a vast network of partners, provides applications taking forces to the next level.

Superiority on the battlefield through digitalization – that is our common goal!

Rheinmetall has created the model of a "Digital Brigade" to derive required capabilities from battlefield scenarios and demonstrate the benefits of digitisation. Real-world scenarios and the real needs of the users drive the concept.

The digitalization enables armed forces to sense, connect, automate & dominate the battlefield.



Interoperability between different forces is more important than ever, therefore a complete eco-system of solutions is needed.

Based on a holistic view of military capabilities of command and control, reconnaissance, effects and combat support and taking into account the latest hardware and software solutions, Rheinmetall is generating capability applications - "apps". The Digital Brigade Demonstrator includes both production-ready systems and minimum viable products as well as new technologies to demonstrate operational benefits and the wide range of operational possibilities.

To bring these apps into our customers' infrastructure, a key connecting technology is required: TACTICAL CORE of our partner blackned. This state-of-the-art middleware enables end-to-end encrypted access to the tactical information of a digitised brigade and is certified by the German Federal Office for Information Security (BSI) for handling NATO restricted data. By providing access to battle management system, sensor and effector data based on an open architecture, the TACTICAL CORE can be seen as an app store for military platforms. Software libraries enable the creation of any new functions and applications.

In times of intensive use of electronic warfare systems, secure, robust and redundant communication is essential. The TACTICAL CORE is able to handle several communication channels, e.g. UHF, VHF, 5G, and satellite communication at the same time and chooses automatically the best communication device to transmit the data to the recipient.

The common information space allows us to improve the sensor-to-shooter chain on our platforms. Through the TACTICAL CORE, this technology creates additional value by securely disseminating relevant data across all platforms. Al-based target identification and classification can be used to accelerate the sensor-to-shooter chain, even across multiple platforms.

Interoperable network sharing real-time information

Artificial intelligence supports and the decision-making accelerates process for military operations. This particular technology enables military commanders to react immediately to operational changes. By analysing geo data and the monitored situation on the battlefield, the system automatically provides positions to achieve the mission objective and to eliminate potential risks. Command selects according to the strategic approach and hand over information directly to his team.

In current conflicts, the use of drones and other unmanned systems has become indispensable. The use of these systems has to be optimised and automated, as must the defence against these UxV systems.

With the Unmanned Control Service, Rheinmetall has developed software that makes it possible to operate a wide variety of unmanned aerial vehicles, ground vehicles and watercraft. Operation can be carried out using individual control units, right up to full integration into the armoured platforms.

With the help of the Unmanned Control Service, a high-end military service is available for controlling all UxVs and loitering munitions.

In order to achieve digital superiority on the battlefield, new tools and processes are needed as soon as the products are created. Development cycles can be massively shortened by using artificial intelligence and digital twins during development.

New sensors and effectors, as well as operating concepts, can even be tested realistically before they are available as a production-ready system.

To survive in the age of the war of artificial intelligence, digital superiority is needed.



Implementation of artificial intelligence



Swarming and unmanned teaming

Interconnected mobility for the multi-domain battlespace

The performance of modern military vehicles is defined through four main sets of characteristics:

- Mobility, defined as the ability to move forces on a tactical, theater, and strategic level.
- Protection, for crew and mission payload, covering the whole range of threats.
- Effect, according to the mission role. This includes firepower for offensive action and self-defense.
- Connectivity, as a more recent addition to the classic "triangle". Efficient command and control and real-time situational awareness are crucial factors on today's battlefield.

General Dynamics European Land Systems (GDELS) addresses each of these factors. Military mobility is the company's core competence, reflected in all of GDELS' product families. With more than 12,000 vehicles delivered, the PIRANHA is the most successful family of wheeled armored vehicles in the western world. Its latest generation is available in 6x6, 8x8 and 10x10 configurations, depending on payload and volume requirements. The PANDUR EVO is a compact 6x6/8x8 armored vehicle with a protected drivetrain and forms the mainstay of Austria's medium mechanized infantry. The EAGLE family of tactical 4x4 and 6x6 vehicles is in use with several European countries. While wheeled vehicles offer a particularly high mobility and can easily be deployed strategically, the ASCOD is designed as a multi-role tracked vehicle family, with every variant staying below the weight limit of MLC 50. Wherever water bodies or dry gaps hamper movement, the GDELS portfolio of mobile bridge systems comes in.

Within their respective weight classes, each GDELS vehicle family offers an exceptional level of survivability, including highest mine protection and scalable protection against ballistic, fragment and IED threats. Due to their open, agnostic architecture, a broad variety of weapon systems and customized mission equipment can be integrated, the offer ranging from self-propelled artillery, light/medium tanks and IFVs to APCs, reconnaissance and various support vehicles.



© GDELS- Connecting Every Sensor

The highly complex communication challenges faced by modern combat vehicles, with a need to ensure robust connectivity across a contested and multi-domain battlespace, are addressed through the MESHnet family of products from General Dynamics Mission Systems. It has evolved to meet these very demands, supporting operators through a flexible open architecture and a modular approach.

The MESHnet product line provides a unified combat vehicle Communication and Information Systems (CIS) solution built on a suite of advanced elements. It ensures efficient, reliable data transmission with minimal latency, while adapting to meet the specific integration needs of individual customers, including considerations for size, weight, power, and cost.

MESHnet's open architecture works seamlessly with the different radios, hardware, and software that operators deploy. The product line includes smart displays and computing hardware to view live vehicle camera feeds, host command and control (C2) software, and integrate complex vehicle subsystems.

By adhering to open standards, such as those set by NATO, MESHnet enables communication across multinational fleets.

Additionally, MESHnet leverages Artificial Intelligence (AI) technologies that empower soldiers to make faster, more informed decisions. Examples include automatic target acquisition and real-time voice-to-text translation in any language.



© GDELS Trendsetter: The PIRANHA wheeled armored vehicle is in use with 20 countries around the globe.

ECHODYNE

Echodyne is a U.S. designer and manufacturer of advanced radar solutions for defense and national security applications. The company's proprietary metamaterials electronically scanned array (MESA®) architecture is a rare breakthrough in advanced radar engineering. Leveraging an innovative physics-design approach, Echodyne's MESA radars use standard materials and manufacturing processes to shatter unit cost barriers for high performance radar. The result is a solid-state, low-SWaP, exportable, commercial radar with advanced software capabilities that delivers superior precision, unparalleled data integrity, and exceptional situational awareness. With leading positions in counter-UAS, force protection, base security, and portable ISR, Defense Agencies and Suppliers rely on Echodyne radar for extraordinary accuracy and consistent, reliable operation.

For more information, please visit: Echodyne.com.







SCYTALYS is a leading software development and system integration company, operating internationally with its main offices in Athens. The company has more than 30 years of operation in the Defence and Security sectors, where it specializes in the specification, design, development, integration, installation, testing and followon support of Tactical Data Links, Interoperability Systems, Integrated Mission and Command & Control systems, as well as Surveillance Solutions.

SCYTALYS' Interoperability solutions ensure the generation of the Common Operational Picture, improvement of Situational Awareness and Domain Superiority, through secure and accurate exchange of information between all participants, for the Armed Forces' Network Centric Operational environment.



DefSecIntel Solutions Al-Enhanced Mobile Surveillance Systems Advancing Situational Awareness for Efficient C2 Data Gathering and Decision-Making

The evolving security landscape presents new challenges for border protection. The variety of EU's land and coastal borders face different surveillance challenges, complicating the detection of threats like trafficking and smuggling. These threats vary in origin, frequency, size and impact. FRONTEX aids Member States and Schengen countries by monitoring external borders and enhancing situational awareness. The European strategy for integrated border management emphasizes the need for interoperable, adaptable surveillance systems for both sea and land borders.

Defence missions face similar challenges on how to gather relevant C2ISR data efficiently and how to combine various information streams from multi-sensor sources for enhanced situational awareness for improved decision making. This can be done by incorporating advanced technologies, like AI-enhanced systems.

To significantly expand beyond existing surveillance capabilities for defence and border security missions, mobile and efficient solution with multi-sensor surveillance system (including a drone) ensures rapid relocation and reorienting of the surveillance capabilities to respond to changing situations.

Edge computing has revolutionized object detection and classification, facilitating robust data sharing. Integrating multiple sensors and effectors increases system complexity, and AI plays a crucial role in simplifying these tasks for operators. While humans excel at singlesensor detection, our AI-assisted technology integrates multiple sensors, increasing performance and autonomy, reduces repetitive tasks and expands the surveillance and observation range.

Estonian defence and security technology company **DefSecIntel Solutions** is developing and manufacturing mobile autonomous surveillance systems which are equipped with AI-assisted C2. We provide AI-powered systems for European security.

These platforms visualize and distribute data through robust and secure channels to end-users, battlefield management and defence/security information systems. Solutions address the challenge of information gathering, filtering, and distribution across military, border security, and internal security missions. The equipment, already operational in military and border security applications, includes mobile surveillance systems equipped with a variety of sensors and integrated UAVs, providing widerange, all-weather, day and night surveillance with Albased edge-computed analysis for detection and classification.



Main products are SURVEILSPIRE - mobile autonomous situational awareness system, vehicle-based system CAIMAN, cutting-edge AI-powered C2ISR software that enables fully autonomous operations with automated area scanning, threat detection, classification, and verification by the operator, and EIRSHIELD C-UAS system providing air defence with multiple detectors and effectors. Several more cutting-edge designs are in development.

These systems also serve as information gathering points significantly enhancing situational awareness.

Our combat-proven systems are innovative, developed with direct end-user feedback.

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Systems are developed for different security and defence missions, and suitable for all weather conditions and terrain.

Military and security end-users are freedom defenders, for whom comprehensive Alenhanced mobile autonomous surveillance systems provide advanced Situational Awareness and improved decision-making.



Chora: Leading the Future of Electronic Warfare with Cutting-Edge Surveillance Solutions

Founded in 1994, Chora stands as a leading expert in Electronic Warfare (EW), delivering mission-critical surveillance solutions for land, sea, and air applications. With over 30 years of battle-proven expertise, Chora's success is built upon three fundamental pillars:

- 1. A World-Class Team of highly skilled engineers and developers, renowned for their boldness and dedication to innovation. All personnel hold security clearances, ensuring the highest standards of trust and confidentiality.
- 2. Commitment to Innovation: Chora reinvests a substantial portion of its revenue into research and development, fostering continuous innovation.
- Customer-Centric Approach using the feedback of operators in the field as a primary source of inspiration for product development. This collaborative approach ensures that Chora's solutions are tailored to address real-world operational challenges.



CHOR/

Chora's surveillance solutions prioritise mobility, utilising compact and lightweight hardware components that all fit into a very small space such as a standard-sized backpack. These systems can be deployed within minutes on any platform, making them ideal for rapid relocations. Manufactured in Denmark, Chora's tactical and strategic solutions are distributed globally through its subsidiary in Germany, a network of local distributors, and a select group of trusted partners. As a reliable and agile partner, Chora plays a critical role in supporting the operational success of today's intelligence forces and is poised to remain indispensable for the missions of tomorrow.

Maritime force strengthened by Mission modularity



Denmark has been at the forefront of naval innovation for many years. The Royal Danish Navy was the first to adopt advanced modular capability with the STANFLEX concept (active service from 1989), which has since inspired the world's leading navies to incorporate varying degrees of modularity in almost all new surface combatants and patrol ships.

The time has come to rethink modularity.

In collaboration with the Royal Danish Navy and in dialogue with operational naval staff and leading ship designers and equipment suppliers, SH Defence introduces The Cube™ System.



With The Cube™ System, any Naval organization can turn any Coast Guard, SAR and Naval ship into a futureproof multi-mission platform with plug-and-play modules and the handling system to set them into operation.

The Cube[™] is a system enabling the integration of capability modules based on standard ISO container sizes and standardized interfaces with shipboard physical, data, and services architectures.

It enables those systems to be rapidly installed, deployed and removed, and for them to be moved around a modular space so that each module is accessible to its operators and maintainers and to the services and capabilities that need to be operated.

One of the most significant benefits of the degree of modularity enabled by The Cube[™] System relates to the management of obsolescence and future-proofing. As the systems contained in a capability module become obsolescent, they can be upgraded or replaced while the host platforms remain available for continuous operations.

The future of Naval power is Adaptable and interchangeable mission modules

Advanced telecommunication systems as a key factor in the information superiority of the Armed Forces

Historically, the capabilities of the Armed Forces telecommunications have been recognized as a critical factor in operational superiority against the enemy, as they ensure the acquisition of a clear operational picture by commanders and the timely transmission of orders to the commanded. Both secure, uninterrupted and as fast as possible communications between friendly forces, and blocking, delaying or intercepting enemy communications have played a decisive role in the outcome of military conflicts in the past.

This significant role of telecommunications is becoming increasingly critical in the age of digital technologies, network-centric warfare, and unmanned systems. Cybercentric warfare is based on the effort to gain an information advantage and convert it into a competitive advantage in the field through the seamless networking of geographically dispersed forces.

Intracom Defense (IDE) recognizes that reliable and secure broadband wireless communications which enable real-time transmission of voice, data and video, to and from the field of operations are critical to decision support and transmission of commands. For this purpose, it develops a wide range of products and integrated tactical telecommunications solutions with these characteristics., which are already operating on various land and sea platforms, in fixed or mobile, short, medium and long range applications.

More specifically, IDE's telecommunication products are based on IP (Internet Protocol) technology, supporting all network services over IP. They use Software Defined Radio (SDR) architectures, which offer the advantage of being able to implement different wireless communication protocols on the same hardware, allowing seamless and cost-effective equipment upgrades. They implement multiple security levels: at the communication security level (ComSec) they use strong data encryption algorithms, while at the transmission security level (TranSec) they implement a broadband frequency hopping mechanism to achieve immunity against electromagnetic interference. The devices themselves are certified based on military standards for operation in a wide range of environmental conditions (temperature, humidity, dust, impacts, vibrations, etc.) while international quality standards are applied to their development and production.

The range of these products includes:

 WiSPRevo, a complete Communication & Information System for land, naval and other military applications. The main components of WiSPRevo are the CCU user terminals and the TMN multifunction device that can be combined together to create solutions that meet specific communication requirements for a wide range of different platforms.

CCUs are the basic intercom system of a platform that allows crew members to communicate with each other. In addition, they provide interfaces to regular radios to access radio networks, interfaces to connect loudspeaker units (LSUs), and interfaces to support Ethernet devices and digital/analog The advanced Dynamic Noise alarms. Reduction (DNR) provided by the system offers high-quality voice communications and guarantees maximum speech intelligibility in high-noise environments, ensuring improved operational capability of operators under prolonged combat conditions.

The WiSPR Tactical Mission Node (TMN) is a modular multi-service platform, fully compatible with CCU user terminals. The TMN incorporates an Ethernet Switch & IP router to support IP connectivity, IP Radios and Local Area Networks, an analog radio gateway to support old type radios along with Wireless LAN (WLAN) capability.



 Spart@n-H, an advanced wireless voice, data and video communications system with high transmission rates based on IP (Internet Protocol) technology which supports all network services such as videoconference, Voice over IP (VoIP), email, fax, internet, etc.

Spart@n-H creates a wide-area tactical wireless network, providing multi-Mbps data rates, suitable for Battalion-to-Brigade communication interface. In addition, its ability to operate in both terrestrial and maritime environments makes it suitable for communications infrastructure capable of supporting cross-industry operations.

3. Advanced Communications for Unmanned Air Platforms, IDE also develops advanced secure radio communications for its Unmanned Air Platforms.

IDE's ATTALUS Air Platform employs a jam-resistant and encrypted communication network, based on Mobile Ad-hoc NETworking (MANET) principles, which enables swarming operations and handover of the mission control among multiple operators, including Forward Observers. The **ATTALUS system ground station** can be connected to higher-echelon C4ISR systems through IDE's **Spart@n-H** broadband communication links.

IDE's LOTUS UAV for ISR applications, employs state of the art IDE's UAV Point to Point & Point to Multi Point products for the C2 and ISR links based on NATO standards.





Spart@n-H: Broadband radio equipment for secure network-centric tactical communications using SDR technology



"Hellenic Armed Forces Digital Transformation in the Age of Artificial Intelligence War" 19-20 November 2024, War Museum, Athens, Greece



| 08:00- 09:00 | DAY 1 |
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| | Morning Coffee- Registration |
| | MORNING SESSION |
| 09:00 | Welcome and Administrative details by the organizers |
| 09:10 | Opening address by Major General Georgios Panousis, Hellenic National Defence General Staff |
| 09:30 | "Digital Superiority and Defense. How Digital Transformation Reshapes Military Operations" by Brigadier General Nıkolaos Giaprakas, Hellenic National Defence General Staff |
| 10:00 | "Digital superiority on the battlefield", by Mr. Patrick Galler, Head of Digitalisation, Technology Management, Research & Innovation Management (DiTRI) at Rheinmetall Electronics GmbH. |
| 10:30 | "Advancing 21 st Century Security solutions for Greece's armed forces modernization" by Mr. Costas Papadopoulos, V.P. Global Business Development Int'l, Southeast Europe, Lockheed Martin |
| 11:00 | "Fighter aircraft operating in a Contested Environment", by Mr. Ioannis Giannopoulos (Consultant, ISAMD & C5ISTAR SME, HAF Retired Officer) |
| 11:30 | "Maximizing Combat Effectiveness with AI at the Edge", by Mr. Timothy Hooper, General Dynamics Mission Systems |
| 12:00 | Lunch |
| 13:00 | |
| 13:00 | "Intelligence and Sensing: The cases of IMINT and GEOINT" by Mr Dimitrios Milioris - Master Engineer, Products Development, IDE |
| 13:30 | "The Evolution of Hensoldt's 4D Radar Family" by Mr. Janni Daniil Director Sales Ground and Naval Radar, HENSOLDT |
| 14:00 | "Unmanned Land Systems - Enhancing Combat Effectiveness through Advanced Robotics" by Mr. Andrea Ricotta Regional Sales Manager, Milrem Robotics |
| 14:30 | End of DAY 1 |

| 08:00- 09:00 | DAY 2 |
|-----------------|--|
| | Morning Coffee- Registration |
| 09:00 | Administrative details by the organizers |
| 09:30 | "Integrated air defence across all layers", by Dr. Tobias Lehmann, Product Manager C2, Air Defence and Radar Systems, Rheinmetall |
| 10:00 | "Data, Decisions, and AI in Counter-UAS" by Mr. Leo McCloskey,VP Marketing, Echodyne |
| 10:30 | "Agile, multi-mission corvette, capable of operations in both blue-water and littoral environments" by Mr. Shiran Purvin - V.P. ENGINEERING - Israel shipyards LTD |
| 11:00 | "Al-enhanced mobile surveillance systems: Advancing situational awareness for Efficient C2 Data gathering and Decision Making", by Mr. Martin Lints, Ph.D. DefSecIntel Solutions |
| 11:30 | "Unmanned systems integrated into the greater strategy of war" By Mr. Chris Black Sr. Dir, BD, Europe, AVINC |
| 12:00 13:00 | Lunch |
| 13:00 | "Mission Modularity for Naval platforms", By Mr. Rene Bertelsen, CEO, SH Defence |
| 13:30 | "The Changed Nature of Modern Warfare: Lessons Learned from the Russia-Ukraine War." by Mr. Gary Rafalovsky, Director SWARMLY LTD |
| 14:00 | «Autonomous vehicles - Defense sector Technologies and Products», by Mr. Sašo Letnikoski, Technical marketing manager, Custom EV Development Line, PeK Automotive d.o.o. |
| 14:30 | End of DAY 2 – Conclusions |

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