

### Integration, verification, and Integrated Logistics Support

Integration has an important role for Forza NEC, since it is the key for an effective transition from the current partially digitized organization to the future configuration, totally digitalized. An initial increase in military operational capability is obtained by introducing new systems and new equipment in the Forza NEC units, even if the **multiplier effect of the digitalization** will be fully achieved when capabilities are integrated with each other efficiently and in a transparent way for the system end user.

The goal is achieved through system integration activities, which are necessary to verify the integration into the digitized infrastructure of every single component developed in the program, through intensive and systematic ITB tests (Integrated Test Bed).

The Forza NEC Integrated Logistic Support must be interpreted as an approach in line with that adopted for the project and the integration procedures, in which overall capabilities of the SoS (System of Systems) are achieved, and the Command and Control system is the element of cohesion. At the same time, the Integrated Logistics Support can support the SoS capabilities and not only those of each platform.

### The evolution of operational scenarios

The current operative scenario is made particularly complex by the coexistence of friendly units, enemy forces, neutral subjects or civilians, and traditional or asymmetric threats. An additional element of complexity is represented by the



growing level of intervention by international coalitions and multinational forces, where the difficulties of coordination is very high due to the difference between the operative systems and the doctrines of the different nations. To face effectively the growing operational complexity, maximum coordination is required among the operational units, coalition units included, particularly during two crucial phases of out-of-area operations, such as the deployment of the forces and the activities related to security. This is also true for Operations Other Than War (peacekeeping and peacemaking operations).

One of the operational requirements necessary to ensure the coordination of deployed forces and their effectiveness in conducting assigned missions is **the ability to get information as soon as possible** about the actual dislocation within the scenario of own forces, allied units, potential threats and third parties not related to military operations.

### Forza NEC: The response

The emergence of new risks and the challenging security and defense policies by NATO and European Union, need a continuous transformation of the military instrument and of its concepts. This process should be supported by a substantial commitment in the development of **"net-centric" capabilities and architectures**, where net-centric architecture means a combination of doctrinal, procedural, technical, organizational, and human networked elements which interact and create a **significant superiority** for the specified force. The net-centric architectures are the prerequisite of multinational interoperability and of the new and more effective operational concepts.



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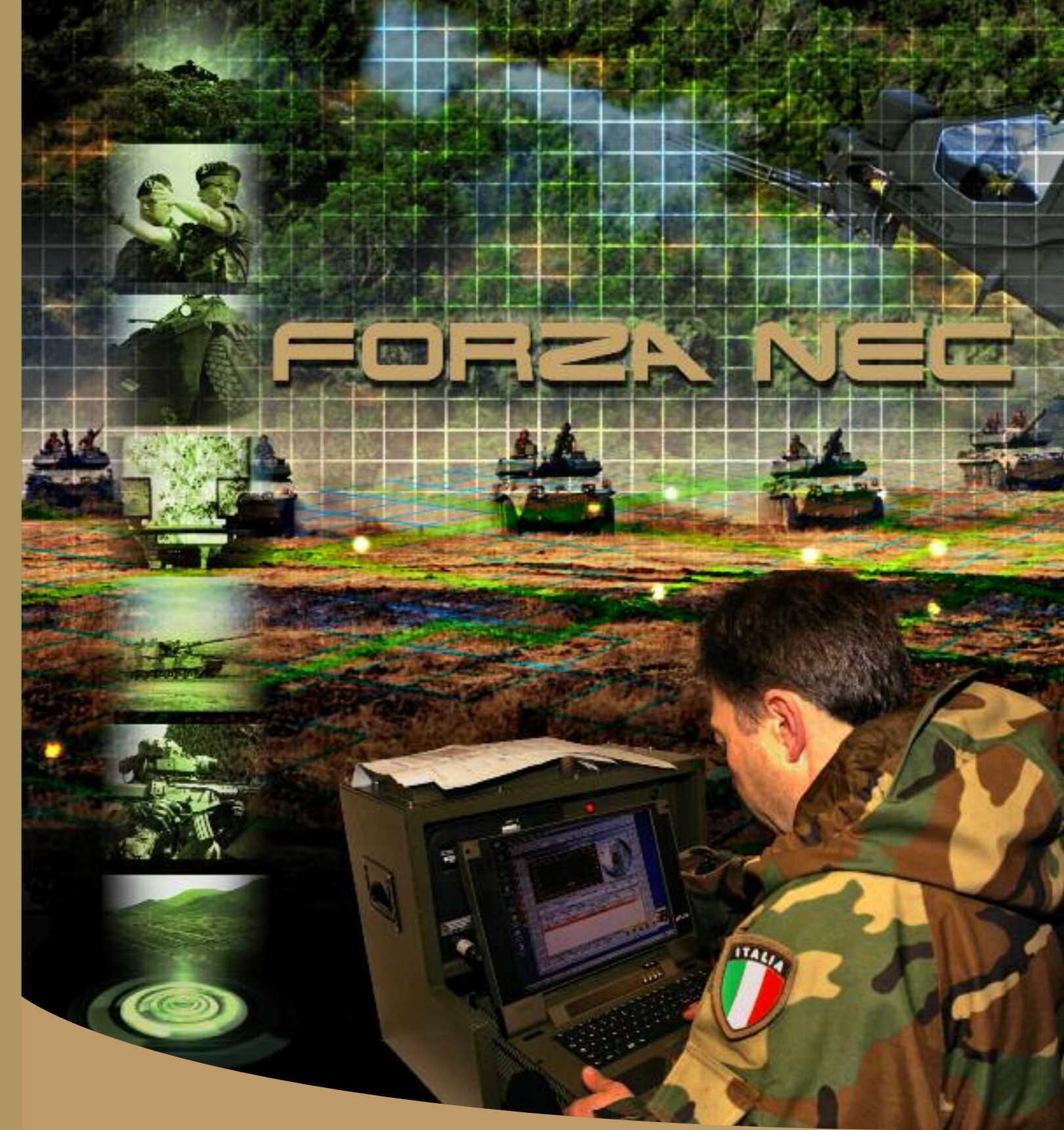
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Predictable results  
for unpredictable threats



## Forza NEC

The development of the "Forza NEC" program foresees the digitalization of the major systems and components of the digital **Forza Media Digitalizzata** (Digitized Medium Force) and of the **Landing Force Digitalizzata** (Digitized Landing Force), with proper size and composition for the fulfilment of the missions as defined in the overall Defence planning, with particular emphasis on the Stabilization and Reconstruction Missions.

The Forza NEC units and related operational, logistic components are designed and structured in complete compliance with a NEC-type architecture. They are based on the ongoing "**Digitalization of the maneuvering battlespace**" program related to some sectors and systems of the armed forces.

### System of Systems Engineering

The architectural design of a Large System plays a key role for the Forza NEC program, since it ensures that the technical requirements of the new Digitized force individual components achieve an Integrated Force, in compliance with the operational requirements related to the specific efficiency level.

SELEX Sistemi Integrati has developed a strong methodology for the Forza NEC architectural design and experimental verification, ensuring a correct technical management of the development, integration, and incremental acceptance of the new digitized components.



### Command and Control

Forza NEC success is guaranteed by SELEX Sistemi Integrati's capability to develop **a single command and control** architecture, configurable for each platform in accordance with the different operational level, and achieving the formation of digitized units necessary in future operational missions.

This architecture allows **any digitized platform to operate as a single command and control network node** and to exchange information securely and reliably, thanks to the use of standard protocols and methodologies. Changes and expansions of the current SIACCON system contribute to this architectural implementation.

The SIACCON system represents the computerized support for the command and control activities required at the different levels. The SIACCON system expansions can be carried out in incremental stages in accordance with the communications and platforms updating procedures. For instance, the expansion to the lower levels of the intelligence/RSTA capabilities will allow an **operational efficacy increase** from the introduction of the RSTA and UAV/UGV vehicles.

### Full integration

Due to the widespread use of digital technologies and advanced sensors, staff and resources exchange valuable information in real-time in order to identify threats and to intervene with an unprecedented selectivity level.

### The modern operative base module

Man, vehicle, air/terrestrial robot, command and control system are the synthesis of the capabilities available nowadays, to manage and process data, pictures and movies. Knowledge: this is the key that provides the Commander with information superiority useful to know and to intervene whenever and wherever needed.

### Integration of legacy systems

The integration of a legacy system within the Forza NEC architecture is done in two ways: by introducing the same SW for shared interoperability of the backbone C4I Forza NEC nodes (for those systems where original SW can be modified), or by using specific "tactical gateways" that guarantee data exchange without modification of the original SW.

### Efficacy increasing

The Forza NEC architectural design has been developed through the latest operational analysis methodologies, which provide the ability to monitor the impact of every technological choice on the overall system operational efficacy.

# FORZA NEC

## COMMAND AND CONTROL

It is the digital heart of the system. The commander makes his or her unprecedented through an exceptional information superiority.



### Growth capability

The development of a shared architecture for all operational units ensures the possibility of incremental integration of all new operational capabilities with those already in use, reducing time and costs.

### Interoperability

Multi-national and multi-force interoperability is guaranteed in the short term by the development of the systems in compliance with the main NATO and international standards. Medium and long term objective is to support an increasing level of interoperability between employed resources and allied forces resources, by introducing planned and incremental NEC capabilities.

### Increase safety and security

Forces safety and security in operation is increased by surveillance capabilities, the same tactical framework shared by all levels (reduction of friendly fire), increased protection of communications and time reduction of alarm reporting (missiles, NBC events, explosives).

### Integrated Logistics Support

The Integrated Logistic Support will ensure systems efficiency throughout their lifecycle.

## THE SOLDIER SYSTEM

The soldier is no longer just a fighter, but the central node of a complex network of sensors and communications, and an integral part of the C2 System



## VBM 8X8 FRECCIA

It is the most modern armoured land wheeled vehicle. It combines speed, safety, volume of fire and state-of-the-art digital technologies.



## UNMANNED VEHICLES

To patrol narrow or potentially risky areas without a direct exposure to threats. The robot becomes a valuable resource for the soldier.



## COMMUNICATIONS

In addition to broadband extension to the ground tactical area, Forza NEC includes the development of connectivity tools able to reconfigure rapidly the transmitted waveform, in order to ensure connectivity with the new resources at national and international level.



## EXTERNAL SYSTEMS

The project includes the development of SW modules that allow interoperability with command and control systems external to Forza NEC, in accordance with NATO and International standards.

