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Mediterraneo: Science and Defence Industry

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CHAPTER I

PLAYBOOK

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§1. Introduction

This is a new matrix game, the level is strategic, and the time horizon is long term, 20 years. The teams will roleplay a selection of Mediterranean, NATO and EU nations, plus China and Russia.

Blue nations (EU and core NATO nations) and red nations (Russia, China) will compete and cooperate in dealing with regional and global contemporary challenges. Each nation must achieve national objectives (political, economic, scientific…) at times also conflicting with like-minded nations, but the rules enforce a mechanism of co-operation. National victory can happen only if you achieve your objectives under the required conditions of the influence tracker (above x for the blue side, below y for China and Russia). Events and national actions contribute to shifting it in each direction.

The influence tracker is a measurement of the overall strategic leadership achieved through a combination of actions: economic, diplomatic, scientific, military, legal, hybrid, media. Within the national teams, some players will act as the political sphere (in charge of diplomatic, military, economic policies), some as the scientific community.

Financial resources (yellow coins) and scientific resources (blue coins) will be deployed to achieve national and collective goals, among which, a prosperous, free, and safe Mediterranean. Participants are encouraged to deploy influence campaigns on other nations.

The map and the resource display provide a visible representation of the imbalances that characterizes the region. The number of resources available for external actions, the scientific

power, the net migration flows, the ability to exercise soft power or military power projection. In this game the focus is on economic, scientific and industrial influence. In the past 20 years, China has widely used such tools in Africa building approximately 100 seaports, 10.000 km of railways, 100.000 km of highways, providing 200.000 km of fiber-optic cable and Internet access and satellite TV to millions, constructing over 200 hospitals and schools, several hydropower dams, industrial facilities. Despite some controversial aspects such as the use of Chinese manpower and the coercive power of loans, those efforts cannot be labeled simply as colonialism and have been generally received favorably.

Participants are encouraged to implement scientific and industrial influence and diplomacy campaigns towards other nations. Science is a tool, and scientific power is a parameter of victory. Financial resources (yellow coins) and scientific resources (blue coins) are used to achieve national and collective objectives, including a prosperous, free and safe Mediterranean. These coins can be invested (in scientific, industrial or military projects) and used to finance influence actions. Military capabilities can be used in negotiations with other nations (support in operations, protection, export of weapons…) or to address internal issues (human trafficking, protection of infrastructures…). Events and actions of groups are represented on the map with counters of various types. Actions are awarded by negotiation between teams or with die rolls. The white cell preliminarily verifies the credibility/feasibility of the proposed actions. Some actors are operated directly by the white cell: USA, UN + specialized agencies, EU + European institutions, unrepresented countries, such as the Arab world and the African Union.

European nations are required to invest economic and scientific resources to develop the defence industrial base. In addition to the influence tracker, European nations have a further prerequisite for national victory, the achievement of cooperative objectives in the industrial field. By the end of the wargame, the influence tracker must

be in the blue area and a certain number of European defence industrial projects must be started. The time horizon of the game is long-term, 10-20 years, the level is strategic.

The resource board represents 4 yellow areas (economic/financial, flow of international revenues), 16 blue areas (the stock of human capital, research environment and scientific infrastructures), 4 green areas (military capabilities).

Despite the emphasis on military capabilities and industry, '*Mediterraneo: Science & Defence Industry*' is a game of peace. Red nations are focused on influence actions towards grey countries. Blue nations are focused on influence actions and industrial objectives. To be declared successfully started, European defence projects must have reached certain thresholds (number of nations involved, industrial base and number of green coins). Nations compete for program leadership (Tier 1) but they all lose if the project does not start due to the absence of Tier 2, Tier 3 and Buyer partners. Duplication of projects is not possible (only one MBT, only one DDX...).

§2.1. Learning Objectives

- Learn issues and topics of strategic level, concerning defence and security policy.
- Explore the dynamics that facilitate and restrain the development of the EU defence institutions and industry.
- Understand the role of scientific, military and industrial diplomacy, deploying negotiation and leadership skills.
- Understand the crucial role of the Mediterranean in: Economic growth; shipping lines; scientific collaboration; migration flows, labour market and demographic imbalances; strategic confrontation between liberal democracies and autocracies; telecommunications and energy infrastructure; sustainability and climate change.

§2.2. Assessment criteria

- *Coherence between actions and country profile or eventual orders*: An assessment comparing the realistic profile of the nation represented by the team and the strategies they have adopted.

- *Negotiation skills:* Measured by calculating the total duration of negotiations and a weighted percentage of achieved results compared to the desired outcomes.

- *National objectives achieved:* Measured by assessing both the quantity and the strategic balance among different types of national objectives (military, economic, political, diplomatic, scientific).

- *Contribution to the European defence industry (new joint programmes)*: Measured by the number of projects in which the represented nation is involved.

- *Combined exercise of scientific, industrial, and military diplomacy:* Measured by evaluating the distribution of actions across military, economic, scientific, diplomatic, and political categories.

§2.3. Victory conditions

- Blue State Actors can win only if the influence tracker is in the blue area.

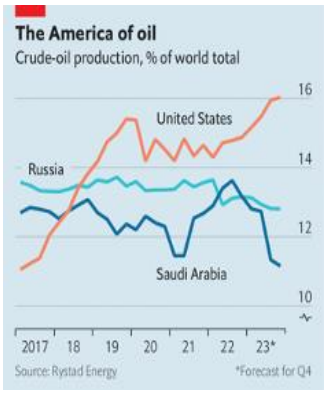
- A leaderboard system: White Cell assigns to each State Actor a number of points related to the assessment criteria; the more points are assigned the higher one ranks on the leaderboard.

- Blue State Actors can win only if at least 4 European industrial defence projects are successfully launched.

§2.4. The Scenario

We are in 2025, the nations of the Mediterranean have been trading, migrating, interacting, fighting, co-operating for centuries. At

individual, national, and collective international level, the peoples of the Mediterranean are facing big challenges of different nature: the threat to peace and stability, economic uncertainty, climate change, poverty and migration, demographic imbalances and health. Political and diplomatic efforts have had disappointing results so far. It is hoped that the current interest in science diplomacy can play a role in shaping policies, investments, treaties and agreements aimed at making sure that the Mediterranean remains a prosperous, free, and safe sea. This is feasible only taking into consideration the notion of Wider Mediterranean, developed in the '90s. The Mediterranean is a sea that connects the Atlantic and the Indian oceans, a very large portion of the world trades travels through *Mare Nostrum* for this reason. It is characterized by several chokepoints and, above all, requires protection starting from the Gulf of Aden and the Gulf of Guinea, hence the notion of Wider Mediterranean. Besides the MED it is the maritime and underwater domain that is becoming increasingly important at strategic level globally. 99% of digital communication travels underwater, 70% of the planet's surface is water, 80% of the seabed is unexplored, 90% of oil is extracted offshore, 55% of gas imported to Italy travels on the sea or under the sea. Recent international crises have made the sea even more crucial on the energy front. Not surprisingly nations like Italy are investing in the protection of underwater infrastructures in collaboration with NATO, Allied nations and the private sector. Italy has also established the so-called *Polo della Dimensione Subacquea* to facilitate research, development and investments in underwater technologies.



Source: The Economist, 2024

§2.5. European framework for science diplomacy

The first Biennial report on the implementation of the Global Approach to research and innovation acknowledged that science diplomacy efforts in the EU remain largely uncoordinated, lacking synergies and an EU-wide approach. Such shortcomings create vulnerabilities in a rapidly changing geopolitical, scientific and technological environment, with other international actors using science diplomacy in a much more targeted manner.

The need to act was underlined by EU Research Ministers at their meeting in Santander, Spain, on 28 July 2023, when science diplomacy was discussed for the first time at ministerial level. Supported by the ERA Forum Sub-Group on the Global Approach and a Steering Team consisting of the main stakeholder communities, the Commission in consultation with the European External Action Service is currently considering a potential framework for European science diplomacy.

Four work strands emerged from discussions held with different groups of stakeholders:

- How to use science diplomacy strategically to tackle geopolitical challenges in a fragmented, multipolar world.

- How to make European diplomacy more strategic, effective, and resilient through scientific evidence and foresight.
- How to strengthen science diplomacy in EU and Member State diplomatic missions and foster the EU's global science diplomacy outreach.
- How to build capacity for European science diplomacy.

Source: Science diplomacy in the Global Approach to Research and Innovation, Directorate-General for Research and Innovation

§2.6. Montreux Convention regarding the regime of the straits

The Bosporus Treaty is an international agreement signed in 1936 between Turkey and the United Kingdom. This treaty guaranteed Turkish sovereignty over the Bosporus Strait, which connects the Black Sea to the Sea of Marmara, and established provisions for its control and transit. One of the treaty's major provisions was the neutralization of the strait, ensuring the free transit of commercial ships during peace and limiting the transit of military vessels during times of international tension. The Bosporus Treaty was subsequently amended and renegotiated in 1982 with the United Nations Convention on the Law of the Sea (UNCLOS), which further redefined rights and responsibilities relating to transit through the strait. This convention was ratified by many countries, but Turkey retained direct control over the Bosporus Strait in accordance with its provisions. In 2036 it will be renewed.

§2.7. Mega scientific projects and diplomacy

Competitions between states for the awarding of scientific projects of great importance, such as, for example, the Einstein Telescope, fall within the scope of what can be defined as "scientific diplomacy" and "science policy". These projects often require advanced infrastructure, significant funding and the collaboration of

various agencies and institutions. Selection processes often involve the evaluation of various factors, including the scientific quality of the proposed site, infrastructure capacity, financial and political support, accessibility and stability of the host country, as well as the ability to provide a collaborative and sustainable environment for the international scientific community. The competition to host such projects is intense because it not only brings international prestige, but also significant economic and technological benefits, as well as fostering the growth of human capital and innovation in the host country.

Einstein Telescope: It is the large research infrastructure of the future gravitational wave detector to be built in Europe, a project with world-class scientific and technological impact, which Italy is a candidate to host in the north-east of Sardinia, in the area of the abandoned mine of Sos Enattos. The candidacy is supported by the Italian Government, by the MUR, by the Autonomous Region of Sardinia, and scientifically coordinated by the National Institute of Nuclear Physics INFN in collaboration with Italian research institutions and universities. There are currently two competing sites: in addition to the Italian one at Sos Enattos, in the Nuoro area, there is the Dutch site in an area of the Meuse-Rhine Euroregion, on the border between the Netherlands, Belgium and Germany. In addition to Italy and the Netherlands, still in competition, the other candidate states to host the telescope were: Germany, which has a long tradition and strong expertise in physics and astronomy, as well as possessing advanced scientific infrastructure that could have supported the project; Belgium, considered as a possible site, thanks to its scientific capabilities and its strategic position in Europe.

European Spallation Source (ESS): ESS is a European project, included in the ESFRI (European Strategy Forum for Research Infrastructure) Roadmap since 2006, for the creation of the most intense neutron source operating in the world. This neutron research infrastructure was the subject of a competition between several

European states before Sweden was chosen as the main location with its site in Lund. Spain had proposed a site in Bilbao and its candidacy was supported by a strong network of scientific institutions, receiving extensive political and financial support. Hungary had proposed a site in Debrecen. This nomination was part of the country's efforts to strengthen its scientific infrastructure and position in the European scientific community.

ITER (International Thermonuclear Experimental Reactor): ITER is an international project, launched in 2006, for the construction of an experimental thermonuclear fusion reactor. The goal is to demonstrate the usefulness of nuclear fusion for industrial-scale energy production. The competition to host this project saw the participation of various countries, with France ultimately being selected as the venue, in Cadarache. France was chosen in part due to its strong scientific and technical infrastructure, proximity to major research institutions, and the political and economic support of the French government. In addition to France, the following countries were significant competitors: Spain had put forward its candidacy for a site in Vandellòs, near Tarragona, counting on broad institutional and political support. Japan: had proposed a site at Rokkasho, supported by a strong tradition in nuclear fusion research. To compensate Japan, whose bid was very strong, an agreement was reached that assigned Japan significant roles in the ITER project, including the management of important technological and infrastructure components of the reactor.

SKA (Square Kilometer Array): It is an ambitious international project to build the largest radio telescope in the world. The competition to host the main SKA site saw the participation of several locations, but in 2012, it was decided that the project would be split between the two main candidates, allowing the strengths of each location to be exploited: South Africa has proposed a site in the Karoo, an arid and sparsely populated region ideal for reducing radio interference. South Africa has a long history of astronomical research

and high-quality scientific infrastructure, such as the MeerKAT radio telescope, which was integrated into the SKA project and hosts the majority of the medium-low frequency antennas of the SKA1-MID project. Australia has proposed a site in the remote Murchison region of Western Australia. This site was also chosen for its favorable conditions, with low levels of radio interference and a well-developed scientific community. Australia, which had already invested in infrastructure such as the ASKAP (Australian Square Kilometer Array Pathfinder), which was part of the SKA project, hosts the low frequency antennas of the SKA1-LOW project. The decision to distribute the components of the SKA project between South Africa and Australia was a solution that maximized the available resources and scientific capabilities of the two countries, while ensuring broader and more inclusive international collaboration.

European Extremely Large Telescope (E-ELT): it is intended to be the largest optical/infrared telescope in the world. In addition to Chile, whose site at Cerro Armazones, near the already existing Paranal Observatory, was ultimately chosen as the location for the telescope, other countries have submitted solid bids to host the E-ELT. The main competitors were: Spain had proposed the La Palma site in the Canary Islands, already known for hosting numerous internationally renowned astronomical observatories, such as the Gran Telescopio Canarias (GTC). La Palma offers excellent atmospheric conditions for astronomical observation, with clear skies and low humidity. Argentina which had proposed a site in the Andes. The Andes offers sites in positions of extreme altitude and stable atmospheric conditions, which are favorable for astronomical observation. However, the Argentine proposal did not have the same level of support or infrastructure development as the other bids. The decision to choose the Cerro Armazones site in Chile was influenced by various factors, including the excellent and stable atmospheric conditions, the high altitude, the proximity to other prominent astronomical facilities such as the Paranal Observatory, and Chile's consolidated experience in hosting large astronomical infrastructures.

The synergy with other existing infrastructures and the possibility of leveraging local experience and support played a crucial role in the final decision.

§2.8. The EU naval operations

The Military Planning and Conduct Capability (MPCC) is a permanent operational headquarters (OHQ) at the military strategic level for military operations of up to 2,500 troops (i.e. the size of one battle group) deployed as part of the Common Security and Defence Policy (CSDP) of the European Union (EU) by the end of 2020. Since its inception in 2017, the MPCC has commanded three non-executive training missions in Somalia, Mali and the Central African Republic, and will organise the training of Ukrainian forces on EU soil.

The MPCC is part of the EU Military Staff (EUMS), a directorate-general of the European External Action Service (EEAS). The Director General of the EUMS also serves as Director of the MPCC - exercising command and control over the operations. Through the Joint Support Coordination Cell (JSCC), the MPCC cooperates with its civilian counterpart, the Civilian Planning and Conduct Capability (CPCC). The MPCC is situated in the Kortenberg building in Brussels, Belgium, along with a number of other CSDP bodies. EU Missions and Operations: Around 4,000 EU military and civilian staff are currently deployed in CSDP missions and operations in three continents, working for a more stable world and contributing to a safer Europe.

§2.8.1. Operation "Irini"

EUNAVFOR MED IRINI was launched on 31 March 2020 with the primary mission to enforce the United Nations arms embargo to Libya due to the Second Libyan Civil War. Operation Irini is a European Union military operation under the umbrella of

the Common Security and Defence Policy (CSDP). The operation is expected to use aerial, maritime and satellite assets. In September 2020, the Irini operation stated that within six months, the operation sent 14 special reports to the UN Panel of Experts concerning both sides of the conflict in Libya, performed 12 visits on collaborative merchant vessels and monitored 10 ports and landing points, 25 airports and landing strips. In addition, it made 250 requests for satellite images to the EU Satellite Centre. Headquarters of the operation are in Rome, Italy. Italy and Greece alternate the force commander every six months (together with the rotation of the flagship).

§2.8.2. Operation "Sophia"

Operation Sophia, formally European Union Naval Force Mediterranean (EU NAVFOR Med), was a military operation of the European Union that was established as a consequence of the April 2015 Libya migrant shipwrecks with the aim of neutralising established refugee smuggling routes in the Mediterranean. The operational headquarters was located in Rome. The EU mandate for the operation ended on March 31, 2020. Operation Irini is the successor operation.

§2.8.3. Operation "Atalanta"

Operation Atalanta, formally European Union Naval Force (EU NAVFOR) Somalia, is an ongoing counter-piracy military operation at sea off the Horn of Africa and in the Western Indian Ocean, that is the first naval operation conducted by the European Union (EU), in support of United Nations resolutions 1814, 1816, 1838, and 1846 adopted in 2008 by the United Nations Security Council. Since 29 March 2019 the operational headquarters is located at Naval Station Rota (NAVSTA Rota) in Spain, having moved from London as a result of the British withdrawal from the

EU. It is part of a larger global action by the EU to prevent and combat acts of piracy in the Indian Ocean, and it is the first EU naval operation to be launched. It cooperates with the multinational Combined Task Force 151 of the US-led Combined Maritime Forces (CMF) and NATO's anti-piracy Operation Ocean Shield. The mission was launched in December 2008 with a focus on protecting Somalia-bound vessels and shipments belonging to the WFP and AMISOM, as well as select other vulnerable shipments. In addition, Operation Atalanta monitors fishing activity on the regional seaboard.

§2.8.4. EUNAVFOR Aspides

Since October 2023, numerous Houthi attacks have targeted vessels in the Red Sea, the Gulf of Aden, the Arabian Sea and the Gulf of Oman. Such attacks jeopardise the life of civilians on merchant and commercial vessels and constitute a breach of the freedom of the high seas and of the right of transit passage in straits used for international navigation enshrined in United Nations Convention of the Law of the Sea.

On 10 January 2024, the UN Security Council adopted Resolution 2722, condemning in the strongest terms the Houthi attacks on merchant and commercial vessels; underscoring the importance of the exercise of navigational rights and freedoms of vessels of all states in the Red Sea, including for merchant and commercial vessels transiting the Baab al Mandab Strait.

In accordance with international law, the UNSC demanded the immediate cessation of Houthis' attacks, affirming that the exercise of navigational rights and freedoms by merchant and commercial vessels, in accordance with international law, must be respected, and taking note of the right of member states, in accordance with international law, to defend their vessels from attacks, including those that undermine navigational rights and freedoms.

On 29 January 2024, the Council approved a Crisis Management Concept for a possible EU maritime security operation to safeguard freedom of navigation in relation to the Red Sea crisis, with an initial duration of one year. The operation was formally established on 8 February 2024.

EUNAVFOR Aspides is an EU military operation contributing to the protection of freedom of navigation, to safeguarding maritime security, especially for merchant and commercial vessels in the Red Sea, the Indian Ocean and the Gulf under the EU Common Security and Defence Policy (CSDP). Operation ASPIDES ensures an EU naval presence in the area where numerous Houthi attacks have targeted international commercial vessels since October 2023. In close cooperation with like-minded international partners, ASPIDES contributes to safeguard maritime security and ensure freedom of navigation, especially for merchant and commercial vessels. Within its defensive mandate, the operation provides maritime situational awareness, accompany vessels, and protect them against possible multi-domain attacks at sea. The operation is active along the main sea lines of communication in the Baab al-Mandab Strait and the Strait of Hormuz, as well as international waters in the Red Sea, the Gulf of Aden, the Arabian Sea, the Gulf of Oman, and the Gulf. The operation headquarters is based in Larissa, Greece.''

Source: EU External Action

§3. NATO in the Mediterranean

Allied Joint Force Command Naples is one of three Joint Force Commands in the NATO Command Structure.

The mission of Allied Joint Force Command Naples is to prepare for, plan and conduct military operations as tasked by SHAPE in line with Nations direction and guidance. It will be assigned by SACEUR

Areas of Functional Responsibility (AOFR) for day-to-day activities and the conduct of routine operational and non-operational tasks. COM JFC Naples can be also assigned Areas of Interest (AOI) beyond NATO's territory to monitor and analyse regional instabilities, military capabilities and transnational issues, in order to identify their potential military consequences which may directly or indirectly influence NATO's security interests.

The assigned mission implies the need for each operational command to be capable of developing a military response to missions assigned to it for its expeditionary operations. The JFC Headquarters must therefore be able to mount a Combined Joint Task Force (CJTF) HQ, or – from within its own staff – a smaller Deployable Joint Task Force (DJTF) as the "seed" for larger command and control formations which various missions may require. Each operational command will, on a rotational basis, assume responsibility to command the NRF and, during those periods, will constantly maintain the capability of deploying a DJTF headquarters within five days of notice.

Source: Joint Force Command Naples

§4. Exclusive Economic Zone (EEZ)

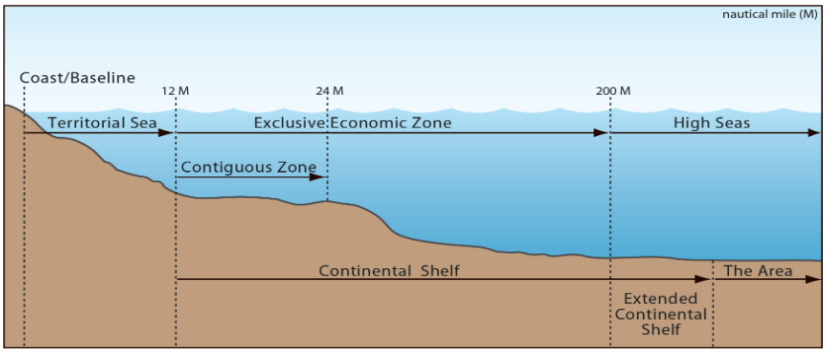
An exclusive economic zone (EEZ), as prescribed by the 1982 United Nations Convention on the Law of the Sea (UNCLOS), is an area of the sea in which a sovereign state has exclusive rights regarding the exploration and use of marine resources, including energy production from water and wind.

It stretches from the outer limit of the territorial sea (22.224 kilometres or 12 nautical miles from the baseline) out 370.4 kilometres (or 200 nautical miles) from the coast of the state in question.

The difference between the territorial sea and the exclusive economic zone is that the first confers full sovereignty over the waters, whereas the second is merely a "sovereign right" which refers to the coastal state's rights below the surface of the sea. The surface waters are international waters.

Generally, a state's exclusive economic zone is an area beyond and adjacent to the territorial sea, extending seaward to a distance of no more than 200 nmi (370 km) out from its coastal baseline. The exception to this rule occurs when exclusive economic zones overlap; that is, state coastal baselines are less than 400 nmi (741 km) apart. When an overlap occurs, it is up to the states to delineate the actual maritime boundary. Generally, any point within an overlapping area defaults to the nearest state.

Article 58 of UNCLOS "Rights and duties of other States in the exclusive economic zone" provides that in the exclusive economic zone, all States, whether coastal or land-locked, enjoy the freedoms of navigation and overflight and of the laying of submarine cables and pipelines, and other internationally lawful uses of the sea related to these freedoms.



Maritime Zones under International Law (Image credit: U.S. Department of State)

§4.1. The Italian EEZ

Even at the end of the 1990s, no country bordering the Mediterranean Sea had proclaimed an EEZ, despite having the right to do so. At the basis of this situation there were above all geographical considerations: nowhere in the Mediterranean are the coasts 400 or more miles away from the opposite coasts of another state. There were also reasons of opportunity, e.g. avoid disturbing the status quo due to possible disputes between Greece and Türkiye. The Mediterranean was therefore characterized by extensive areas of high seas, and there were only limited areas reserved for fishing, such as a 25-mile Maltese EEZ.

At the end of the 20th century this principle was undermined by initiatives of some states:

1994: Algeria's restricted fishing zone

1997: Spanish fisheries protection zone

2003: Ecological protection zones of France; Ecological and fisheries protection zone of Croatia

2005: Libya Fisheries Protection Zone

2006: Italy's ecological protection zone

A push for the creation of EEZs came from the European Union's marine resources management policy with the aim of countering the development of illegal fishing by fishing vessels from Asian countries (see Common Fisheries Policy).

§5. Submarine cables

An accident in 2022 raised the attention of the policymaker on the importance of submarine cables. In Egypt a ship accidentally severed with its anchor a cable that connects Marseille to Hong Kong. Suddenly the internet connection was affected in several nations including India and China. Ethiopia was particularly affected with

internet connectivity down by 90% and Somalia down by 85%. Telegeography produces the maps below. They have a census of 574 active cables around the world. Overall, 90% of world internet traffic travels via submarine cables. According to Telegeography, the Red Sea hosts the infrastructures that handle 17% of global internet traffic. Those cables then cross Egypt overland for 100 miles before diving into the Mediterranean. The EU has started monitoring this strategic issue and has taken action especially after the Houthis have reportedly damaged a cable in March 2024.

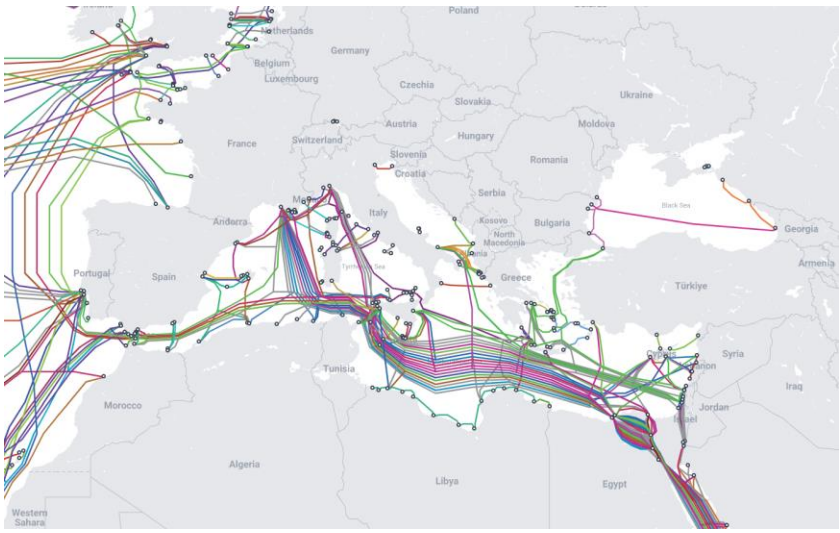
'The submarine cable network (about 400 active cables covering 1.3 million kilometres) is an important structure that digitally connects European countries and the rest of the world. In particular, it makes economic and financial transactions fluid, facilitates the coordination of major geopolitical activities (diplomatic missions, etc.) and facilitates the conduct of operations aimed at ensuring international peace and security (humanitarian, military, information exchange, etc.).

The management of this infrastructure presents difficulties that make it very vulnerable and exposed to threats. The cables are placed at a depth that makes visual inspection impossible and requires the use of very sophisticated equipment to conduct repairs. This activity is often carried out in prohibitive conditions even for the means employed and requires at least two weeks to be completed.

The vulnerability of the structure is greater in the maritime areas subject to claims (in the Aegean Sea, East Sea there are disputes between Greece Cyprus and Turkey), in the areas not subject to any state jurisdiction and in the access points to the Mediterranean Sea (Suez Canal and Gibraltar, etc.) where there is high density of cables and maritime traffic. The dual-use nature of the services provided through submarine cables is an additional risk factor that makes them a potential military target.

Damage to submarine cables can be caused by natural events (seismic activity, erosion due to permanence at sea, particular

conditions of sea currents, etc.), human activities (fishing, dredging, anchoring, criminal or terrorist actions, etc.) and external factors (lack of electricity and/or maintenance, malfunction or destruction of the regional terrestrial communication infrastructure, etc.).



Source: Telegeography 2024

The malfunction of a submarine cable does not normally cause particular problems because the redundancy mechanism of the network supports data traffic. However, a blackout of the communications flow is possible when the failure occurs at the same time as a broadband shortage. This problem can be caused by simultaneous breakage of several cables or reduced repair/maintenance capacity. In these cases, it is possible that the country benefiting from the service may suffer significant damage in vital sectors, not be able to respond immediately to emergency events and support the resilience of its population. The island territories are particularly exposed to this type of problem. The Azores and some islands around Malta are the European areas most at risk. There are specific cooperation mechanisms that aggregate the capabilities needed to ensure repair and maintenance of cables 24 hours a day, 7 days a week. The Mediterranean Cable Maintenance Agreement (MECMA) covers the Mediterranean Sea, the Black Sea and the Red

Sea. It has two cable-laying vessels based in La Seyne-Sur-Mer (France) and in Catania (Italy).

NATO organizes activities for controlling and protecting marine infrastructures. Collaboration with partners, including private sector actors, is crucial to increasing the resilience and security of undersea infrastructure. In this regard, coordination with the EU, including through the new NATO-EU Task Force, will be useful to protect existing structures, deal with emergencies and ensure the availability of services managed through the submarine cable network.'

Source: (European Commission) Security threats to undersea communications cables and infrastructure – consequences for the EU, 2022, and (NATO) Protecting critical maritime infrastructure - the role of technology, 2023.

§6. AIEA, nuclear cooperation

The IAEA is a specialized agency of the UN (i.e. an autonomous intergovernmental organization that has concluded a liaison agreement with the UN to acquire this status and coordinate its activities with ECOSOC; each specialized institute has specific competence in a technical, economic or social sector – e.g., work, health, agriculture, education, culture, telecommunications, nuclear energy – and carries out research, standard setting, technical assistance, international cooperation and advocacy in its area of operation. It is financed thanks to voluntary contributions from Member States). Established in 1957, it is based in Vienna and has 175 member states.

Organs:

• General Conference: composed of all member states, meets annually to approve the budget, elect members of the Board of Governors and make decisions on important issues.

• Board of Governors: composed of 35 Member States elected by the General Conference, it meets five times a year to direct the Agency and implement the decisions of the General Conference.

• Director General: appointed by the Board of Governors, he is responsible for managing the Agency and implementing its policies.

• Secretariat: made up of international staff, it provides technical and administrative support to the Agency's bodies.

Functions:

• Promote the peaceful use of nuclear energy

• Prevent the use of nuclear energy for military purposes

• Establish nuclear safety standards and promote their implementation

• Verify that Member States comply with their nuclear non-proliferation obligations

• Provide technical and scientific assistance to Member States

• Promote research and development in the field of nuclear energy

• Disseminate information on nuclear energy

Activities:

AIEA carries out a wide range of activities to carry out its functions, including:

• Nuclear inspections to verify that Member States comply with their nuclear non-proliferation obligations

• Developing nuclear safety standards and providing assistance to Member States for their implementation

• Training of nuclear personnel

- Research and development in nuclear energy
- Dissemination of information on nuclear energy
- Cooperation with other international organizations

Now, the main dossiers followed by the IAEA are the following:

1. Conflict in Ukraine; the Agency monitors the situation of nuclear power plants in Ukraine, in particular that of Zaporizhzhia which is currently under the control of Russian forces and provides technical assistance to Ukraine. He called for the establishment of a nuclear safety zone around the Zaporizhzhia nuclear power plant to ensure its safety and the safety of personnel operating there.

2. Iranian nuclear program; the IAEA is committed to maintaining a constructive dialogue with Iran to resolve outstanding issues relating to its nuclear program. It is called upon to verify Iran's commitment to respect the Iran Nuclear Deal (JCPOA), whose restoration negotiations have not yet reached a positive outcome.

3. Nuclear proliferation; the IAEA works to prevent the proliferation of nuclear weapons and sensitive nuclear materials.

It supports and strengthens the nuclear non-proliferation regime (established by the NPT) through verification and technical assistance to Member States. She is particularly alert to North Korea's nuclear activities.

4. Nuclear safety; the IAEA works to improve nuclear safety globally. Develops and updates nuclear safety standards and provides assistance to Member States for their implementation. It also organizes emergency exercises and provides training to nuclear personnel.

5. Development of nuclear energy; the IAEA helps Member States develop safe and sustainable nuclear energy programs. Promotes research and development in the field of nuclear energy.

§7. UNESCO

The United Nations Educational, Scientific and Cultural Organization (UNESCO) is a specialized agency of the United Nations (UN) with the aim of promoting world peace and security through international cooperation in education, arts, sciences and culture. It has 194 member states and 12 associate members, as well as partners in the non-governmental, intergovernmental and private sector. Headquartered in Paris, France, UNESCO has 53 regional field offices and 199 national commissions.

§8. SESAME

SESAME (Synchrotron-light for Experimental Science and Applications in the Middle East) is a "third-generation" synchrotron light source that was officially opened in Allan (Jordan) on 16 May 2017. It is the first synchrotron light source in the Middle East and neighbouring countries, and the region's first major international centre of excellence.

It is a cooperative venture by scientists and governments of the region set up on the model of CERN (European Organization for Nuclear Research) although it has very different scientific aims. It was developed under the auspices of UNESCO (United Nations Educational, Scientific and Cultural Organization) following the formal approval given for this by the Organization's Executive Board (164th session, May 2002).

It is an autonomous intergovernmental organization at the service of its Members which have full control over its development, exploitation and financial matters.

The heart of SESAME is a 2.5 GeV synchrotron light source (133m in circumference), providing radiation from the Infrared light to X-rays of unparalleled quality, a unique tool to expand the

boundaries of scientific investigations into new materials and living matter.

SESAME is:

- fostering scientific and technological excellence in the Middle East and neighbouring countries by starting to enable world-class research in subjects ranging from medicine and biology, through basic properties of materials science, physics and chemistry to health care, the environment and archaeology;
- building scientific and cultural bridges between diverse societies, and fostering mutual understanding and tolerance through international cooperation in science; and
- helping to prevent and reverse the brain drain that is holding back science education and research in the region.

As an intergovernmental scientific and technological centre of excellence open to all scientists from the Middle East and elsewhere, SESAME serves as a propeller for the scientific, technical, and economic development of the region, and strengthens collaboration in science.

SESAME is a widely-available 'user facility'. Scientists, including graduate students, from universities and research institutes typically visit the Centre for a week or two, twice or three times a year, to carry out experiments, frequently in collaboration with scientists from other centres/countries, and then return home to analyze the data they have obtained. In other words, SESAME is not a source of brain drain; quite the contrary, not only do the scientists who visit SESAME take back scientific expertise and knowledge, which they will share with their colleagues and students, but it also creates a motivating scientific environment that encourages the region's best scientists and technologists to stay in the region or to return if they have moved elsewhere.

As will be testified by the Associate status LEAPS (League of European Accelerator-Based Photon Sources) has granted to SESAME, the international scientific community has full confidence in the success of the Centre and its role as a centre of excellence. SESAME is the first Associate of LEAPS.

Since 26 February 2019 when SESAME's solar power plant was inaugurated, SESAME is the world's first large accelerator complex to be fully powered by renewable energy, thus making it the world's first carbon neutral accelerator laboratory. This makes SESAME economically, as well as environmentally sustainable. SESAME has signed the United Nation's Climate Neutral Now pledge.

Source: Sesame

§9. Trade and economic co-operation

The entire global economy is based on international trade operated via sea. About 80% of goods travel on ships (source: World Trade Organization). The sea is equally important for internet and phone connections and for the transport of electricity. About 90% of internet connection travels via submarine cables. The Mediterranean currently hosts 17% of global internet traffic volume. The figure is expected to grow to 25% by the end of this decade. Instability in the Red Sea endangers the crucial role of the Mediterranean in the Asia to Europe sea traffic. In 2024 the Houthis attacks generated an increased cost of shipping: a 40ft container from Shanghai a Genova used to cost 1.400 USD in November 2023 and peaked at 6.365 USD in January 2024. The EU triggered a naval mission, Aspides, to deal with this threat.

§10. The Italian Navy, i.e. Marina Militare Italiana

Starting from the Obama administration, the US Navy has gradually shifted its attention to the Indopacific. While from a

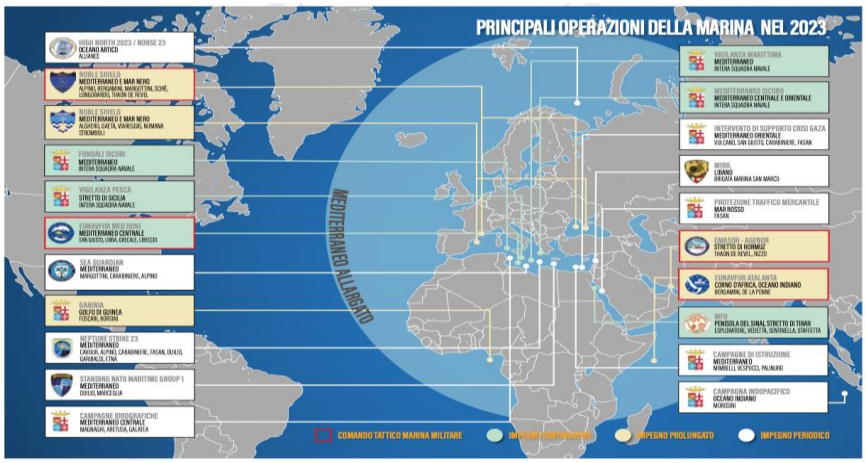
commercial viewpoint the Mediterranean is experiencing a reviewed centrality in global trades, from a military point of view the end of the cold war meant a decline of the relevance of the sea for the United States. As of March 2024, no Aircraft Carriers or Landing helicopter assault ships were present in the Mediterranean. On the contrary, for the Italian Navy it remains central and since the 90s the concept of 'Mediterraneo Allargato' was developed.

Since the Nord Stream bombing the Italian Navy has been patrolling the underwater infrastructures, in particular with its minesweeper flotilla, 'operazione Fondali Sicuri'. Marina Militare signed an agreement with Telecom Sparkle for the protection of the communication submarine cables. The Santa Rosa headquarter of the Italian Navy monitors the submarine infrastructures centralizing the analysis of data coming from Sparkle, Eni, Terna, Enel as well as classified data from the Italian Armed Forces.

In 2023 in La Spezia the Italian authorities inaugurated the so-called: 'Polo nazionale della dimensione subacquea'. This public-private research and development center testifies the awareness of the importance of the maritime and submarine domains for Italy. Minister of Defence Crosetto argued that Italy must invest in the submarine domain at least as much as Italy invests in the space domain.

Despite the proclaims and the periodic breaking news (the Nord Stream events in 2022, the hugely increased deployment of the Russian Navy in the Mediterranean in 2022 and 2023, the Houthis attacks in the Red Sea in 2024...) the Italian Navy remains overwhelmed for lack of resources. In 2024 three large warships (Garibaldi CVH 551, Durand de la Penne D560, Maestrale F570) were decommissioned, yes because they were at the end of their life cycles but also because there were no crews to operate the new ships. Unlike the French Navy, Marina Militare is unable to operate the policy of double crew. This means that sailors and officers are obliged to stay at sea for much longer. Despite this, the Italian Navy has shown

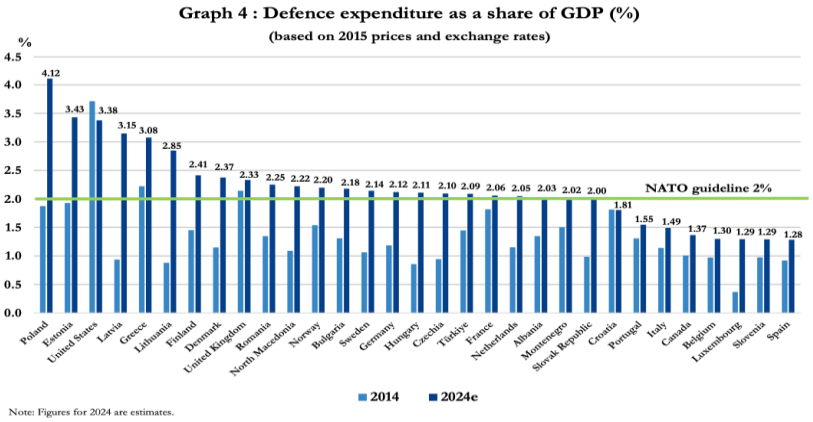
an outstanding resilience and flexibility, being able to deploy on average 35 warships, with a peak of 42.



Source: Marina Militare, Rapporto 2023

§11. *Military bases in the Mediterranean*

- Decimonannu, Trapani Birgi, Sigonella, Aviano, Ghedi, Grottaglie, Augusta, Taranto, NATO JFC Naples, Italy
- Akrotiri and Dhekelia, Cyprus
- Russian bases in Syria (abbandoned)
- Russian and Turkish bases in Lybia
- Solenzara, Toulone, France
- Rota, Moròn de la Frontera, Zaragoza, Spain
- Gibraltar, UK
- Incirlik, North Cyprus, Turkey
- Souda, Corfu, Greece



Source: NATO, 2024

§11. *FRONTEX*

FRONTEX, formally known as the European Border and Coast Guard Agency, was established in 2004 to reinforce and streamline European Union (EU) border management. The agency operates primarily at the EU's external borders, covering land, sea, and air borders of the Schengen Area member states. Its mission revolves around ensuring the security of the EU's external borders, combating irregular migration, human trafficking, and cross-border crime, while facilitating legitimate travel and trade.

Soldiers and Vehicles Deployed: FRONTEX operates with a combination of personnel and equipment contributed by EU member states. Its forces include border guards, coast guards, and law enforcement officers from various EU countries. These personnel are deployed with a range of vehicles and vessels, including patrol cars, boats, helicopters, and drones. The agency also employs sophisticated surveillance technology, such as radar systems and thermal imaging cameras, to monitor and secure the EU's borders effectively.

Scope: The scope of FRONTEX's activities encompasses a wide range of border management tasks, including border surveillance,

search and rescue operations, border control, risk analysis, and capacity building in partner countries. Additionally, the agency conducts joint operations and rapid interventions to address specific border security challenges, such as migrant flows or smuggling routes.

Organizational Structure: FRONTEX operates under the supervision of the European Commission and the European Parliament, with guidance from the Council of the European Union. The agency is headed by an Executive Director, who is responsible for its day-to-day operations and strategic direction. FRONTEX's organizational structure includes operational units located at the EU's external borders, as well as support departments responsible for logistics, training, research, and cooperation with external partners. The agency also collaborates closely with other EU agencies, such as Europol and the European Asylum Support Office, to ensure a coordinated response to border security challenges.

Perspective of Reform: In recent years, FRONTEX has faced criticism and calls for reform regarding its role in migration management and allegations of human rights violations during border operations. To address these concerns and enhance the agency's effectiveness, several key reforms have been proposed or implemented.

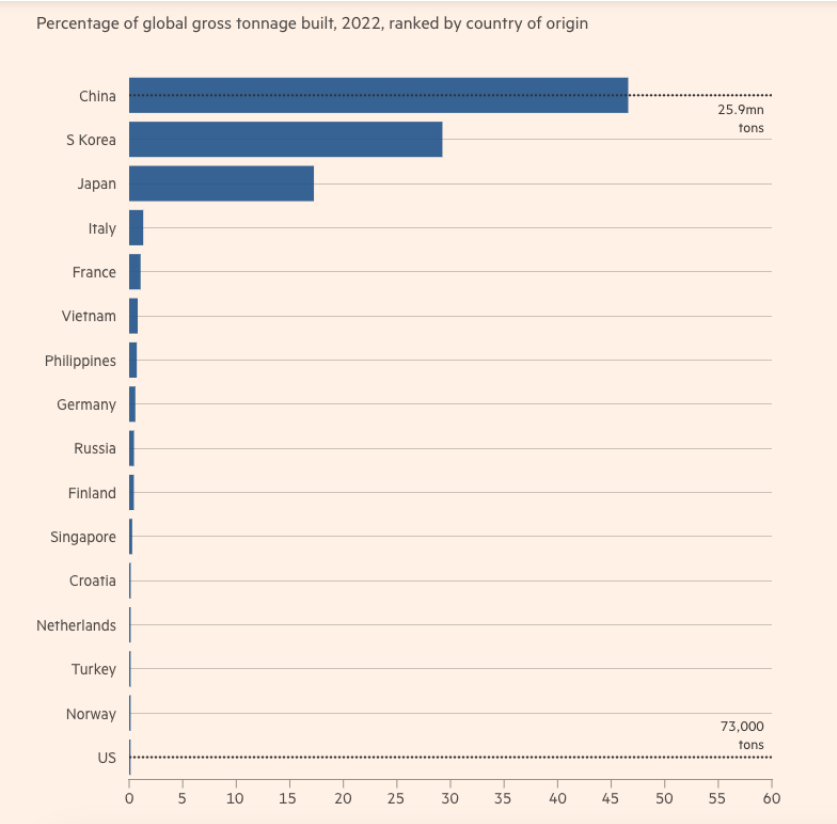
1. Increased Resources: Efforts have been made to bolster FRONTEX's budget, staffing levels, and operational capabilities, allowing the agency to respond more effectively to evolving border security challenges.
2. Enhanced Transparency and Accountability: Measures have been introduced to improve transparency and accountability in FRONTEX's operations, including increased scrutiny by the European Parliament, enhanced reporting requirements, and mechanisms for investigating allegations of misconduct.
3. Human Rights Compliance: FRONTEX has undertaken initiatives to ensure that its activities comply with international human rights law and respect the rights of migrants and asylum

seekers. This includes the development of guidelines for border guards and training programs on fundamental rights and non-discrimination.

4. External Cooperation: FRONTEX has strengthened its cooperation with third countries, particularly in the EU's neighborhood and transit regions, to address the root causes of irregular migration, enhance border security, and facilitate the return of irregular migrants.

5. Capacity Building: The agency has increased its support for capacity building and technical assistance initiatives in partner countries, aimed at enhancing their border management capabilities and addressing the drivers of migration and insecurity.

In conclusion, FRONTEX plays a crucial role in safeguarding the EU's external borders and managing migration flows while balancing security concerns with respect for human rights and international law. Through ongoing reforms and strategic initiatives, the agency aims to adapt to evolving security challenges, enhance its operational effectiveness, and uphold the EU's commitment to fundamental rights and values.



Source: Financial Times, 2024 on UNCTAD data

§12. *The European Defence Agency*

Naval: the current focus is put on improving naval forces' maritime situational awareness through the MARSUR (Maritime Surveillance) project which also provides support to EU CSDP missions and operations, as well as on the implementation of the two 2018 European Capability Development Priorities in the maritime domain: Underwater Control and Naval Manoeuvrability. EDA's maritime capability activities are closely coordinated with other relevant EU agencies such as the European Maritime Safety Agency (EMSA), the European Border and Coast Guard Agency (FRONTEX) or the European Centre of Excellence for Countering Hybrid Threats.

EDA's current capability development projects and programmes in the maritime domain cover a wide variety of topics, including: Maritime Mine Counter Measures; Maritime Surveillance (MARSUR); Modular Lightweight Minesweeping; Unmanned Maritime Systems (UMS) CapTech Maritime.

In the Land domain, EDA's activities focus on supporting Member States to move towards a more coherent European capability landscape through the collaborative upgrading, modernisation and replacement of military fleets and mission components such as armored or infantry fighting vehicles and main battle tanks.

Protection against airborne threats is a key defence capability. Through various capability programmes and projects, EDA supports Member States in improving their Armed Forces' air superiority and mobility.

§13. Financing defence policy

Total defence spending by EU countries was $250 billion in 2022, compared to $768 billion in the United States. However, comparing the European budget, the national contributions of NATO countries and the US defence budget is a complex exercise. For example, when monitoring the achievement of the 2% threshold, the so-called NATO burden sharing, we refer to the North Atlantic theatre while the American defence budget follows global logics: Indo-Pacific, terrorism, deterrence of Russia, Middle East, Central Asia, FON ...). Moreover, the Pentagon's spending has its characteristics, also due to its federal nature, which does not allow an immediate comparison with that of European countries. defence spending in the United States has long been an instrument of fiscal policy and support for research and technological supremacy of the United States. Furthermore, defence spending in the United States has not always been an example of efficiency due to the territorial distribution of procurement on a political basis.

The 2% criterion was not present in the 1949 North Atlantic Treaty and has become a strict target, especially since the 2014 Summit in Wales, whose final declaration establishes: "ambition to move towards the 2% guideline within a decade to achieve its NATO Capability Targets and close capability gaps" (NATO, 2014). The expenditure metric relative to GDP recalls the limits set in the Maastricht Treaty (debt-to-GDP and deficit-to-GDP ratio). Like the European constraints, the defence expenditure threshold has always been treated with a certain political flexibility, since both NATO and the European Union are political institutions. At one point in their history, the Maastricht parameters were called stupid. Even the 2% target, in its simplicity and difficulty of international comparison, could be considered unintelligent because it focuses on input, resources allocated, not output, developed capabilities.

Although the delays in the European Common defence project are mainly political, the financing sphere is still relevant. The cost of military personnel and the tools to be made available to them is traditionally important, even if, since the Second World War, it has ceased to be one of the most significant items in the budgets of modern states due to the progressive development of the welfare state. Since the 1960s, military spending by European countries has fallen sharply and steadily until 2014.

In many cases, military spending has specific characteristics that make the control of supplies even more complex. On the one hand, the nature of highly technologically advanced prototypes (see radar, networks, missiles, aircraft) makes some weapon systems difficult to measure, especially in a context traditionally characterized by little internal and external competition. On the other hand, some orders (see ships, submarines) have a very long-time horizon for implementation, may require variations during construction, and mid-life updates, and are financed on multi-year financing lines. Military expenditure is therefore cyclically debated for various reasons: the amount of expenditure and the opportunity cost of

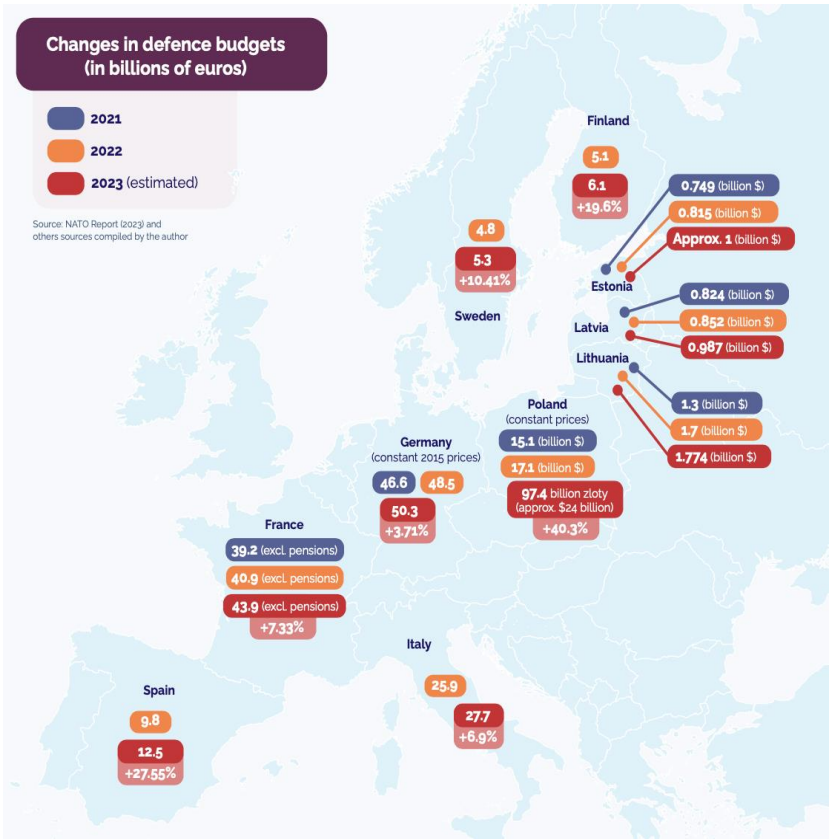
missed investment on other items; the overall utility of the expenditure; the appropriateness and standards of the means acquired; the bargaining power of industries and the so-called military industrial complex.

As illustrated by Draghi in 2023 and 2024, an effective defence policy requires its sharing on a continental scale and the revision of the structure of the European Union budget. The planning of financial resources, the competent use of different possible forms of financing, the monitoring of the efficiency of spending, and the effectiveness of investments also require economic skills, not only military or engineering.

The COVID-19 pandemic was a moment of discontinuity in the European integration process both for the decision to share tools, policies and vaccine procurement, and because for the first time, the issuance of common debt was used to finance recovery policies (Next Generation EU). Similarly, for European defence, the financing methods are being discussed and these could include both the ordinary EU budget and debt issuance through the European Investment Bank (EIB). A further option currently under discussion is the possibility of separating defence investments from the deficit-GDP ratio calculations. However, the proposal presents the same problems highlighted when some member countries put it forward in relation to other expenditure items: vaccines, energy transition and energy supply shocks. Within the European Union, some countries have expressed a favorable opinion on the financing of growing defence investments through the EIB. These are Finland, Bulgaria, the Czech Republic, Denmark, Estonia, France, Germany, Italy, Latvia, Lithuania, the Netherlands, Poland, Romania and Sweden.

Resources are not the only problem, it will require political foresight, good market regulation and mutual trust between the main players in the EU defence industry (France, Germany and Italy plus Spain and Sweden). Among them, there are not only different priorities, specialties and industrial preferences but also traditional

differences in fiscal policy and foreign policy. Relations with the US defence industry and regulatory and commercial choices regarding arms exports are also different. The scenario is evolving rapidly and in March 2024 at a trilateral summit, the leaders of France, Poland and Germany argued in favor of: immediate purchases to be made also on the non-European market; weapons construction in Ukraine (Rheinmetall will open an artillery factory); coalition for long-range artillery; active interests on frozen Russian accounts in Europe will be used for financial support to Ukraine.



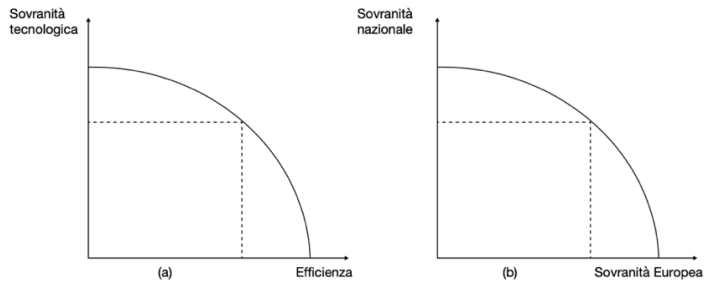
Source: Jacques Delors Institute 2023

§14. National and European Sovereignty in military procurement

In addition to traditional budget constraints, unlike other expenditures or investments, procurement choices in the military field are subject to additional trade-offs. A traditional dilemma for the regulator is to focus on compliance with spending procedures (traditionally using cash accounting) or to emphasize the quality of supplies (using economic accounting). Another significant trade-off today is the one between technological sovereignty and efficiency. Should the Ministry of Defence of Country X acquire the best weapon system on the market or settle for a less-performing but domestically produced vehicle?

However, the principle of sovereignty today should be extended to the European dimension, that is, it is no longer crucial to have national vehicles but rather designed and manufactured in Europe. The issue of sovereignty starts from the project development phase and is not limited to the moment of production or assembly. The design authority is necessary to exercise technological sovereignty whenever it is necessary to update fleets with new systems after years/decades of operation. A more integrated and better-regulated European industry is able to provide guarantees of sovereignty to all member countries. European institutions could work on developing industrial policies and agreements based on the notion of shared sovereignty.

Trade-off between technological sovereignty and efficiency (a); trade-off between European sovereignty and national sovereignty



Source: CED (2021)

Industrial cooperation in the military field is very complex and there are numerous large bilateral projects (SAMP/T, Italy-France; U212, MBT and AICS Italy-Germany) or multilateral projects (Tornado, Eurofighter, FREMM, Horizon...). Cooperation also occurs both government to government and through the intermediation of third-party agencies: at the EU level there is the aforementioned EDA. At the extra-EU level, OCCAR (Organisation for Joint Armament Cooperation) has existed since 1996. At NATO level there are NSPA (Support and Procurement Agency) and NSPO (Support and Procurement Organisation).

In addition to the political/strategic, technological and regulatory spheres, these projects also represent a great challenge from the point of view of inter-organizational cooperation and project management. Just think of the 4000 companies that make up Leonardo's supply chain, the collaboration in the form of export consortia, the distribution of project managers in the various production plants, the additional complexity imposed by the need for secrecy.

The interaction between buyer and seller takes on different configurations (business to government, government to government, business to business) depending on the complexity of the order, the contractual capabilities and the secondary objective of the buyer. In some cases the buyer is able to negotiate the best conditions on its own, in others, this occurs with the intermediation of the exporter's

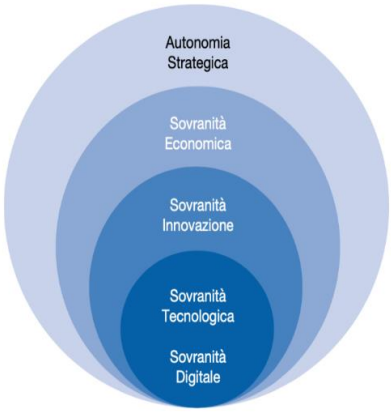
government, or due to a lack of skills or to combine the purchase with a diplomatic or industrial exchange of another type. In other cases, it is a local industry that negotiates an agreement with the exporter also to promote a technological or employment transfer. Localized benefits, the offsets of large military orders represent up to 80% of the value of the contracts. Technological sovereignty is a component of strategic autonomy which, to be fully achieved, must be able to count on the protection of technology, the ability to procure mineral and energy resources, the competitiveness of the economy and control of the digital sphere.

Reversing the current Western concern about being too dependent on China, Jiang Zemin (2009), who in the 1980s was vice-minister at the Ministry of Electronic Industry, argued on several occasions about the need to directly oversee key technologies: 'We should be fully aware that key technologies cannot be bought; we must rely on ourselves. The introduction of each successive generation of new production capabilities from outside China is not enough to reach an advanced level on a global scale. Our researchers must work hard. Otherwise, when it comes to key technologies, we will always be dependent on developed countries.'

Both the war and the pandemic have highlighted a dual trend. First, the race for industrial autarky, then the push for cooperation at the European continental level. The pandemic has generated a race for health supplies and even diplomatic conflicts between member countries. Soon after, it has triggered cooperative mechanisms, such as in the procurement of vaccines and the regulation of vaccination certificates. Similarly, the war in Ukraine has brought attention back to national stocks and production capacities, has generated tensions in the field of energy supplies, but at the same time has favoured the logic of actions at the European level, both diplomatic and industrial. It was understood that European (and NATO) cooperation was needed to provide military assistance to Ukraine but also that it was

necessary to review the criteria of national sovereignty to seek sovereignty at the European level.

Technological sovereignty as a precondition for innovation sovereignty, economic sovereignty and strategic autonomy



Source: CED (2021)

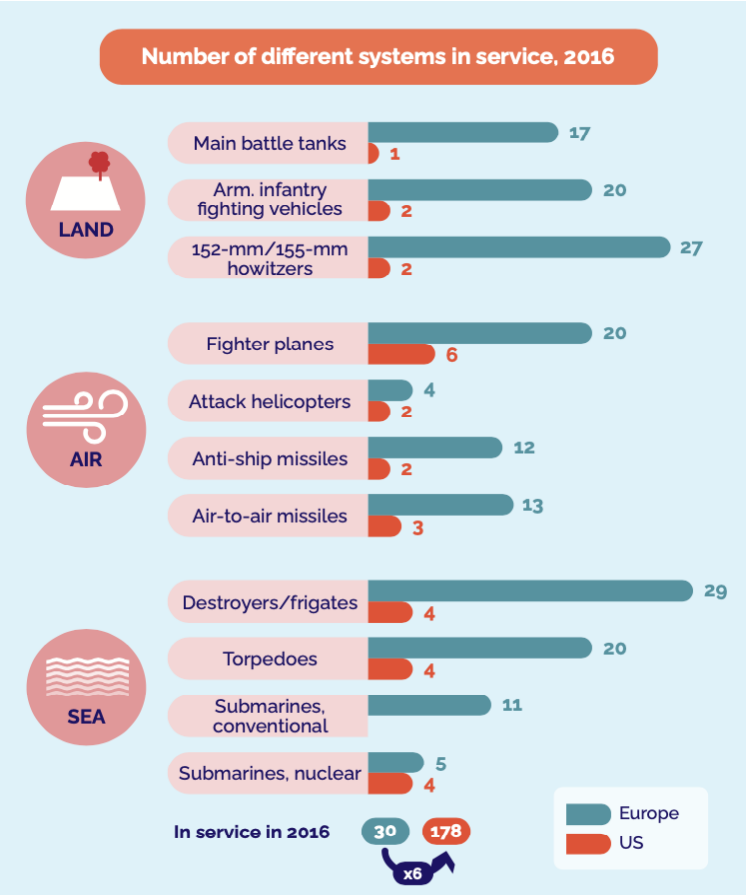
In reality, it is precisely the widespread European industrial excellence that complicates industrial integration. Many member countries boast an excellent defence industry with national champions that operate globally on the technological frontier. For Italy, it is enough to mention both the large ones (Leonardo, Fincantieri, Beretta...) and the medium and small-sized operators (Elettronica SpA, CABI Cattaneo...).

The big question these days is who is able to lead a reorganization of industrial cooperation that maximizes, on a continental scale, economies of scale, technological innovation, interoperability and congruence between national and community operational requirements. In some sectors, the market is able to direct business strategies and move industries towards the most efficient solutions. This is not the case in the defence and security sector due to its specificities. First of all, companies operate in the absence of a single European market and the nature of procurement makes them strongly dependent on the national political sphere. The specificities

of the goods and services contracted justify the partial or total non-application of institutions and consolidated principles of European law: competition, single market, free movement of goods, antitrust, state aid. However, although there is no free movement of products for military use, companies are subject to European antitrust. Furthermore, they operate in derogation of some European and national rules to give full freedom to favour national industries. Furthermore, some market mechanisms are incompatible with the needs of the military field. For example, in the production of ammunition and weapon systems, companies tend to build plants designed to be saturated by production in peacetime and are unable to increase production levels quickly in the event of international tensions or conflicts. This specific problem emerged in 2022 when the entire Western world found itself fragile due to the rapid exhaustion of 155mm ammunition stocks and the inability to achieve an increase in industrial production. Note that the same problem occurred in 1915 (the so-called Shell Scandal) when the British Army ran out of artillery ammunition on the Western Front at the start of the First World War.

Some of these problems are common to other strategic sectors. For example, compared to the United States, Europe is fragmented in the field of telecommunications. EU antitrust rules do not favour the development of European champions of continental size in the field of transport and services as much as in defence. It is no coincidence that weapon systems are very rarely developed or used on a continental scale while there are numerous projects on a multilateral or bilateral scale (ITA-FR-UK for missiles, ITA-FR for naval ships, ITA-DEU for conventional submarines and MBT, UK-DEU-ES-ITA for the Eurofighter fighter). On the sixth generation fighter (FCAS), at the moment, there are even two European consortiums. One led by France involving Airbus and perhaps Germany, a consortium of the United Kingdom, Japan and Italy (GCAP).

The phenomenon of duplication of development efforts is very common. Moreover, the coordination of international projects is very complex. For example, OCCAR has been following the Eurodrone project since 2016, which involves Germany, France, Italy, the Czech Republic, Spain (and Japan as an observer). The national specifications are divergent and the negotiations are very laborious. Suffice it to say that the drone is imagined as a counterpart to the sixth-generation fighter and that at the moment work is being done on two distinct platforms (FCAS and GCAP). Sometimes negotiations fail: this was the case of the consortium for the Horizon class destroyer where the United Kingdom abandoned France and Italy to complete its own Destroyer type 45 independently.



Source: Jacques Delors Institute 2023

§15. Towards a European (industrial) Defence union?

70 years after the failure of the European Defence Community, the EU finds itself, now more than ever, having to deal with the numerous crises and changes that are characterising the international landscape. The need to present itself as a reliable and autonomous global security player has become increasingly stronger. The Member States themselves seem to have understood, at least on paper, the importance of cooperating and collaborating on defence and security matters at the Union level. Due to persistent strategic and doctrinal military divergences, a real integration from an operational-military point of view – often linked to the idea of establishing a so-called European army – seems to be still a long way off. At the same time, the attention paid to the development of an integrated industrial base seems to be a winning choice to strengthen the related institutional architecture, promoting cooperation between states and strengthening the foundations for a future and real integration. Decades of decreasing investment in the defence sector, which began after the end of the Cold War, have meant that, to date, no EU country has the operational and industrial military capabilities to respond effectively and autonomously and independently to the complex and multidimensional challenges of the contemporary world. The response to these structural shortcomings, highlighted by the Russian-Ukrainian conflict, has been to focus on cooperation mechanisms and strategies at EU level.

The initiatives implemented are certainly not a point of arrival but demonstrate growing commitment and attention to the creation of coordinated action and a more collaborative spirit between Member States in the field of defence and security.

Thinking back to the words of Jean Monnet, crises often seem to open a window of opportunity for evolution and change. It will be necessary to ascertain whether, in the near future, the EU and, above all, the Member States will be able to seize the opportunity and exploit

the maximum potential of this "window of opportunity" or, more correctly, "window of necessity" to improve its external action.

CHAPTER II – RULEBOOK

PAOLO SCANNAPIECO, ANDREA BERNARDI,
FRANCESCO MARRADI, ADRIANO PANTALEO

§1. Introduction

'MEDITERRANEO: Science & Defence Industry' is a new matrix game developed by CASD, the School of Advanced Defence Studies in Rome, Italy. Its main goal is to show the power of science, military and industrial diplomacy in contributing to peaceful cooperation between countries. The time horizon of the game is long term, 10-20 years. The teams will roleplay a selection of the countries of the Mediterranean and of the European Union, plus China, Russia, United Kingdom and USA. Blue State Actors (Italy, France, Germany, United Kingdom, USA, Poland/Romania), Non-Blue State Actors (Algeria, Egypt, Libya, Tunisia, Türkiye) and Red State Actors (Russia and China) will compete and cooperate in dealing with regional and global contemporary challenges. The game aims to reach the following learning objectives:

➔ Learn issues and topics of strategic level, concerning defence and security policy.

➔ Explore the dynamics that facilitate and restrain the development of the European Union's defence institutions and industry.

➔ Understand the role of scientific, military and industrial diplomacy, exercising negotiating and leadership skills.

➔ Understand the crucial role of the Mediterranean in: economic growth; shipping lines; scientific collaboration; migration flows,

labour market and demographic imbalances; strategic confrontation between liberal democracies and autocracies; telecommunications and energy infrastructure; sustainability and climate change.

§2. What is a Matrix Game?

In a "matrix game" there are few pre-set rules limiting what players can do. Instead, each is free to undertake any plausible action during their turn. The chances of success or failure, as well as the effects of the action, are largely determined through structured argument and discussion. This process allows for imaginative game dynamics that are lively and open-ended, and yet also grounded in reality.

Matrix games are particularly well-suited for complex conflicts and issues involving multiple actors and stake-holders, varying interests and agendas, and a broad range of (diplomatic/political, military, social, and economic) dimensions. The game system crowdsources ideas and insight from participants, thereby fostering greater analytical insight.

First developed by Chris Engle, matrix games have been played by hobbyists for years. They have also been used as serious games for training at the US Army War College, National Defence University, the Central Intelligence Agency, and elsewhere; for defence planning, capability assessment, and acquisitions in Australia, Canada, the UK, and US; for security planning for the Vancouver Olympics; as a research and analytical support tool at the UK Foreign Office; and as an educational method in various universities. They are particularly well-suited for multi-sided conflicts or other issues that involve a broad range of capabilities and interaction.'

Source: The High North, A Matrix Game of Arctic Crises by Tim Price.

§2.1. Components

Counters	The game has different kinds of counters that are used by the White cell to stress on the map what is happening during the course of play (economic and political events, military deployments, accidents, hybrid warfare) or represent Special military capabilities/Power projection resources that some State Actors / Multi-State Actors may own.
Die	The die is used to determine if some actions are successful. There are also additional occasions when a die roll is needed, for instance to determine whether a secret action is discovered or not.
Event Cards (optional)	They represent random events, namely specific random situations that may occur during the game play (see 8.2-8.4).
Map	The game map is centred on the Mediterranean Sea, but the game takes into consideration the so-called *wider Mediterranean.* Scientific institutions, critical infrastructures (such as cables and gas and oil pipelines), military bases, SAR (Search and Rescue) areas, EEZs (Exclusive Economic Zones), maritime prospections, zones of political influence, …. are depicted on it.

Playbook	It contains essential information on the scenario and technical briefs on certain aspects (underwater, military, science, international law…). Each Player Actor Team will receive a document with the essential information on the State Actor that they will play.
Player aid cards	The game provides laminated cards with all the tables, an explanation of the possible types of actions, and possibly other useful aids.
Resource Displays	Each Player Actor Team has a Resource Display, where it places the coins representing its financial (Yellow coins) and scientific (Blue coins) resource points and the counters representing its Special military capabilities/Power projection resources (if any). On these displays there are different boxes, each corresponding to a type of investment, to arms export, to a specific scientific subcategory or to a Special military capability/Power projection resource (see 7.6).
Resource Pools	Resource Pools are four areas where the "reserves" of the coins representing financial (Yellow coins), scientific (Blue coins) and Defence Industrial Base/Military Technology (Green coins) resource points and of the counters representing Special military capabilities/Power projection resources are stored. When needed, these coins or these

	counters are taken from their respective pools (for example scientific resource points obtained by a State Actor or a Multi-State Actor following a technology transfer in its favor) or moved back to them (for example financial resource points expended by a State Actor or a Multi-State Actor to perform an action).
Resources (see 7.0)	a. Financial resources (Yellow coins); b. Scientific resources, R&D (Blue coins); c. Defence Industrial Base/Military Technology resources (Green coins); d. Special military capabilities/Power projection resources (Counters).
State Actor Objective Sheet	It contains the lists of the objectives, one list for each State Actor or Multi-State Actor. These lists include a mix of economic, political, military, diplomatic and scientific objectives (see 14.1).
Tables	Table 1: Crisis Level Indicator Table 2: Action Cost Table Table 3: Crisis Level Modifiers Table Table 4: Chance of Success Determination Table Table 5: Level of Success/Failure Table Table 6: Interaction Matrix between State Actors/Non-State Actors (Resilience Table) Table 7: Initial Resource Table Table 8: Resource Conversion Table

	Table 9: Industrial Defence Projects Table
This Rulebook	
Turn Sheets	They are used to plan and communicate to the White cell the actions each Game-Turn.
Wooden blocks (blue and red)	Wooden blocks, blue or red coloured, respectively, are used to mark the identity of the items on the map, i.e. whether they are linked to blue or red State Actors' activities, respectively.

§3. Important Terms & Concepts

Actions: Player Actor Teams play the game through actions, a maximum of three per turn. Actions can be performed by negotiation or by automatic resolution by means of a die roll (see 6.6 and 6.7).

Crisis Level Indicator: it is an indicator of the different crisis levels, ranging from "Low" to "Critical", via "Medium", "High" and "Severe". The corresponding marker is used to show the current crisis level.

Bot: set of rules and flowcharts to manage actors not managed by human players.

Blue cell (Optional): it represents the scientific community and the public opinion components within the various Player Actor Teams and is the *alter ego* of the other subteams Player Actor Teams are subdivided in, trying to argue in favour of international scientific cooperation, of the scientific policies and of scientific research to deal with the great challenges like climate change: those are all aspects generally neglected by politics. Blue cells of the different Player Actor Teams can interact among them autonomously until their political-military counterparts prevent/forbid them from doing so.

Brown cell (Optional): it is a particular State Actor that follows some directions from the White cell. This State Actor has its own objectives, but also operates in cahoots with the White cell that in some instances instructs it, unlike for the other State Actors. This avoids the White cell having to do too many things at once.

Events: they are random events, namely specific random situations that may occur during the game play (see 8.2-8.4).

Injections: they are events introduced by the White cell at its discretion to add balance to the game or to make the game take a specific trajectory (see 8.1).

Institutional Actors (IA): they are, for example, United Nations (UN), the European Union (EU), NATO, the African Union (AU), International Atomic Energy Agency (IAEA), CNRS, CNR, CERN, ICTP, SESAME, UNESCO, ASI, ESA, NASA, Horizon Europe, etc. All Institutional Actors are Non-State Actors and are Non-Player Actors (NPA), i.e. they are always handled by the White cell and/or via automatic procedures (=bot) (see 10.2).

Multi-State Actors (MSA): in some cases some State Actors can for convenience be grouped together in a Multi-State Actor. This can happen for example when those State Actors share some common geopolitical features. As in the case of State Actors, they can be either Player Actors or Non-Player Actors, depending on the fact that, in a given game, they are handled by human players or not (in the latter

case they are handled by the White cell and/or via automatic procedures (=bot)). In this game there is one Multi-State Actor, Poland / Romania (see 12.1), that acts as Player Actor.

Non-Player Actors (NPA): entities not played by a human player, but by the White cell and/or via automatic procedures (=bot): they can be State Actors / Multi-State Actors not played by a human player or Non-State Actors (NSA) / Green cells (the latter are always handled in this way).

Non-State Actors (NSA) / Green cells: they are ***Institutional Actors (IA)***, on one hand, and ***press***, ***activists***, ***NGOs (several kinds)***, etc., on the other. All Non-State Actors (NSA) / Green cells are Non-Player Actors (NPA), i.e. they are always handled by the White cell and/or via automatic procedures (=bot) (see 10.1).

Player Actors (PA): entities played by a human player or team of human players: they can only be State Actors or Multi-State Actors.

State Actors (SA): the different (mostly Mediterranean) countries involved. They can be either Player Actors or Non-Player Actors, depending on the fact that, in a given game, they are handled by human players or not (in the latter case they are handled by the White cell and/or via automatic procedures (=bot)). They are: Albania, Algeria, Austria, Bosnia and Herzegovina, Belgium, Bulgaria, China, Croatia, Cyprus, Czech Republic, Denmark, Egypt, Estonia, Finland, France, Germany, Greece, Hungary, Israel, Italy, Jordan, Kosovo, Latvia, Lebanon, Libya, Lithuania, Netherlands, Mauritania, Montenegro, Morocco, North Macedonia, Norway, Portugal, Russia, Serbia, Slovenia, Slovakia, Spain, Sweden, Syria, Tunisia, Türkiye, United Kingdom, USA (see 12.1).

White cell: it is a team composed of two or more experts (the *facilitators*) who act as game masters, referees and advisers, providing facilitation. Facilitators must have a thorough understanding of the rules and procedures described in this rulebook.

Table summarizing the relations

between the different above-mentioned definitions of Actors:

	Player Actor (PA)	*Non-Player Actor (NPA)*
State Actor (SA)	YES	YES
Multi-State Actor (MSA)	YES	YES
Non-State Actor (NSA) / Green cell: *Institutional Actors (IA)* and *press, activists, NGOs (several kinds)*	NO	YES

§4. Set-Up

1. Each Player Actor Team is associated with a State Actor / Multi-State Actor.
2. Each Player Actor Team receives the financial (Yellow coins), scientific (Blue coins), industrial/technological-military (Green coins) and special military (Counters) resources listed for its corresponding State Actor / Multi-State Actor in the Initial Resource Table (Table 7, see 7.7), representing its economic, scientific, industrial/technological-military and special military power. In particular, each Player Actor Team places the coins representing its scientific resource points and the counters representing its Special military capabilities/Power projection resources (if any) in the different boxes of its Resource Display

pertaining to the different scientific and military subcategories, according to what is detailed in the Initial Resource Table (Table 7, see 7.7).

3. Each Player Actor Team identifies the subteams that will represent the political, economic, industrial, scientific/public opinion (the so-called Blue cell, optional) and military spheres (in charge of diplomatic, economic, industrial, scientific and military policies).
4. Cards, markers and counters are placed on the map.
5. The White cell opens the game introducing the scenario and adjudicating by voting essential future events (for instance the winners of important elections, the conclusion of existing conflicts...).
6. Each Player Actor Team is provided by the White cell with the objectives of the corresponding State Actor / Multi-State Actor, a mix of economic, political, military, diplomatic and scientific objectives (see 14.1).

§5. Sequence of Play

5.1. The Game. The Game is played in *6 Game-Turns*, each representing *three years*. Each Game-Turn is divided into *5 Phases* (see 5.2 Game-Turn Structure below). The Phases must be resolved in the exact order given. After a Game-Turn's last Phase, that Game-Turn is complete and a new Game-Turn begins.

5.2 Game-Turn Structure:

1. Resource distribution by the White cell
2. Drawing of Injections by the White cell / Event Card(s)
3. Selection of the actions by each Player Actor Team
4. Action Resolution Phase

5. End of Turn Phase: turn outcome determination by White cell; allocation of annual and extraordinary resources by White cell; crisis level adjustment by the White cell.

§6. Actions

6.1. During the Game-Turn Phase 3

(Selection of the actions by each Player Actor Team), Player Actors Teams simultaneously choose ***three*** actions to be performed in the current Game-Turn in the subsequent Phase (Game-Turn Phase 4, Action Resolution Phase) and write them down in their Turn Sheet; then they hand the Turn Sheet to the White cell for evaluation and approval.

6.2. Action types. The possible types of actions are shown in the list below and in Table 2 (Action Cost Table), where their cost in financial resource points is also listed.

List of possible action types

Diplomatic (D) (N)	Diplomatic actions involve different fields: scientific, industrial, military… In particular, the following can be considered: ● *Stricto sensu* diplomatic actions. ● Science Diplomacy actions, pertaining to the domain of Science Diplomacy. They represent agreements, collaborations or transfers of knowledge/technology between Actors. They can be performed by an Actor that proposes to another Actor the above-mentioned agreements and collaborations or that proposes transferring to that other Actor a certain type of knowledge/technology. Moreover, they can also be performed by an Actor

	that requests from another Actor a certain type of knowledge/technology. These actions may happen only by negotiation. When an Industrial Defence Project is declared as started the Player Actor Team that is acting as that project's Lead (Tier 1) State Actor / Multi-State Actor must spend one of its three actions available during a Game Turn as a Diplomatic action in order to successfully start that project. However this particular action doesn't have a cost in financial resources, unlike what is usually required for Diplomatic Actions (see 11.6).
Economic (E) (A/N)	Economic and financial actions can be performed via public bodies (central banks, international financial organizations, sovereign funds, treasuries, development agencies, ministries...) or private institutions (private banks, corporations, investment funds). Actions can include loans, equity and non-equity investments, open market operations, FDI, trade agreements, non-tariff barriers, nationalizations, privatizations... Inferring economic advantage on a competitor may attract support through beneficial concessions or investment of capital, aid and trade to support prosperity. Conversely, economic disadvantage can be inferred on a competitor through measures such as sanctions, closing markets and withdrawing investment. Malign actors use attractions as

	part of their campaign mindset to cause dependence, which can be used to compel and deter. Others use economic engagements to enable both actors to make progress towards prosperity, thus bringing stability. (Source: NATO STANDARD AJP-01 ALLIED JOINT DOCTRINE Edition F Version 1 DECEMBER 2022)
Legal (L) (A/N)	Legal actions are aimed at achieving a given target through the use of legal means at domestic, national or international level. Domestic courts enable States to respect their international obligations. They do so by enforcing international law domestically. From the perspective of the sources of international law, domestic judicial decisions also have a dynamic effect on international law, as they contribute to shaping it, on the one hand, and help interpreters ascertain it, on the other hand. (Source: Ammann, O. (2020). The Legal Effect of Domestic Rulings in International Law. In Domestic Courts and the Interpretation of International Law (pp. 133-158). Brill Nijhoff.) International law provides the framework for political discourse among members of the international system. The framework does not guarantee consensus, but it does foster the ongoing discourse and participation needed to provide conceptual clarity in developing legal

	obligations and gaining their acceptance. In playing this role, international law performs two different functions. One is to provide mechanisms for cross-border interactions, and the other is to shape the values and goals these interactions are pursuing. (Source: Armstrong, D., Farrell, T., & Lambert, H. (2012). International law and international relations. Cambridge University Press. p.426)
Influence (I) (A)	Influence actions are aimed at achieving some kind of consensus through the use of appropriate tools to pressure and influence certain targets. If an influencing state's activities successfully generate influence, the influencer can pursue four types of behavioral "changes" from its target: first, the target adopts the influencer's desired behavior; second, the target maintains a behavior that it otherwise would have jettisoned; third, the target refrains from adopting a behavior that it otherwise would have embraced, and, fourth, the target abandons an undesired behavior. A target could undertake these adjustments in response to an explicit influencer request (compliance) or it could adopt them proactively, based on its knowledge of the influencer's preferences (anticipatory compliance).

(Source: Simon Herbert H. 1953. "Notes on the Observation and Measurement of Political Power." The Journal of Politics 15 (4): 500–16.)

Foreign influence can achieve its goals only if it resonates within the system of the national interests and values of the influenced. Without this resonance, foreign influence is meaningless as it fails to interact with the influenced actor in any way (positive or negative). An influencing actor formulates the intent of its influence in the context of its national interests (constructed through interaction between the government, different domestic political actors and institutions, and the people) and shaped by its national values. In most of the cases the true intent of the influencing actor will be unknown to the influenced actor. Even in the cases when foreign influence is invited and welcome, its true intent remains unknown to the inviting actor.

(Source: Defining Foreign Influence and Interference, Ofer Fridman, January 4, 2024)

Military instrument of Power (M) (A)	In this game the military component is simplified and reduced to *three* types of Military actions: 1. *Non-kinetic* (cyber warfare, information warfare, Electro-Magnetic Spectrum (EMS) warfare, black ops…). Black ops are always treated as Confidential Actions (see 6.8). 2. *Kinetic*: Conventional (Air, Land, Sea Ops), Space. 3. *Power projection*: they consist of area presence / FONOPs, establishing bases abroad, stabilization / training actions, protecting strategic installations and assets (pipelines, extraction fields, mines, dams and rivers), and protecting commercial routes and choke points. Power projection actions are automatically successful if there aren't obstacles that hinder them, subject anyway to previous evaluation and approval by the White cell situation by situation. It's up to the Player Actor Teams to specify in detail which kind of military operation they intend to conduct. Military actions related to particular special capabilities (Carrier Strike Groups, Deep Strike capabilities, Rapid Deployable Corps and Air & Space Intelligence) can be carried out only if the State Actor / Multi-State Actor

attempting them owns the relevant Special military capability/Power projection resource (see 7.5).

The military component of the game is limited. Military capabilities can be used to foster negotiations with other State Actors / Multi-State Actors (support in operations, protection, arms exports, power projection…) or to address domestic issues (human trafficking, protection of infrastructures…). Science Diplomacy is a very important tool of soft power, and its ultimate goal is to avoid resorting to the military option. Therefore, the use of military escalation, hard power manifestations and kinetic (and to some extent also non-kinetic) operations towards other State Actors / Multi-State Actors should be strongly discouraged. Military instrument is a factor of influence and claim, a tool available to diplomacy, but it must be contained and limited: its aim and effects must remain within the scopes of the game in order to keep the game itself coherent and it must not escalate into an actual military intervention. Should this happen, everybody loses, and the game is over: the players and the White cell move on to the analysis of the process that led to the collective negative result.

6.3. Action cost. Actions have a specific cost in financial resource points that is listed in Table 2 (Action Cost Table), depending also on

the current Crisis Level. Financial resource points are actually expended, moving them back to the Financial Resource Pool, regardless of the success or failure of the action.

In addition, technology transfers and academic agreements and collaborations (carried out through Diplomacy actions) have the following prerequisite: one of the Actors involved in such actions must have at least **one** scientific resource point in the specific scientific subcategory involved in those actions for them to be successful. For example, if Actor A, performing a Diplomacy action, requests from Actor B a certain type of technology it doesn't own, Actor B must have at least **one** scientific resource point in the scientific subcategory corresponding to that technology on its Resource Display. Following the Diplomacy action one scientific resource point is given to the counterpart, taking it from the Scientific Resource Pool. This point isn't expended by the Actor satisfying the prerequisite (see 7.9).

6.4. Methods of performing actions. Actions can be carried out through two different methods: either through negotiations (see 6.6) or through automatic resolution by means of a die roll (see 6.7). Some actions can be performed only through negotiations (they are marked "***N***" in the List of possible action types), some only via automatic resolution by means of a die roll (they are marked "***A***" in the List of possible action types) and some through both of them (at the Player Actor Team's choice; they are marked "***A/N***" in the List of possible action types). Moreover, actions can be declared public domain or confidential (see 6.8).

6.5. Action Resolution Phase. During the Action Resolution Phase (Game-Turn Phase 4), the actions chosen by the Player Actor Teams are resolved.

If a given action is meant to be performed through negotiation, it is resolved by the Player Actor Team that chose it. If it is meant to be performed by means of a die roll, it is resolved by the White cell.

While all the negotiations occur simultaneously, the White cell resolves the other actions one at a time.

6.6. Action resolution through negotiations. In this case, the outcome of the action is not decided by a die roll on the Chance of Success Determination Table, but it is resolved by the Player Actor Team performing it through negotiations, i.e through a direct interaction with the other Player Actor Team(s) and/or the Non-Player Actor(s) (handled by the White cell) that are the targets of this action: if involved Actors come to an agreement, the negotiation is considered successful. In the event of a stalemate in negotiations, it can be resolved by the White cell through a die roll.

6.7. Action resolution through automatic resolution by means of a die roll. In this case, the outcome of the action is determined by a die roll that is compared with the Chance of Success determined on the Chance of Success Determination Table (see 6.7.5). This kind of action (both confidential and in the public domain) resolution is performed by the White cell, who in case of public domain actions describes in detail their outcome to the Players.

6.7.1. Crisis Level Modifiers Table. If a certain action is performed by means of a die roll, the current Crisis Level (see 13.0) also influences its outcome: the Crisis Level Modifiers Table provides this modifier to the Chance of Success.

6.7.2. Interaction Matrix between State Actors/Non-State Actors (Resilience Table). If a certain action is performed by means of a die roll, it can have different outcomes depending on which State Actor / Multi-State Actor / Non-State Actor performs it on which other State Actor / Multi-State Actor / Non-State Actor: the Interaction Matrix between State Actors / Multi-State Actors / Non-State Actors simulates this aspect, providing a modifier to the Chance of Success depending on the State Actors / Multi-State Actors / Non-State Actors involved. To get this modifier, cross-reference on this Matrix the State Actor / Multi-State Actor / Non-State Actor performing the

action with the State Actor / Multi-State Actor / Non-State Actor on which that action is performed.

6.7.3. Optional Risk. If a certain action is performed by means of a die roll, the Player Actor Team conducting it can decide to take a further risk (Optional Risk), spending one further financial resource point, to get a +1 modifier to the Chance of Success.

6.7.4 Other Modifiers. If a certain action is performed by means of a die roll, the White cell, according to the current overall situation of the game, can decide further modifiers, positive or negative, at its discretion.

6.7.5. Chance of Success Determination Table. Once determined, all the above-mentioned modifiers are used to determine the actual Chance of Success according to the Chance of Success Determination Table; then one ten-sided die is rolled: if the die roll (from 1 to 10, 0 being equal to 10) is lesser than or equal to the above determined Chance of Success, the action succeeds, otherwise it fails. A die roll of "1" is always an automatic success, while a die roll of "10" is always an automatic failure.

Table 4. Chance of Success Determination Table:

Chance of Success = 7 + Modifiers from *Crisis Level Modifiers Table* and *Interaction Matrix between State Actors/Non-State Actors (Resilience Table)* + Optional Risk + *Other Modifiers*

6.7.6. Levels of success and failure

Once determined the outcome of an action, be it success or failure, its level of success or failure is determined on the Level of Success/Failure Table and the corresponding possible additional resources are gained or lost accordingly.

§6.8. Confidential actions

A Player Actor Team can choose that some (or all) of the three actions it performs each Game Turn will have a confidential nature and therefore those action(s) will exclusively be communicated to the White cell, while the other(s) will be public. Consequently, Player Actor Teams must specify their nature in the Turn Sheet. If an action is planned as confidential, it can nevertheless be exposed for some reason (intel, news leak, ...): therefore, for each of those actions the White cell rolls a die to check whether that action is revealed. The die roll failure range is decided by the White cell depending on the circumstances. If the action is revealed, the White cell makes it public. If a Confidential Action is not revealed, its outcome is communicated by the White cell through direct and secret communications to the involved State Actors / Multi-State Actors. The White cell can also give all the Players some partial information pertaining to what can be publicly known about that action (communications through mass media).

6.9. When the Crisis Level Indicator reaches levels from "High" to "Critical" (see 13.0), technological transfers cannot be carried out with State Actors / Multi-State Actors of different "colour" (see 12.1).

6.10. Actions can be directed to more than one target (State Actor(s) / Multi-State Actor(s) / Non-State Actor(s)), but in that case their cost is greater than when directed only to one target. It's up to the White cell to define their increased cost, according to the circumstances. If those actions are performed by means of a die roll, the die is rolled once in order to resolve them, but the Chance of Success being used changes according to the different modifiers given in Table 6 (Interaction Matrix between State Actors/Non-State Actors (Resilience Table)) for the different targets involved.

6.11. Different State Actors / Multi-State Actors / Non-State Actors can perform the same action in a combined way on the same target (or on the same targets), prior joint agreement. If this combined action is performed by means of a die roll, it receives a positive

modifier when calculating its Chance of Success. The exact amount of this modifier is decided by the White cell according to the circumstances. In this case, the more favourable modifier from *Table 6* – Interaction Matrix between State Actors/Non-State Actors (Resilience Table) – is chosen.

Table summarizing the actions in relation to their methods of resolution

		Method of resolution	
	Type of Action	*Negotiation (N)*	*Die roll (A)*
D	DIPLOMACY	*YES*	*NO*
E	ECONOMIC	*YES*	*YES*
L	**LEGAL**	***YES***	***YES***
I	**INFLUENCE**	***NO***	***YES***
M	**MILITARY - Non-kinetic**	***NO***	***YES***
	MILITARY - Kinetic	***NO***	***YES***
	MILITARY - Power projection	***NO***	***YES***

§7. *Resources*

7.1. *Player Actor Teams* have four kinds of resources available: financial (Yellow coins), scientific (Blue coins), Defence Industrial Base/Military Technology (Green coins) and Special military capabilities/Power projection resources (Counters). Those resources will be deployed by Player Actor Teams to achieve national and collective goals, among which, a prosperous, free, and safe Mediterranean. Participants are encouraged to deploy science diplomacy campaigns on other State Actors / Multi-State Actors. Science is a tool; scientific power is also a metric of victory.

7.2. Financial resources (Yellow coins) represent the financial power available for external actions (international aid, diplomacy, scientific cooperation, economic influence, military operations…). While having national objectives and an interest in domestic issues, players are not involved in domestic budgets and domestic policies. The game is focused only on external actions for which each State Actor is allocated a given number of yellow coins, proportionate to the economic and financial strength of the nation, adjusted to population and institutional power. The four yellow shaded boxes of the Resource Displays are potential foreign sources of income: Arms Export, Oil & Gas Exploration, Foreign Aid and FDI (Foreign Direct Investment).

7.3. Scientific resources (Blue coins) represent the scientific and technological power of the different State Actors / Multi-State Actors and can increase thanks to technology transfer, **financial investments** (i.e. conversion of financial resources in scientific resources at a ratio of 3 yellow coins for *1* blue coin, see Table 8, Resource Conversion Table), discoveries, infrastructure building, attraction of scientists and exercising a leadership role within international scientific organizations.

7.4. Defence Industrial Base/Military Technology resources (Green coins) represent the defence industrial power and the expertise in military technologies of the State Actors / Multi-State Actors. They are of two types:

- Defence Industrial Base resources (Green coins, ***type 1***): they represent the raw industrial base of a State Actor for carrying out Industrial Defence Projects;
- Military Technology resources (Green coins, ***type 2***): they represent the know-how and the expertise of a State Actor in military technologies for developing Industrial Defence Projects.

They can increase by **financial investments** as follows:

- Defence Industrial Base resources can be obtained by conversion of financial resources at a ratio of ***1*** green coin (***type 1***, Defence Industrial Base) for **1** yellow coin, representing the expansion of industrial production plants (see Table 8, Resource Conversion Table); they become available the next Game-Turn after the investment action.

- Military Technology / Dual Use resources can be obtained by conversion of financial resources at a ratio of ***1*** green coin (***type 2***, Military Technology) for **2** yellow coins, representing the increase in EDTs (Emergent and Disruptive Technologies, see Table 8, Resource Conversion Table); they become available after two Game-Turns from the investment action.

7.5. Special military capabilities/Power projection resources (counters) represent specific military capabilities of the different State Actors / Multi-State Actors (Carrier Strike Groups, Deep Strike capabilities, Rapid Deployable Corps and Air & Space Intelligence). They are owned only by some State Actors / Multi-State Actors. Military actions related to those capabilities can be carried out only if the State Actor / Multi-State Actor attempting them owns the relevant capability. These capabilities can increase thanks to investments of financial resources at a cost depending on the type of military capability (see Table 8, Resource Conversion Table). A Rapid Deployable Corps is deployable by the end of the Game-Turn it has been financed, a Carrier Strike Group is considered to have been completed after two Game-Turns, while the remaining special military capabilities are considered to have been completed after 1 Game-Turn.

7.6. Resource Display. Each Player Actor Team has a Resource Display, where the coins representing financial (Yellow coins) and scientific (Blue coins) resource points and the counters representing Special military capabilities/Power projection resources (if any) are placed. Scientific resources points (Blue coins) represent the scientific and technological power of the different State Actors / Multi-State

Actors. On each Resource Display there are scientific blue shaded boxes where blue coins are deposited to represent excellence (two coins) or sufficient mastery (one coin). One coin from one of the Actors involved is the necessary condition for agreeing scientific and technological transfers, undertaking scientific collaborations or establishing academic agreements. The presence of one or two coins represents not only good/excellent academic knowledge, but also the presence of appropriate environmental conditions (public and private funding, staff and student mobility, international partnerships, meritocracy, academic freedom), the availability of research infrastructures (laboratories, competitive grants, independent research institutions), the existence of advanced industrial know-how, patents and protection of intellectual property. There are four yellow shaded boxes corresponding to investments and bilateral transfers, representing potential foreign sources of income: Arms Export, Oil & Gas Exploration, Foreign Aid and FDI (Foreign Direct Investment). Lastly there are four green shaded boxes corresponding to the Special military capabilities/Power projection resources of the different State Actors / Multi-State Actors (if any).

7.7. *At the beginning of the game*, during the Set-Up (see 4.0), each Player Actor Team receives the financial (Yellow coins), scientific (Blue coins), industrial/technological-military (Green coins) and special military (Counters) resources listed for its corresponding State Actor / Multi-State Actor in the Initial Resource Table (Table 7), representing its economic, scientific, industrial/technological-military and special military power. In particular, each Player Actor Team places the coins representing its scientific resource points and the counters representing its Special military capabilities/Power projection resources (if any) in the different boxes of its Resource Display pertaining to the different scientific and military subcategories, according to what is detailed in the Initial Resource Table (Table 7).

7.8. *Each Game-Turn*, during Phase 1 (Resource distribution by the White cell), each Player Actor Team receives the financial and scientific resources listed for its corresponding State Actor / Multi-State Actor in the Resource Periodic Allocation Table. These incomes can increase or decrease according to the investments performed and to other factors.

7.9. *Using resources.* While financial resources are actually expended in the attempt of performing an action (according to the costs listed in Table 2, Action Cost Table) and therefore they are moved back to the Financial Resource Pool, scientific resources are not actually expended, but they represent a prerequisite for technology transfers and academic agreements and collaborations (carried out through Diplomacy actions): one of the Actors involved in such actions must have at least **one** scientific resource point in the specific scientific subcategory involved in those actions for them to be successful, i.e. for agreeing technology transfers, undertaking scientific collaborations or establishing academic agreements. The transfer of technological knowledge doesn't imply loss of scientific resources by the Actor transferring a certain type of technology. The scientific knowledge of the Actor who transfers part of it to another Actor is not affected by this action. Consequently, in the event of technology transfer from one Actor to another Actor, one scientific resource point is taken from the Scientific Resource Pool and placed on the appropriate box of the Resource Display of the receiving Actor. According to the negotiation, a payment in financial resources is made by the counterpart acquiring the technological knowledge to the counterpart transferring it (see 6.3).

Similarly to scientific resources, Defence Industrial Base/Military Technology resources are not actually expended, but, when they are invested in a given Industrial Defence Project they become "frozen" and, until that project is realized, they cannot be used for other projects (see 11.3).

7.10. There is a trade-off between military and infrastructural investments and scientific investments. Political conflict and military confrontation with other Mediterranean countries entail a decrease of scientific influence. Blue cells (national scientific communities), nevertheless, can negotiate scientific agreements and can influence the allocation of their State Actor's / Multi-State Actor's financial resources.

7.11. In the event of a transfer of a given amount of financial resource points from one State Actor / Multi-State Actor to another Actor (for example in the case of aid and development cooperation), those financial resources points are moved from the financial resources of the State Actor / Multi-State Actor ceding them to the specific box of the beneficiary. In the event of a gain of a given amount of financial resource points by a State Actor / Multi-State Actor (for example in the case of hydrocarbon exploration in the Adriatic Sea carried out by Italy), those financial resource points are taken from the Financial Resource Pool and placed on the specific box of the Resource Display of that State Actor / Multi-State Actor or amid that State Actor's / Multi-State Actor's financial resources.

7.12. Once technology has been acquired through transfer, conversion of financial resources or investments, it is necessary to wait one turn before being able to transfer it to others.

7.13. If a Blue Player Actor Team intends to conduct a transfer of civil or military nuclear technology, it must agree in advance with the other Blue State Actors / Multi-State Actors on that transfer, regardless of the Actor receiving that technology (see 12.1 for the definition of Blue State Actor / Multi-State Actor).

Table summarizing the different types of resources:

a. Financial resources (Yellow coins);

b. Scientific resources, R&D (Blue coins)

c. Defence Industrial Base/Military Technology resources (Green coins);

d. Special military capabilities/Power projection resources (Counters).

§8. Injections and Events

8.1 Injections. During the Game-Turn Phase 2 (Drawing of Injections by the White cell / Event Card(s)), the White cell can decide to implement an *injection*, i.e. an event it decides to introduce to add balance to the game or to make the game take a specific trajectory. Injections have economic, military, political and scientific impact (diplomatic crises, trade wars, dynamics between NATO and EU countries, leaders in power, elections, humanitarian crises, climate change, scientific discoveries, etc.) and can affect all, some or only one of the Player Actors.

8.2 Events (currently not available) are random specific situations that may occur during the game play. They are represented by Event Cards and the situations they entail are the same kind as injections, with the only difference of the random occurrence.

8.3. Structure of Event Cards. Each Event Card has displayed on it:

1) title;

2) short description of the Event;

3) effect.

8.4. During the Game-Turn Phase 2, an Event card is also drawn from the Event Deck and its effects are immediately implemented. It is then placed, face-up, on top of the discard pile. Cards in the discard pile may be reviewed but not reordered. Events are executed to the fullest extent possible. Important: whenever a conflict arises between the rules and a card's text, the card takes precedence.

§9. Collective deliberations (Optional)

9.1. There are two types of collective deliberations:

1. deliberations to collectively deliberate/determine the occurrence of a certain event (see 9.2);

2. deliberations to collectively deliberate/determine an action to be undertaken within the framework of an International Organization (see 9.3).

9.2. The game has a collective deliberation mechanism to collectively deliberate/determine the occurrence of a certain event, political or otherwise, needed for the continuation of the game. This collective deliberation mechanism is used at the beginning of the / during the game to sort out the outcome of some events.

9.3. If there is an action to be undertaken within the framework of an International Organization, that action must be deliberated according to the regulations/guidelines/rules of that specific International Organization (EU, UN, WTO…).

This method is also used as a tool for evaluating non-confidential actions and the achievement of objectives at the end of the game.

§10.0 Non-State Actors (NSA)

10.1. Non-State Actors (NSA) / Green cells. They are *Institutional Actors (IA)*, on one hand, and *press*, *activists*, *NGOs (several kinds)*, etc., on the other. All Non-State Actors (NSA) / Green cells are Non-Player Actors (NPA), i.e. they are always handled by the White cell and/or via automatic procedures (=bot).

10.2. Institutional Actors (IA). They are, for example, United Nations (UN), the European Union (EU), NATO, the African Union (AU), International Atomic Energy Agency (IAEA), CNRS, CNR, CERN, ICTP, SESAME, UNESCO, ASI, ESA, NASA, Horizon Europe, etc. All Institutional Actors are Non-State Actors and are

Non-Player Actors (NPA), i.e. they are always handled by the White cell and/or via automatic procedures (=bot). When activated in the game, the White cell will provide rules.

10.2.1. The European Union (EU). It is handled by the White cell and/or via automatic procedures (= bot) and has at its disposal a pool of financial resources to be allocated to large scale projects and to other initiatives.

§11. Industrial Defence Projects

11.1. Industrial Defence Projects are a key aspect of this game. Blue State Actors / Multi-State Actors are required to invest economic and scientific resources to develop the defence industrial base and to achieve cooperative objectives in the industrial field. They can only win if at least ***4*** European industrial defence projects are successfully launched (see 14.2).

11.2 The available projects are listed in the Industrial Defence Projects Table (Table 9). Each Blue State Actor / Multi-State Actor can take part in these projects proposing and negotiating its role with the other Blue State Actors / Multi-State Actors. They can participate with one of the following roles:

1. Lead (Tier 1);
2. Participant (Tier 2);
3. Industrial Partner (Tier 3);
4. Buyer.

The roles of Industrial Partner (Tier 3) and Buyer can also be taken by Non-Blue State Actors.

11.3 Resource investments. If participating in a given project as Lead (Tier 1) or Participant (Tier 2), a Blue State Actor / Multi-State Actor must invest the number of Military Technology resource points (Green coins, ***type 2***, see 7.4) listed in the "Required investment"

column of Table 9 for the corresponding role in that project. If participating in a given project as Industrial Partner (Tier 3), a Blue State Actor / Multi-State Actor must invest the number of Defence Industrial Base resource points (Green coins, ***type 1***, see 7.4) listed in the "Required investment" column of Table 9 for the corresponding role in that project. If participating in a given project as Buyer, a State Actor / Multi-State Actor must invest the number of Financial resource points (Yellow coins) required to purchase one batch of the product resulting from that project (also listed in the "Required investment" column of Table 9). When Defence Industrial Base/Military Technology resources are invested in a given Industrial Defence Project, they become "frozen" and, until that project is realized (see 11.5), they cannot be used for other projects.

11.4. A project can be declared as started when the number of Blue State Actors / Multi-State Actors involved in the project reaches the number listed in the "**Success threshold**" column of Table 9 corresponding to that project. Among the Blue Actors involved, there must always be one Lead (Tier 1) State Actor / Multi-State Actor, while the remaining Blue Actors must be either Participants (Tier 2) or Industrial Partners (Tier 3). Blue State Actors / Multi-State Actors acting as Buyers don't count against this threshold. Duplication of projects is not possible.

11.5 A project is considered to have been realized a number of Game-Turns after its start depending on its "*Success threshold*":

Success threshold	*Game-Turns needed for completion*
3	2
4	3

5	4

The above listed needed Game-Turns include the Game-Turn of start.

11.6. Blue State Actors / Multi-State Actors don't need to expend specific actions in order to negotiate Industrial Defence Projects: they simply carry out the negotiations with the involved counterparts. The only exception takes place when an Industrial Defence Project is declared as started: in that case, the State Actor / Multi-State Actor acting as that project's Lead (Tier 1) must expend one of its three actions available during a Game Turn as a Diplomatic action for that project to be successfully started (see 6.2, Diplomatic Actions). However, this particular action doesn't have a cost in financial resources, unlike what is usually required for Diplomatic Actions. There is a permanent forum where projects are negotiated and where Blue State Actors / Multi-State Actors take part with a dedicated team, composed of two delegates, one representing the national industry and the other the national government.

11.7. Investment return. At the end of each Game Turn, each Blue State Actor / Multi-State Actor receives half of the green coins it has invested in active projects (all fractions are rounded down): this simulates the direct return of the investment in industrial expansion and in technological development. At the end of each Game Turn, each State Actor / Multi-State Actor participating as Buyer in active projects receives a quarter of the yellow coins invested (all fractions are rounded down).

§12.0 Influence Track

12.1. State Actors / Multi-State Actors are divided in three groups: Blue, Non-Blue and Red. Blue State Actors / Multi-State Actors are: Albania, Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece,

Hungary, Italy, Latvia, Lithuania, Netherlands, Montenegro, North Macedonia, Norway, Portugal, Slovenia, Slovakia, Spain, Sweden, United Kingdom, USA, Poland/Romania. Non-Blue State Actors are: Algeria, Bosnia and Herzegovina, Egypt, Israel, Jordan, Kosovo, Lebanon, Libya, Mauritania, Morocco, Serbia, Syria, Tunisia, Türkiye. **Red** State Actors are Russia and China.

12.2. State Actors / Multi-State Actors will compete and cooperate in dealing with regional and global contemporary challenges. Each State Actor / Multi-State Actor must achieve national objectives (political, economic, scientific...), at times also conflicting with like-minded State Actors / Multi-State Actors, but the rules enforce a mechanism of co-operation, represented by the Influence Track.

12.3 The Influence Track is a measurement of the overall strategic leadership achieved through a combination of actions: economic, diplomatic, scientific, military, legal, hybrid, media.

12.4 Events and national actions contribute to move it in either direction. The White cell is in charge of moving the marker on the Influence Track according to the ongoing situation of a number of squares at its discretion.

12.5 When a State Actor / Multi-State Actor conducts a technology transfer in favor of another counterpart, the marker on the Influence Track will be moved by the White cell in the direction appropriate for that State Actor / Multi-State Actor.

12.6 Victory for a Blue State Actor / Multi-State Actor can happen only if the marker on the influence track is on the blue side (see 14.2). For Non-Blue and Red State Actors on the contrary it is not needed that the marker on the influence track is on the red side for them to win.

§13. Crisis Levels

13.1 In the game there are different crisis levels that range from "Low" to "Critical", via "Medium", "High" and "Severe". The current crisis level is indicated on the Crisis Level Indicator by the relative marker. The crisis level is adjusted by the White cell each Game-Turn in Phase 5 according to the overall situation at the moment.

§14. Victory Conditions

14.1. Each Player Actor Team has a list of national objectives, encompassing economic, scientific, military and other objectives. This list is specific for its corresponding State Actor / Multi-State Actor and is not publicly available to the other Player Actor Teams.

14.2. Victory is assigned according to the following criteria (except when explicitly stated otherwise, they are valid for ***all State Actors and Multi-State Actors***):

1. Coherence between actions and State Actor's / Multi-State Actor's profile or orders (if any).

2. Negotiation skills of the Player Actor Teams.

3. National objectives achieved (quantity and complexity).

4. Combined exercise of scientific, industrial and military diplomacy (contribution to Influence Track).

5. Contribution to the European defence industry (new joint programmes, points awarded according to the role) (***Blue State Actors only***).

6. ***Blue State Actors*** can only win if the marker on the Influence Track is on the blue side.

7. ***Blue State Actors*** can only win if at least ***4*** European industrial defence projects are successfully launched.

A leaderboard system is compiled: White Cell assigns to each State Actor a number of points related to the above-mentioned criteria; the more points are assigned the higher one ranks on the leaderboard.

TABLES

Table 1. Crisis Level Indicator

CRISIS LEVEL				
LOW	MEDIUM	HIGH	SEVERE	CRITICAL

(according to events and actions)

Table 2. Action Cost Table

		CRISIS LEVEL				
	Type of Action	*Low*	*Medium*	*High*	*Severe*	*Critical*
D	*DIPLOMACY*	1	1	2	2	3
E	*ECONOMIC*	1	1	2	2	3
L	*LEGAL*	1	1	1	2	2
I	*INFLUENCE*	1	1	2	2	3
M	*MILITARY - Non-kinetic*	2	2	1	1	1
	MILITARY - Kinetic	4	4	3	3	2
	MILITARY - Power projection	2	2	3	4	2

Military Actions: Conventional (Air, Land, Sea Ops), Space, EW

Yellow numbers: action cost in financial resource points; they are actually expended.

Table 3. Crisis Level Modifiers Table

(probability changes according to crisis level)

CRISIS LEVEL				
LOW	*MEDIUM*	*HIGH*	*SEVERE*	*CRITICAL*
+1	0	-1	-2	-3

Table 4. Chance of Success Determination Table

Chance of Success = 7 + Modifiers from *Crisis Level Modifiers Table* and *Interaction Matrix between State Actors/Non-State Actors (Resilience Table)* + Optional Risk + *Other Modifiers*

Table 5. Level of Success/Failure Table

Die (1-10)	*Additional economic resources gained or lost*
Automatic success if the die roll is 1	+3 yellow coins
Great Success (Enhanced effects) if the die roll is <= to 1/2 CS (round fractions up)	+1 yellow coins
Standard Success	-
Standard Failure	-
Great Failure (Worsened effects) if the die roll is >= to 3/2 CS (round fractions up)	-1 yellow coins
Automatic Failure if the die roll is 10	-3 yellow coins

Table 6. Interaction Matrix between State Actors/Non-State Actors (Resilience Table)

See Chapter III, Materials.

Table 7. Initial Resource Table

FINANCIAL RESOURCE POINTS

USA: 22	Türkiye: 5	China: 17
United Kingdom: 10		Russia: 7
France: 9	Egypt: 5	
Germany: 9	Algeria: 3	
Italy: 8	Tunisia: 3	
Poland/Romania: 4	Libya: 1	
UN:	EU:	

Financial resources points (Yellow coins) represent the financial power available for external actions (international aid, diplomacy, scientific cooperation, economic influence, military operations...). While having national objectives and an interest in domestic issues, players are not involved in domestic budgets and domestic policies. The game is focused only on external actions for which each State Actor is allocated a given number of yellow coins, proportionate to the economic and financial strength of the nation, adjusted to population and institutional power. The four yellow shaded boxes of the Resource Displays are potential foreign sources of income: Arms Export, Oil & Gas Exploration, Foreign Aid and FDI (Foreign Direct Investment).

SCIENTIFIC RESOURCE POINTS

USA: 34	Türkiye: 8	China: 25
United Kingdom: 14		Russia: 11
Germany: 18	Egypt: 4	
France: 15	Algeria: 3	
Italy: 13	Tunisia: 3	
Poland/Romania: 7	Libya: 1	
EU:		

Scientific resources points (Blue coins) represent the scientific and technological power of the different State Actors. On each Resource Display there are 16 scientific areas where blue coins are deposited to represent excellence (two coins) or sufficient mastery (one coin). One coin from one of the Actors involved is the necessary condition for agreeing scientific and technological transfers, undertaking scientific collaborations or establishing academic agreements. The presence of one or two coins represents not only good/excellent academic knowledge but also the presence of appropriate environmental conditions (public and private funding, staff and student mobility, international partnerships, meritocracy, academic freedom), the availability of research infrastructures (laboratories, competitive grants, independent research institutions), the existence of advanced industrial know-how, patents and protection of intellectual property.

INDUSTRIAL DEFENCE RESOURCE POINTS
(PRODUCTION/TECHNOLOGY)

USA: 11/17	Türkiye: 4/4	China: 15/13
United Kingdom: 5/9		Russia: 8/7
Germany: 7/9	Egypt: 2/0	
France: 5/8	Algeria: 1/0	
Italy: 5/7	Tunisia: 1/0	
Poland/Romania: 4/3	Libya: 0/0	
EU:		

Industrial Defence resources points (Green coins) represent the industrial production base (the number *left side* of the slash) and the dual-use/military technology portfolio (the number *right side* of the slash) of the State Actors, necessary for the participation in the Defence Programmes listed in Table 9. The resources on the *left side* are necessary for Tier 3 participation and the ones on the *right side* are necessary for Tier 1 and Tier 2 participation (see 7.4, 7.9 and 11.0).

SPECIAL MILITARY CAPABILITIES/POWER PROJECTION RESOURCES

State Actors	*Carrier Strike Group*	*Deep Strike*	*Rapid Deployable Corps*	*Air & Space Intelligence*
USA	XXX	XXX	XXX	XXX
UK	X	X	XX	XX
France	X	X	XX	XX
Italy	X	X	X	XX
Germany		X	X	X

Poland/Romania			X	
EU				
Türkiye			X	
Algeria				
Egypt:				
Libya				
Tunisia				
China	XX	XXX	XX	XX
Russia	X	XXX	XX	XX

Table 8. Resource Conversion Table

Resources obtained	*Financial resource points (Yellow coins) needed*	*Game-Turns needed*
1 Scientific resource point (Blue coin)	3	
1 Defence Industrial Base point (Green coin, type 1)	1	1
1 Military Technology point (Green coin, type 2)	2	2
Special military capabilities / Power projection resources (Counters):		
★ 1 Carrier Strike Group	10	2
★ 1 Deep Strike capabilities	8	1
★ 1 Rapid Deployable Corps	6	1
★ 1 Air & Space Intelligence	6	1

Table 9. Industrial Defence Projects Table

See materials.

CHAPTER III

MATERIALS

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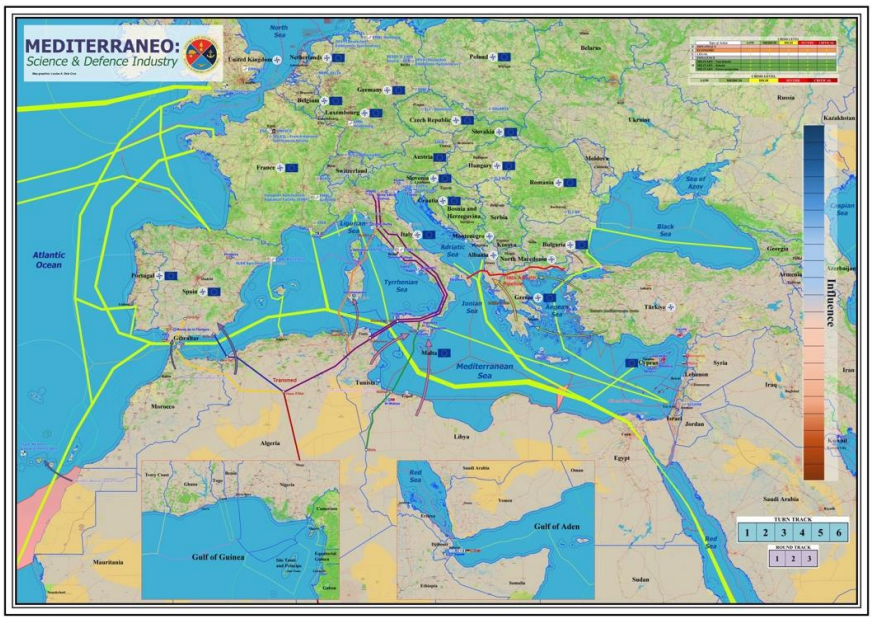
- Map
- Resource display
- Table 6. Interaction Matrix between State Actors/Non-State Actors (Resilience Table)
- Table 9: Industrial Defence Projects Table
- Table 9: Industrial Defence Projects Table - Key
- Table 9: Industrial Defence Projects - Diagram
- Control sheet
- Turnsheet
- Flow chart

Map


MEDITERRANEO:
Science & Defence Industry
Atlantic Ocean
Mediterranean Sea
Black Sea
Sea of Azov
Red Sea
Gulf of Guinea
Gulf of Aden
Influence
TURN TRACK
1 2 3 4 5 6
ROUND TRACK
1 2 3

Resource display

Table 6. Interaction Matrix between State Actors/Non-State Actors (Resilience Table)

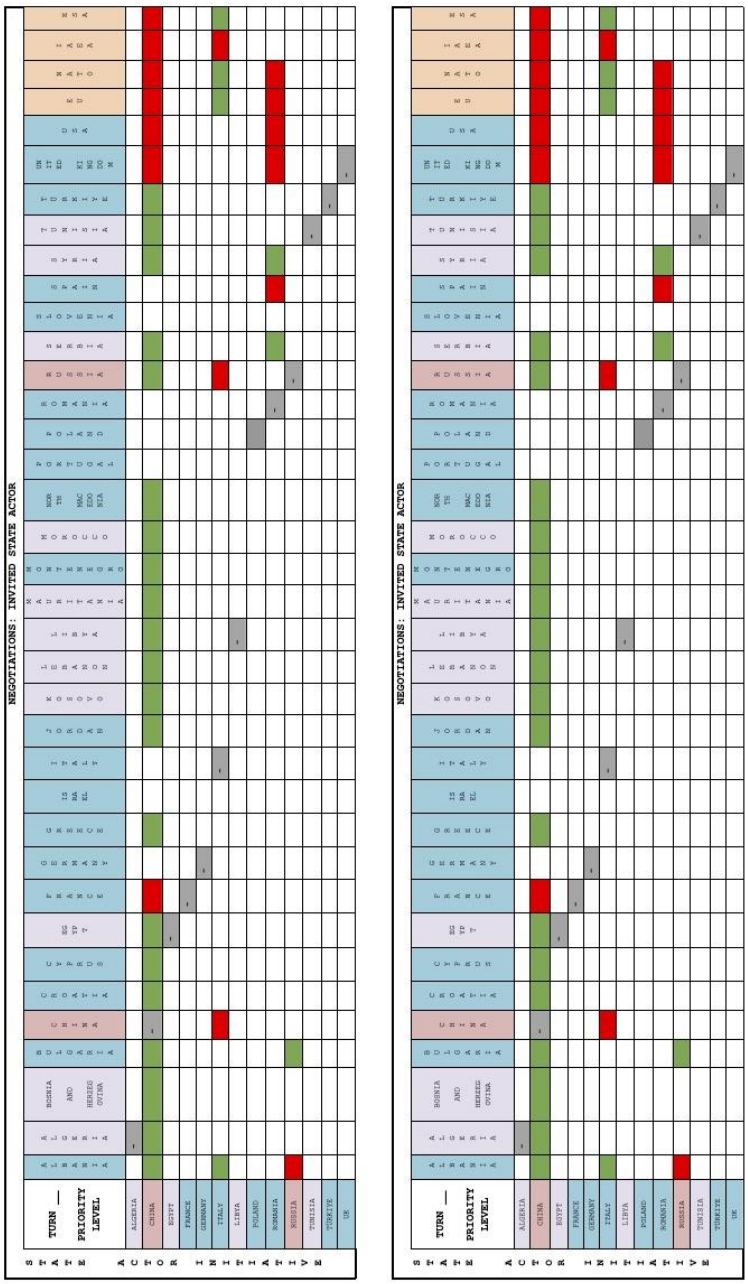


Table 9: Industrial Defence Projects Table

Project	Lead Blue State Actor / Multi-State Actor (Tier 1)	Participant Blue State Actors / Multi-State Actors (Tier 2)	Industrial Partner Blue State Actors / Multi-State Actors (Tier 3)	Buyer State Actors / Multi-State Actors	Success threshold (Tier 1,2,3 Blue State Actors / Multi-State Actors involved)	Required investment (green coins: 🟢 or yellow coins 🟡)
FCAS					4	L6🟢, P4🟢, I:2🟢, B:1🟡
CCA					3	L4🟢, P:2🟢, I:1🟢, B:1🟡
HAL Missile					3	L4🟢, P:2🟢, I:1🟢, B:1🟡
NG Euro Frigate					4	L6🟢, P:4🟢, I:2🟢, B:1🟡
NG MR Littoral/PPA					3	L4🟢, P:2🟢, I:1🟢, B:1🟡
U/W Surveillance Network+UUS					3	L4🟢, P:2🟢, I:1🟢, B:1🟡
NG Attack UAS					4	L6🟢, P:4🟢, I:2🟢, B:1🟡
Future UGS MBT					3	L4🟢, P:2🟢, I:1🟢, B:1🟡
Soldier Combat Suite					3	L4🟢, P:2🟢, I:1🟢, B:1🟡
ISR LEO Mega-constellation					5	L8🟢, P:6🟢, I:2🟢, B:1🟡
Hypersonic BMD					5	L8🟢, P:6🟢, I:2🟢, B:1🟡
Integrated AI Cyber Warfare Infrastr[					5	L8🟢, P:6🟢, I:2🟢, B:1🟡
Future C5I2STAR(EW)					5	L8🟢, P:6🟢, I:2🟢, B:1🟡

Table 9: Industrial Defence Projects Table - Key

KEY

FCAS - Future Combat Air System - Nota: da non considerare come i Programmi già avviati, ma come la piena implementazione del Mosaic Warfare)

CCA - Collaborative Combat Aircraft - velivolo non pilotato gregario della "Core Platform" FCAS

HAL - Hypersonic Air-Launched (Missile) - Missile Stand-Off ipersonico aviolanciato

NG - New Generation

MR - Multi-Role

PPA - Pattugliatore Polivalente d'Altura

U/W - Underwater

UUS - Unmanned Underwater System

UAS - Unmanned Air System

UGS - Unmanned Ground System

MBT - Main Battle Tank

ISR - Intelligence, Surveillance, Reconnaissance

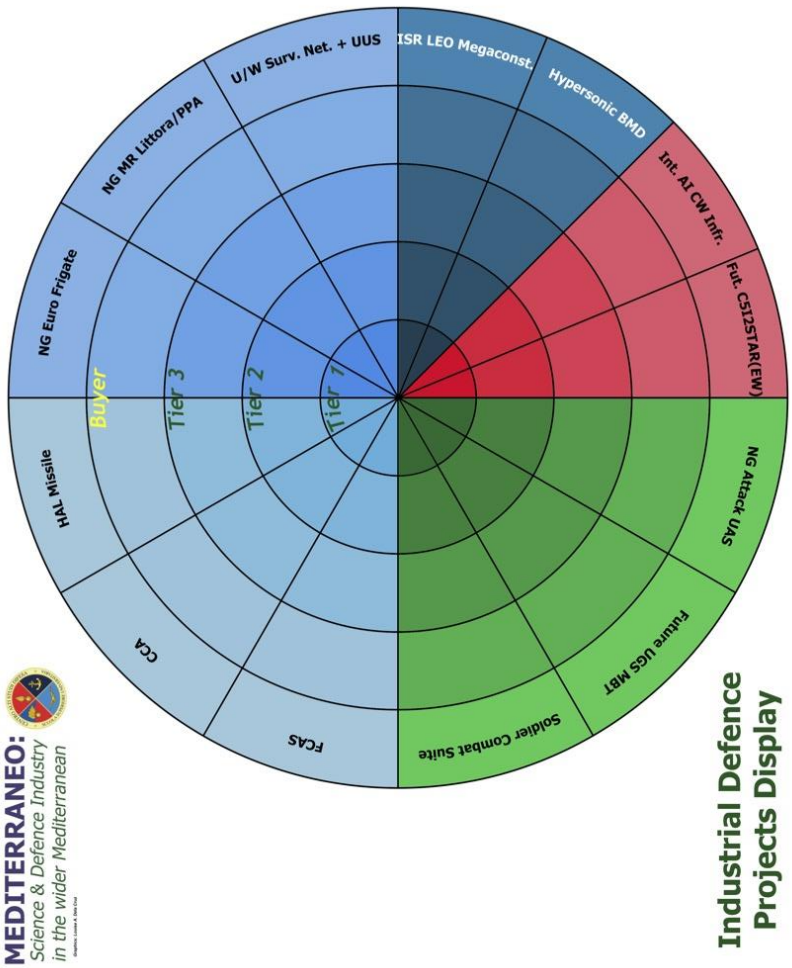
LEO - Low Earth Orbit

BMD - Ballistic Missile Defense

AI - Artificial Intelligence

C5I2STAR(EW) - Command, Control, Communications, Computers, Combat, Intelligence, Interoperability, Surveillance, Target Acquisition, Reconnaissance, Electronic Warfare - Piattaforma digitale AI-augmented per il processo end-to-end "Sensor-to-Shooter" di integrazione delle informazioni tattiche, della generazione dei Task Orders e della gestione dell'ingaggio.

Table 9: Industrial Defence Projects Table - Diagram



CONTROL SHEET

CONTROL SHEET - TURN ___ STATE ACTOR:_____

TurnSheet - REPORT

Action Type 1:	Main Obj. CODE:	Priority Level:	Approved: ☐YES ☐NO
Action Type 2:	Main Obj. CODE:	Priority Level:	Approved: ☐YES ☐NO
Action Type 3:	Main Obj. CODE:	Priority Level:	Approved: ☐YES ☐NO

Negotiations Resolution - REPORT

Number of negotiation done in this turn: ____	Total Time of Execution of all the negotiations done (minutes):_____

Negotiation 1 - achievements (supposed/actual): ☐0% ☐10% ☐20% ☐ 30% ☐40% ☐50% ☐60% ☐70% ☐80% ☐90% ☐100%
Negotiation 2 - achievements (supposed/actual): ☐0% ☐10% ☐20% ☐ 30% ☐40% ☐50% ☐60% ☐70% ☐80% ☐90% ☐100%
Negotiation 3 - achievements (supposed/actual): ☐0% ☐10% ☐20% ☐ 30% ☐40% ☐50% ☐60% ☐70% ☐80% ☐90% ☐100%

National Objectives achieved through all the negotiations:*(report the CODES)*

Summary description of what has been achieved through all the negotiations done: *(please write in capital letters - if not confidential, it will be reported on the shared screen for the scenario progress)*

Die Roll Resolution - REPORT	Number of die rolls done in this turn: ____

National Objectives achieved through all the die rolls: (*report the CODES*)

Summary description of what has been achieved through all the die rolls done: *(please write in capital letters - if not confidential, it will be reported on the shared screen for the scenario progress)*

Contribution to the European Defense Industry - REPORT

Projects launched: *Report for each project the correlated tier: LEAD (tier 1) Participant (tier 2) Partner (tier 3) Buyer (tier 4) (e.g.: project:"CCA" - tier 2; project:"CAS"- tier 1)*

_____ *_PART RESERVED TO FACILITATORS/TUTOR* _____

Coherence to Country Profile	☐YES ☐NO

BLUE -	**INFLUENCE TRACKER ADJUSTMENT**	- RED
☐	☐(none)	☐

Turnsheet

TURNSHEET

STATE ACTOR: _____ TURN NUMBER: ____

ACTION NUMBER 1	ACTION NUMBER 2	ACTION NUMBER 3	GUIDE - COLUMN	ACTION N.1	ACTION N.2	ACTION N.3
MAIN OBJECTIVE PURSUED Report the CODE from your objectives table	MAIN OBJECTIVE PURSUED Report the CODE from your objectives table	MAIN OBJECTIVE PURSUED Report the CODE from your objectives table	European Defense activities, a sample of what you can include/execute: • EDA and EDF Collaborations • Cyber Security fortification with DF, DEFIS, and MPSS • Establishment and coordination of military units under PESCO and EUMS • Funding allocation between Next Gen. EU and CARD • Permanent structured cooperation (PESCO) for security and stability of neighboring nations • Crisis response protocols under CSDP • Emergency support for third countries through MPCC • Coordination of security policies with Strategic Compass and CSDP • Green technologies in defense with Next Generation EU and EDF ACTIONS DESCRIPTION, how to fill in a description: - *how the main objective is pursued through the chosen type of action* - *(optional) how is/are pursued secondary objectives and how those ones are connected to the main one.* - *(optional) explain the complexity of the chosen main action type* - *(optional) motivate the eventual confidentiality request and justify its plausibility* - *(optional) motivate the eventual negotiation/die roll selection justifying its convenience* - *expected income in coins, you can also state "zero" (0)* - *expected cost in coins (other than the basic cost of your action), you can also state "zero" (0)*	*description in capital letters:*	*description in capital letters:*	*description in capital letters:*
(Optional) Secondary Objectives Pursued report the CODE from your objectives table. _____ _____	(Optional) Secondary Objectives Pursued report the CODE from your objectives table. _____ _____	(Optional) Secondary Objectives Pursued report the CODE from your objectives table. _____ _____				
Targeted/Invited State Actors:	Targeted/Invited State Actors:	Targeted/Invited State Actors:				
TYPE OF ACTION _____	TYPE OF ACTION _____	TYPE OF ACTION _____				
Initial Cost: ☐1 ☐2 ☐3 ☐4	Initial Cost: ☐1 ☐2 ☐3 ☐4	Initial Cost: ☐1 ☐2 ☐3 ☐4				
Priority Level: ☐1 ☐2 ☐3	Priority Level: ☐1 ☐2 ☐3	Priority Level: ☐1 ☐2 ☐3				
Confidential: ☐YES ☐NO	Confidential: ☐YES ☐NO	Confidential: ☐YES ☐NO				
Method of Resolution If selectable, state your decision: ☐ NEGOTIATION ☐ DIE ROLL	Method of Resolution If selectable, state your decision: ☐ NEGOTIATION ☐ DIE ROLL	Method of Resolution If selectable, state your decision: ☐ NEGOTIATION ☐ DIE ROLL		RESERVED TO WHITE CELL: ☐APPROVAL ☐REJECTION	RESERVED TO WHITE CELL: ☐APPROVAL ☐REJECTION	RESERVED TO WHITE CELL: ☐APPROVAL ☐REJECTION

ACTION TYPE & COST TABLE

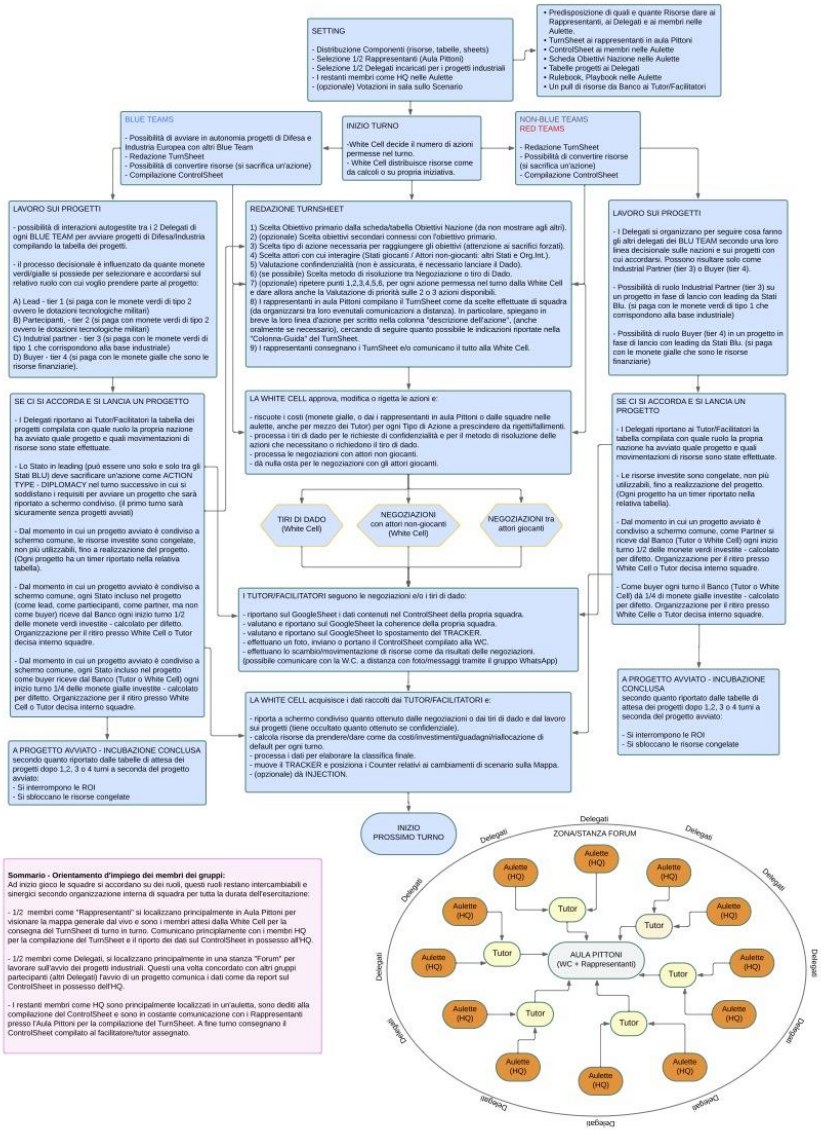
TYPE OF ACTION	ONGOING CRISIS LEVEL: ACTION COST BASED ON THE CRISIS LEVEL			
	LOW	MEDIUM	HIGH	SEVERE	CRITICAL
DIPLOMACY	1	1	2	2	3
ECONOMIC	1	1	2	2	3
LEGAL	1	1	1	2	2
INFLUENCE	1	1	2	2	3
MILITARY - Non-kinetic	2	2	1	1	1
MILITARY - Kinetic	4	4	3	3	2
MILITARY - Power projection	2	2	3	4	4

Rules reminder:
You can ultimately type of action for any type of objective.
Each action can be a main action having a complexity that includes other types of action.
Decide which action must be executed as first, second and third based on the Priority Level.

AVAILABLE METHOD OF RESOLUTION

TYPE OF ACTION	Negotiation	Die Roll
DIPLOMACY	YES	NO
ECONOMIC	YES	YES
LEGAL	YES	YES
INFLUENCE	NO	YES
MILITARY - Non-kinetic	NO	YES
MILITARY - Kinetic	NO	YES
MILITARY - Power projection	NO	YES

FLOW CHART


SETTING
- Distribuzione Componenti (risorse, tabelle, sheets)
- Selezione 1/2 Rappresentanti (Aula Pittoni)
- Selezione 1/2 Delegati incaricati per i progetti industriali
- I restanti membri come HQ nelle Aulette
- (opzionale) Votazioni in sala sullo Scenario
• Predisposizione di quali e quante Risorse dare ai Rappresentanti, ai Delegati e ai membri nelle Aulette.
• TurnSheet ai rappresentanti in aula Pittoni
• ControlSheet ai membri nelle Aulette
• Scheda Obiettivi Nazione nelle Aulette
• Tabelle progetti ai Delegati
• Rulebook, Playbook nelle Aulette
• Un pull di risorse da Banco ai Tutor/Facilitatori
BLUE TEAMS
- Possibilità di avviare in autonomia progetti di Difesa e Industria Europea con altri Blue Team
- Redazione TurnSheet
- Possibilità di convertire risorse (si sacrifica un'azione)
- Compilazione ControlSheet
INIZIO TURNO
-White Cell decide il numero di azioni permesse nel turno.
- White Cell distribuisce risorse come da calcoli o su propria iniziativa.
NON-BLUE TEAMS
RED TEAMS
- Redazione TurnSheet
- Possibilità di convertire risorse (si sacrifica un'azione)
- Compilazione ControlSheet
LAVORO SUI PROGETTI
- possibilità di interazioni autogestite tra i 2 Delegati di ogni BLUE TEAM per avviare progetti di Difesa/Industria compilando la tabella dei progetti.
- il processo decisionale è influenzato da quante monete verdi/gialle si possiede per selezionare e accordarsi sul relativo ruolo con cui vogliо prendere parte al progetto:
A) Lead - tier 1 (si paga con le monete verdi di tipo 2 ovvero le dotazioni tecnologiche militari)
B) Partecipanti, - tier 2 (si paga con monete verdi di tipo 2 ovvero le dotazioni tecnologiche militari)
C) Industrial partner - tier 3 (si paga con le monete verdi di tipo 1 che corrispondono alla base industriale)
D) Buyer - tier 4 (si paga con le monete gialle che sono le risorse finanziarie).
REDAZIONE TURNSHEET
1) Scelta Obiettivo primario dalla scheda/tabella Obiettivi Nazione (da non mostrare agli altri).
2) (opzionale) Scelta obiettivi secondari connessi con l'obiettivo primario.
3) Scelta tipo di azione necessaria per raggiungere gli obiettivi (attenzione ai sacrifici forzati).
4) Scelta attori con cui interagire (Stati giocanti / Attori non-giocanti: altri Stati e Org.Int.).
5) Valutazione confindenzialità (non è assicurata, è necessario lanciare il Dado).
6) (se possibile) Scelta metodo di risoluzione tra Negoziazione o tiro di Dado.
7) (opzionale) ripetere punti 1,2,3,4,5,6, per ogni azione permessa nel turno dalla White Cell e dare allora anche la Valutazione di priorità sulle 2 o 3 azioni disponibili.
8) I rappresentanti in aula Pittoni compilano il TurnSheet come da scelte effettuate di squadra (da organizzarsi tra loro eventuali comunicazioni a distanza). In particolare, spiegano in breve la loro linea d'azione per scritto nella colonna "descrizione dell'azione", (anche oralmente se necessario), cercando di seguire quanto possibile le indicazioni riportate nella "Colonna-Guida" del TurnSheet.
9) I rappresentanti consegnano i TurnSheet e/o comunicano il tutto alla White Cell.
LAVORO SUI PROGETTI
- I Delegati si organizzano per seguire cosa fanno gli altri delegati dei BLU TEAM secondo una loro linea decisionale sulle nazioni e sui progetti con cui accordarsi. Possono risultare solo come Industrial Partner (tier 3) o Buyer (tier 4).
- Possibilità di ruolo Industrial Partner (tier 3) su un progetto in fase di lancio con leading da Stati Blu. (si paga con le monete verdi di tipo 1 che corrispondono alla base industriale)
- Possibilità di ruolo Buyer (tier 4) in un progetto in fase di lancio con leading da Stati Blu. (si paga con le monete gialle che sono le risorse finanziarie)
SE CI SI ACCORDA E SI LANCIA UN PROGETTO
- I Delegati riportano ai Tutor/Facilitatori la tabella dei progetti compilata con quale ruolo la propria nazione ha avviato quale progetto e quali movimentazioni di risorse sono state effettuate.
- Lo Stato in leading (può essere uno solo e solo tra gli Stati BLU) deve sacrificare un'azione come ACTION TYPE - DIPLOMACY nel turno successivo in cui si soddisfano i requisiti per avviare un progetto che sarà riportato a schermo condiviso. (il primo turno sarà sicuramente senza progetti avviati)
- Dal momento in cui un progetto avviato è condiviso a schermo comune, le risorse investite sono congelate, non più utilizzabili, fino a realizzazione del progetto. (Ogni progetto ha un timer riportato nella relativa tabella).
- Dal momento in cui un progetto avviato è condiviso a schermo comune, ogni Stato incluso nel progetto (come lead, come partecipanti, come partner, ma non come buyer) riceve dal Banco ogni inizio turno 1/2 delle monete verdi investite - calcolato per difetto. Organizzazione per il ritiro presso White Cell o Tutor decisa interno squadre.
- Dal momento in cui un progetto avviato è condiviso a schermo comune, ogni Stato incluso nel progetto come buyer riceve dal Banco (Tutor o White Cell) ogni inizio turno 1/4 delle monete gialle investite - calcolato per difetto. Organizzazione per il ritiro presso White Cell o Tutor decisa interno squadre.
LA WHITE CELL approva, modifica o rigetta le azioni e:
- riscuote i costi (monete gialle, o dai i rappresentanti in aula Pittoni o dalle squadre nelle aulette, anche per mezzo dei Tutor) per ogni Tipo di Azione a prescindere da rigetti/fallimenti.
- processa i tiri di dado per le richieste di confidenzialità e per il metodo di risoluzione delle azioni che necessitano o richiedono il tiro di dado.
- processa le negoziazioni con attori non giocanti.
- dà nulla osta per le negoziazioni con gli attori giocanti.
TIRI DI DADO (White Cell)
NEGOZIAZIONI con attori non-giocanti (White Cell)
NEGOZIAZIONI tra attori giocanti
SE CI SI ACCORDA E SI LANCIA UN PROGETTO
- I Delegati riportano ai Tutor/Facilitatori la tabella compilata con quale ruolo la propria nazione ha avviato quale progetto e quali movimentazioni di risorse sono state effettuate.
- Le risorse investite sono congelate, non più utilizzabili, fino a realizzazione del progetto. (Ogni progetto ha un timer riportato nella relativa tabella).
- Dal momento in cui un progetto avviato è condiviso a schermo comune, come Partner si riceve dal Banco (Tutor o White Cell) ogni inizio turno 1/2 delle monete verdi investite - calcolato per difetto. Organizzazione per il ritiro presso White Cell o Tutor decisa interno squadre.
- Come buyer ogni turno il Banco (Tutor o White Cell) dà 1/4 di monete gialle investite - calcolato per difetto. Organizzazione per il ritiro presso White Celle o Tutor decisa interno squadre.
I TUTOR/FACILITATORI seguono le negoziazioni e/o i tiri di dado:
- riportano sul GoogleSheet i dati contenuti nel ControlSheet della propria squadra.
- valutano e riportano sul GoogleSheet la coherence della propria squadra.
- valutano e riportano sul GoogleSheet lo spostamento del TRACKER.
- effettuano un foto, inviano o portano il ControlSheet compilato alla WC.
- effettuano lo scambio/movimentazione di risorse come da risultati delle negoziazioni. (possibile comunicare con la W.C. a distanza con foto/messaggi tramite il gruppo WhatsApp)
A PROGETTO AVVIATO - INCUBAZIONE CONCLUSA
secondo quanto riportato dalle tabelle di attesa dei progetti dopo 1,2, 3 o 4 turni a seconda del progetto avviato:
- Si interrompono le ROI
- Si sbloccano le risorse congelate
LA WHITE CELL acquisisce i dati raccolti dai TUTOR/FACILITATORI e:
- riporta a schermo condiviso quanto ottenuto dalle negoziazioni o dai tiri di dado e dal lavoro sui progetti (tiene occultato quanto ottenuto se confidenziale).
- calcola risorse da prendere/dare come da costi/investimenti/guadagni/riallocazione di default per ogni turno.
- processa i dati per elaborare la classifica finale.
- muove il TRACKER e posiziona i Counter relativi ai cambiamenti di scenario sulla Mappa.
- (opzionale) dà INJECTION.
A PROGETTO AVVIATO - INCUBAZIONE CONCLUSA
secondo quanto riportato dalle tabelle di attesa dei progetti dopo 1,2, 3 o 4 turni a seconda del progetto avviato:
- Si interrompono le ROI
- Si sbloccano le risorse congelate
INIZIO PROSSIMO TURNO
Delegati
ZONA/STANZA FORUM
Aulette (HQ)
Tutor
AULA PITTONI (WC + Rappresentanti)
Sommario - Orientamento d'impiego dei membri dei gruppi:
Ad inizio gioco le squadre si accordano su dei ruoli, questi ruoli restano intercambiabili e sinergici secondo organizzazione interna di squadra per tutta la durata dell'esercitazione:
- 1/2 membri come "Rappresentanti" si localizzano principalmente in Aula Pittoni per visionare la mappa generale dal vivo e sono i membri attesi dalla White Cell per la consegna del TurnSheet di turno in turno. Comunicano principalmente con i membri HQ per la compilazione del TurnSheet e il riporto dei dati sul ControlSheet in possesso all'HQ.
- 1/2 membri come Delegati, si localizzano principalmente in una stanza "Forum" per lavorare sull'avvio dei progetti industriali. Questi una volta concordato con altri gruppi partecipanti (altri Delegati) l'avvio di un progetto comunica i dati come da report sul ControlSheet in possesso dell'HQ.
- I restanti membri come HQ sono principalmente localizzati in un'auletta, sono dediti alla compilazione del ControlSheet e sono in costante comunicazione con i Rappresentanti presso l'Aula Pittoni per la compilazione del TurnSheet. A fine turno consegnano il ControlSheet compilato al facilitatore/tutor assegnato.

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