



# WORLD MILITARY HIGH-TECH COMPETITION TO IMPLEMENT THE MOSAIC WARFARE CONCEPT

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*There is a fierce struggle worldwide to seize and dominate the international high-tech market. This struggle fits perfectly into the political disputes over the new post-pandemic world order, where competition between the great powers is becoming more and more acute.*

*Recently, research, development and innovation (RDI) in the military field has become particularly important by accepting the increase in funds allocated to 20% of defence budgets. This fact is also reflected in the civilian field, through the importance that all developed countries, including the European Union and Romania, attach to digitization at national level. And dual-use RDI products are the most sought-after in the global high-tech market.*

*As a result, this paper is intended to continue to present the recent progress made in the RDI, in terms of developing the capabilities for the future Mosaic Warfare, in the light of the competition for global and regional power.*

**Keywords:** *regional power; high-tech; Mosaic Warfare; digitisation; research, development and innovation (RDI).*

## Introduction

In addition to a strong international economic and financial crisis and a difficult recovery of states at the social level, the post-coronavirus pandemic period will be characterised by the accentuation of political competition between the great powers for global and regional domination. In the new world order, it is clear that the United

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States will have to relinquish some of its global superpower prerogatives and accept a division of the world's leadership with other great powers, especially with China, which is rising in power and influence worldwide.

This phenomenon will probably happen after 2030, when the map with the disposition of the great powers will look different than hitherto. A projection for the next 20 years and in the perspective of the 2050s, made by American researchers on the *Nextbigfuture.com* blog (Figure no. 1), presents the possible economic and demographic growth of the most developed states in the world, with tendencies to seize regional power in their areas of interest. Thus, according to this analysis, the world after 2030 will be characterised by multilateralism and a fierce economic, demographic and military competition between developed countries will divide the great powers into three levels, as follows (Wang 2020a):

- Level 1 – will include the great powers with a tendency to become superpowers, such as the USA and China, in which the latter's economy will be twice as developed as the American one, after 2050;

- Level 2 – will include states with a gross domestic product (GDP) of about 5-6 trillion dollars, such as Japan and Germany; India is likely to reach this level after 2030;

- Level 3 – will have close and fierce competition between developed countries with a GDP of 2.4 - 4 trillion dollars, such as France, the United Kingdom, India and Italy and emerging countries such as Canada, South Korea, Australia, Brazil and Russia, which will struggle to reach this level after the 2030s, surpassing Italy and even France (Wang 2020b).

Economic growth in the competition for world and regional power will, in turn, influence both demographic and defence budget growths, which will not always have a positive influence on the new post-pandemic world order. The respective increase will occur in countries such as the United States (380 million people by 2050), Canada (will have a population of 50 million by 2050 and a growing military budget of \$ 22 billion), South Korea (52 million inhabitants and a military budget of \$ 44 billion per year), Australia (40 million inhabitants in 2048) (Wang 2020a). Both China (a possible decline in population from 11 to 1 billion), Japan and the European states (together with about 650 million inhabitants) will have difficulties in the field of demography, by drastically decreasing the population and the age of it, which could lead to a shift in the balance of power after 2050 to Africa (Nigeria) and South Asia (India, Indonesia, Vietnam and Turkey).

### **1. China's Tendency in the World Military Supremacy**

As for China, in addition to the strong economic development and a possible drastic decline in demographics, it is also characterised by the tendency to



N°	Country (or dependent territory)	2020	2021	2022	2023	2024	2025
1	United States	20,807,269	21,921,585	22,967,651	23,913,115	24,833,759	25,783,444
2	China <sup>[a]</sup>	14,860,775	16,492,813	17,933,629	19,512,741	21,217,565	23,029,813
3	Japan	4,910,580	5,103,175	5,337,329	5,626,634	5,848,652	6,014,277
4	Germany	3,780,553	4,318,485	4,556,812	4,726,374	4,877,584	5,040,941
5	India	2,592,583	2,833,874	3,094,177	3,368,899	3,657,454	3,958,812
6	France	2,551,451	2,917,668	3,060,618	3,183,642	3,299,486	3,411,710
7	United Kingdom	2,638,296	2,855,671	3,004,796	3,120,056	3,239,201	3,356,794
8	Italy	1,848,222	2,111,649	2,207,851	2,280,095	2,333,364	2,387,825
9	Canada	1,600,264	1,763,046	1,876,701	1,983,486	2,086,819	2,193,412
10	South Korea	1,586,786	1,674,112	1,763,385	1,850,789	1,940,869	2,030,178
11	Russia	1,464,078	1,584,216	1,662,593	1,737,740	1,812,792	1,894,163
12	Brazil	1,363,767	1,431,624	1,562,617	1,665,966	1,786,913	1,891,433
13	Spain	1,247,464	1,450,882	1,552,025	1,638,662	1,715,140	1,771,808
14	Australia	1,334,688	1,480,355	1,533,798	1,608,773	1,682,750	1,755,091
15	Indonesia	1,088,768	1,167,180	1,252,595	1,341,111	1,433,992	1,533,410
16	Mexico	1,040,372	1,094,528	1,145,643	1,197,860	1,250,889	1,305,727
17	Netherlands	886,339	1,005,711	1,052,226	1,093,550	1,132,008	1,172,435
18	Turkey	649,436	652,408	722,384	810,077	886,225	970,506
19	Switzerland	707,868	790,655	832,432	864,611	909,423	945,377
20	Saudi Arabia	680,897	735,483	777,191	813,868	853,457	895,176
21	Poland	580,894	634,899	691,626	749,467	804,355	857,126

Figure no. 1: Great Powers List after 2025  
(Source: <https://www.nextbigfuture.com>)

outperform the US in military spending on the development of its naval (Figure no. 2) and land capabilities, being equipped with the latest developments in the field of advanced technology in order to surpass the American aerospace power, predicted to hold supremacy for the next 40 years. As set out in China Military Strategy, the full modernisation of the People’s Liberation Army (PLA) will be completed in 2035, and by 2049 it will be transformed into a “World-class military force” (Cordesman 2019).

Thus, according to a report by the US Bureau of Naval Intelligence (ONI), by 2030, China will have a total of 424 warships, of which 76 will be submarines.

From this military analysis it is clear that in the following years we will witness the revival of a new type of cold war between the US and China, where the stake will be to win the competition for world domination, either by a single superpower – but without going back to unipolarity, because either of the two great powers will have to act through an alliance –, or by negotiating and accepting the division of global domination between these two states. But we cannot go back to bi-polarism,



Year of DOD report	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2020 change from 2005
Ballistic missile submarines	1	1	1	1	2	2	2	2	3	3	4	4	4	4	4	4	+3
Nuclear-powered attack submarines	6	5	5	5	6	6	5	5	5	5	5	5	5	5	6	6	0
Diesel attack submarines	51	50	53	54	54	54	49	48	49	51	53	57	54	47	50	46	-5
Aircraft carriers	0	0	0	0	0	0	0	0	1	1	1	1	1	1	1	2	+2
Cruisers	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	+1
Destroyers	21	25	25	29	27	25	26	26	23	24	21	23	31	28	33	32	+11
Frigates	43	45	47	45	48	49	53	53	52	49	52	52	56	51	54	49	+6
Corvettes	0	0	0	0	0	0	0	0	0	8	15	23	23	28	42	49	+49
Missile-armed coastal patrol craft	51	45	41	45	70	85	86	86	85	85	86	86	88	86	86	86	+35
Amphibious ships: LSTs and LPDs	20	25	25	26	27	27	27	28	29	29	29	30	34	33	37	37	+17
Amphibious ships: LSMs	23	25	25	28	28	28	28	23	26	28	28	22	21	23	22	21	-2
<b>Total of types above (does not include other types, such as auxiliary and support ships)</b>	<b>216</b>	<b>221</b>	<b>222</b>	<b>233</b>	<b>262</b>	<b>276</b>	<b>276</b>	<b>271</b>	<b>273</b>	<b>283</b>	<b>294</b>	<b>303</b>	<b>317</b>	<b>306</b>	<b>335</b>	<b>333</b>	<b>+117</b>
China Coast Guard ships	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	185	240	248	255	n/a
Total U.S. Navy battle force ships (which includes auxiliary and support ships but excludes patrol craft)	291	282	281	279	282	285	288	284	287	285	289	271	275	279	286	296	+5
Total U.S. Navy battle force ships compared to above total for certain Chinese ship types	+75	+61	+59	+46	+20	+9	+12	+13	+14	+2	-5	-32	-42	-27	-49	-37	-112

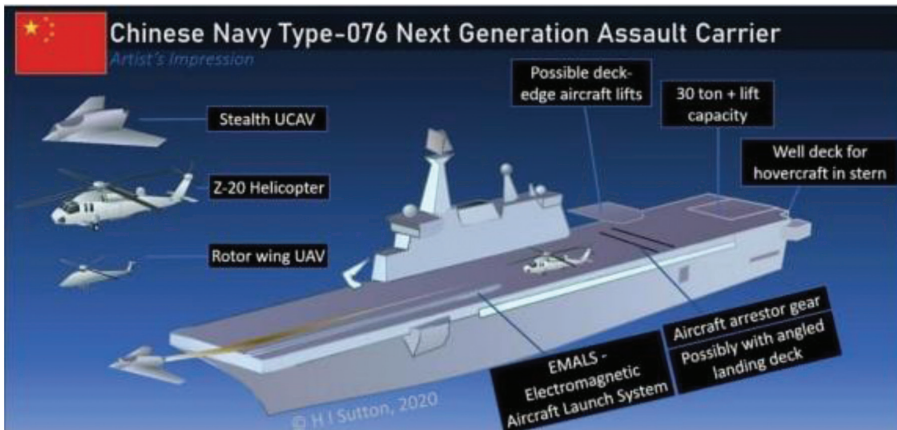
**Figure no. 2:** A comparison between the US and China Warships after 2005  
*(Source: FAS – China Naval Modernization: Implications for U.S. Navy Capabilities)*

because every great power will seek to attract as many levels 2 and 3 regional powers as possible in order to survive the competition.

Since then, China has the largest naval force, and Beijing’s tendency is to increase the number of naval capabilities with modern and super-equipped battleships, such as the Hainan amphibious helicopter of the Yushen class (Type 075 and 076) (Figure no. 3), the Changzheng -18 submarine of Jin class (Type 094 SSBN), as well as the Dalian cruiser of Renhai class (Type 055).

If newly built aircraft carriers come close to the characteristics and strength of the American ones, all the other battleships are beyond what the Americans intend to build in the near future. In particular, we are referring to the reduction of US naval power by not putting into operation three super-carriers and reducing the budget allocated to the naval forces for fiscal year 2022. Thus, the new type of Chinese Dalian cruiser has a displacement of 12,000 tons (while cruisers and the American Aegis destroyers have a displacement of only 10,100 and 9,300 tons), 128 anti-aircraft, anti-ship and anti-ballistic missile launch cells, a 3D radar with a phased matrix, as well as electronic warfare systems and heat sensors (Wang 2021b).

The Hainan amphibious helicopter carrier will have a displacement of 35-40,000 tons, a deck for the permanent take-off of combat helicopters, seven large helicopter take-off areas and an open area for the launch of conventional amphibious or air-cushioned ships. For all these new types of warships, China will spend \$ 208.58 billion this year and increase its defence budget by 6.8% in the



**Figure no. 3:** The New Generation of Chinese Assault Aircraft Carrier of Type 076 Class  
(Source: Forbes, July 23, 2020)

coming years. Thus, China’s defence budget is expected to be \$ 270 billion by 2023 (Wang 2021b).

China will also seek to overtake the United States in the land domain, especially in the area of anti-access areal denial systems (A2/AD), which contain dual ballistic and cruise missile launch systems and integrated air defence ones. Chinese conventional missile forces have developed without regard to the constraints of international treaties in the field, so that at this time, China has more than 1,200 ground launch ballistic missile (GLBM) and cruise missile (GLCM) systems between 500 and 5,500 km (Figure no. 4).

At the same time, the PLA has one of the largest long-range air defence forces in the world, which includes, in addition to domestic systems, the Russian S-400 and S-300 ones. So we can say that Beijing’s great financial efforts have one purpose – to make the PLA a modern, world-class armed force that will support Chinese political leadership in winning the global economic and military competition to the detriment of the United States.

System	Launchers	Missiles	Estimated Range
ICBM	100	100	>5,500km
IRBM	200	200+	3,000-5,500km
MRBM	150	150+	1,000-3,000km
SRBM	250	600+	300-1,000km
GLCM	100	300+	>1,500km

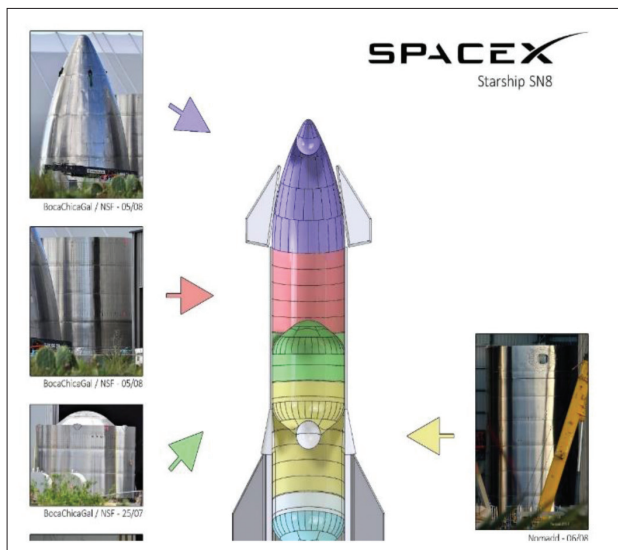
**Figure no. 4:** The Chinese Missile Forces  
(Source: Nextbigfuture.com, October 31, 2020)

## 2. Winning the Aero-Space Supremacy by the US

The major concern of the United States is to achieve the global air-to-ground supremacy and maintain it for the next 40 years. The main programme for this level of ambition is the SpaceX project – multirole spacecraft that can be used in fast-moving transport anywhere in the world (up to an hour and flying in low Earth orbit), but also as hypersonic bombers, developing speeds of 15 to 25 times larger than the sound/Mach, with a range of up to 12,875 km and can carry 100 tons of hypersonic bombs (Wang 2021a).

As part of the US Science and Technology Strategy 2030, the SpaceX Cargo Missile for Logistics Transport programme will materialize through the development and adaptation of innovative ideas under the Fourth Vanguard Civil Programme (Figure no. 5). Once completed, this type of cargo transport by means of a space rocket will quickly change the logistical situation, connecting materials, equipment, weapons and combat equipment with fighters in the area of operations assembled in a fraction of the time required today.

The role of the new capability includes support for resupply missions to theaters of operation anywhere in the world, as well as special air transport to deliver the equipment needed to quickly recover the loss of an operation, humanitarian aid and disaster relief in affected areas. Thus, cargo transport joins three other existing Vanguard programmes, including Skyborg (a central autonomous system on an unmanned aerial platform that allows autonomous missions), NTS-3 (a flight experiment to examine and establish ground capabilities, space and segmentation to



**Figure no. 5:** The Fourth Vanguard Programme

Source: [www.nextbigfuture.com](http://www.nextbigfuture.com)

improve geospatial positioning, navigation and synchronization) and the Golden Horde (an initiative to demonstrate the possibility of a collaborative weapons network by creating an integrated weapon system in which different technologies act to attack different targets) (Department of the Air Force 2021).

The Starship SN8 prototype (Figure no. 6) of the SpaceX programme develops the hypersonic bomber capability provided by the US military concept of “hypersonic air

weapons (HAWC)”, designed to overcome Russia’s similar developments in the 2 tons Avangard hypersonic vehicle, equipped with an UR-100NUTTH, flying with Mach 20 in the Earth’s atmospheric space), as well as the Chinese Dongfeng DF-17 hypersonic rocket (medium-range ballistic missile, equipped with a DF-ZF, which flies with Mach 5 and can have an unpredictable trajectory). India is also in an advanced process of developing hypersonic missiles.

If the SpaceX programme is to gain supremacy in the space domain, especially between the Earth’s Low Orbit and the atmosphere, Washington’s intention is to achieve that supremacy in the stratosphere, by developing a new generation of space rocket launch vehicles through the Vulcan Centaur Rocket programme, coordinated by Boeing and Lockheed Martin companies. This new vehicle, considered much cheaper (\$ 100 million launch) than the one produced by SpaceX, will replace the current Atlas and Delta missile fleet and will be equipped with two Blue Origin BE-4 engines, each with a power of about 250,000 kg-force (Wang 2021c).



**Figure no. 6:** SpaceX Starship SN8 Prototype  
(Source: *media.defense.gov*)

Another American program for aerospace supremacy is the hypersonic spacecraft produced by Venus Aerospace Corp. (Figure no. 7), which will be able to fly at over 14,000 km/h and reach any point on the globe in an hour. In addition to the special design, the aircraft will incorporate a more efficient engine, which is being tested (Popescu 2021).

It is not of lesser importance that the next generation air supremacy aircraft be carried out (Figure no. 8) which is expected to become US Air Force equipment over the next five years and replace the famous F-35 JSF, whose manufacture will end in 2023. Considered a \$ 1 billion fighter aircraft of the sixth generation, this new air programme will include a System-of-Systems that incorporates a large manned and unmanned drone aircraft, with the most integrated recent functional technology (Wang 2020a). To incorporate the latest aerial software, US Air Force will call on Tesla.

A different low-altitude, short-haul model of transportation is the MK 2 Jetsuit military flight suit project (Figure no. 9), developed in competition by the British company Gravity Industries and the US Defense Research Agency (DARPA). The



**Figure no. 7:** The Prototype of the Venus Aerospace Corp. Hypersonic Plane  
(Source: <https://stirileprotv.ro>)

presented model was experimented in the second quarter of 2021, in an exercise conducted by British Commandos. MK 2 has two micromotors (with kerosene or diesel), but is also based on the natural balance capacity of the pilot, weighing 27.22 kg and flying for 10-15 minutes at a speed of 32-137 km/h. The suit also contains a Titanium armor that gives it a power of 1,050 bhp and the technical possibility to fly at an altitude of 3,660 m. In total, the flying suit costs \$ 450,000 and the Titanium armor \$ 350,000.



**Figure no. 8:** The American Next Generation Air Dominance Aircraft  
(Source: <https://www.nextbigfuture.com>)





**Figure no. 9:** Gravity Industries demonstrates the boarding utility of the MK 2  
(Source: <https://www.youtube.com/watch?v=suHOLFhbwsM>)

The flying suit can be successfully used by sailors in approaching the opponent's ships, by paratroopers in conducting amphibious raids, by mountain troops in hard-to-reach mountain areas, as well as by Special Operations Forces in infiltration missions behind enemy lines.

### **3. The Russian Federation's Intent to Win the Technological Competition**

In the fight to win the global competition for the development and access to advanced military technologies that could be used in future conflicts, the Russian Federation has focused more on the dimensional and technological dominance of naval and A2/AD capabilities. Here, also, we refer in particular to the development of giant nuclear submarines and intercontinental torpedoes, the conquest and maintenance of domination at hypersonic speed, and the testing of the effectiveness of A2/AD systems in the Crimean Peninsula and the Kaliningrad Autonomous Region.

Immediately after the Black Sea naval crisis with the Great Britain in June 2021, the Kremlin began testing the largest nuclear submarine built in the last 30 years, in the White Sea. This is the giant nuclear submarine Belgorod (Figure no. 10), capable of launching nuclear strikes with six intercontinental Poseidon torpedoes and acting as a parent ship for smaller submarines. It is also able to dive to great depths and have robotic arms that can handle or even cut vital cables at the bottom of the seas (Andronie 2021).

The Poseidon 2M39 torpedoes (Figure no. 11), originally called Status-6, are just as gigantic and can only be launched by this type of submarine, representing Putin's most feared weapon, along with the 3M22 Zircon hypersonic cruise missiles. Considered an "apocalyptic tsunami-type" torpedo, it is designed as



a giant underwater drone (19.8 m wide and 198 m long), capable of traveling at very high speeds (130 km/h) and over long distances (the power of the nucleus allows torpedoes to cross oceans such as the Pacific or the Atlantic), performing a thermonuclear elimination blow (100-megaton) against a coastal target or city. “When it is detonated near the opponent’s coastline, such a large warhead (twice as strong as the Tsar’s Bomb) would flood a coastal city or enemy port with a radioactive tsunami, contaminating the area and making it uninhabitable in the coming decades” (Kizokawi 2021).



**Figure no. 10:** Launching the Giant Nuclear Submarine Belgorod by the Russian Navy  
(Source: Photo: Profilmedia Images)

The effects of such a blow would be as disastrous as the events in Fukushima, when the major earthquake that took place on March 11, 2011, off the Japanese island of Honshu, with a magnitude of 9.0 on the Richter scale, followed by a huge tsunami wave of 23 meters high at the formation and flooding the 650 km in-land, caused an unprecedented nuclear disaster at four 11-reactor nuclear power plants in the region, killing 19,500 people and injuring another 100,000. Also, the entire area remained radioactive until August 2013 (World Nuclear Association 2021).

Alongside the Avangard strategic intercontinental ballistic hypersonic missile, which we have described in a previous chapter, other weapons through which Russia maintains its supremacy in the hypersonic realm are the Kh-47M2 Kinzhal or Kinjal (“dagger” in Russian) air-ground missile and the 3M22 Zircon or Tzirkon anti-ship missile. These are used by the Kremlin under the A2/AD systems and



**Figure no. 11:** The Poseidon Intercontinental Nuclear-Powered Nuclear-Armed Autonomous Torpedo  
(Source: Photo: Profimedia Images)

have recently been verified as a countermeasure to the joint NATO-Ukraine exercise “See Breeze” in the Black Sea.

The high-precision, dual-load Kinjal hypersonic rocket was launched in 2018, being the first hypersonic rocket to be launched worldwide. It can fly at a speed of 10 Mach (12,240 km/h), it has a range of over 2,000 km, and can be launched from a plane or on board battleships (Marin 2018). The Kinjal rocket is a modernised version of the 9M723 quasi-ballistic missile, part of the Iskander system. Having the ability to constantly adjust its trajectory, this missile is considered impossible to locate by the opponent’s radars.

In turn, the Zircon hypersonic rocket was launched in 2019, with a speed of about 9 Mach and a range of over 1,000 km (Meta-Défense.fr. 2019). The missile will be able to be launched from the vertical silo for the Kalibr naval cruise missiles and the P800 Onyx anti-ship missiles.

The new hypersonic weapon systems gives to the Russian Armed Forces naval supremacy near Eurasia, as well as the ability to hit most strategic allied targets (headquarters, command centers, communications nodes, radar stations etc.) in Europe, without having to protrudes from the air protection umbrella of Russian airspace.

#### **4. The Future of Robotics in the World Technological Competition**

Robots automation has grown so fast that very few powers and fields of activity can cope with it. In addition to the danger they pose to the various human occupations that they will be able to replace with much greater efficiency, robots are beginning to have more and more advanced social skills and, more recently, are proving that they can reproduce through a completely new form, neither human nor biological.

Considered by many multinational economic and IT companies as the “fourth industrial revolution”, (Pluralsight Blog 2013) technology in general and robotics in particular will bring, by 2025, a massive, unpredictable and unprecedented change in skills and abilities that will be required of people for future careers in all domains, including the military. More and more research institutions, including the Computer Science and Artificial Intelligence Laboratory (CSAIL) of the well-known Massachusetts Institute of Technology (MIT), are working to improve human-robot interaction in assisted living units, learning robots how to interact to achieve their goals and analyse some ways to support psychologists in measuring social interactions between humans.

In 2020, scientists from the University of Vermont, supported by the U.S. Defense Advanced Research Projects Agency (DARPA), presented the world’s first robots made entirely of pluripotent stem cells from the skin of African claw frogs (*Xenopus laevis*), which they called “xenobots”. “These are new living machines. They are neither traditional robots, nor any known animal species. It’s a new class of artifacts: a living, programmable organism” (Mazilu 2021).



**Figure no. 12:** The Creation of the First “Living Robots” – Xenobots  
(Source: *playtech.ro*)

These “living robots”, similar to the Pac-Man character in the video game with the same name (Figure no. 12), now have the ability to self-replicate and generate new versions of themselves. This generation is done through a process called “spontaneous kinematic self-replication” and not through the kind of reproduction



techniques we usually see in biological life forms. Thus, “we discover that synthetic multicellular assemblies can also replicate kinematically by moving and compressing dissociated cells in their environment into functional autocopies. This form of perpetuation, previously unseen in any organism, occurs spontaneously over the course of days, rather than evolving over millennia” (Kriegman, et al. 2021).

The question of the moment is how far will robotics go and how will these developments influence future fierce global competition? The conclusion is now outlined that, in the military field, we want to replace the fighters in the modern operational space, especially in dangerous areas or where we wish a faster action without human losses.

### **Conclusions**

Dominating the global competition for the acquisition and implementation of cutting-edge military technologies will make a decisive contribution to the development of new operational concepts for winning future conflicts and, in particular, to addressing the Mosaic Warfare, focusing on gaining a decisive advantage over any potential adversary. The aim is to obtain military supremacy by using the most sophisticated high-tech capabilities to increase the complexity of the multi-dimensional operating space, as well as to increase the confusion of potential opponents.

From what is globally expected regarding the fierce competition for the development and acquisition of the latest and most advanced technologies in the military field, we can say that we are already in a new arms race, with the aim for this time to gain supremacy in one or more action domains of the multi-dimensional operating space of future conflicts. It is no less true that the current situation is very similar to the period of the Cold War situation between the US and the former USSR. During that competition, the Soviets have lost and disintegrated, as a result of this particularly costly arms race in the field of aerospace – the so-called “Star Wars” –, which they did not face. As a remake of the 1980s, the struggle for aerospace supremacy is now between the United States and China, the latter seeking to gain ground in other areas, such as the Navy, Cyberspace and Information.

The growing rapprochement between China and the Russian Federation, embodied in a Strategic Partnership with economic, energy and military objectives, raises a serious security issue for the United States. If the latest US National Defense Strategy in 2018 called for the restoration of US competitiveness by blocking the challenges posed by global rivals such as Russia and China and banning the deterioration of the current balance of international order, a possible alliance between the two rivals has become the nightmare of American policymakers and Allied military theorists. Because no strategic document



foresaw such a threat, there is no strategic plan of how the United States and NATO could deal with such a major conflict. Hence the need to develop new operational concepts, such as “Multi-Domain Operations” and “Mosaic Warfare”, in order to win such a future conflict.

Although no Sino-Russian alliance has been reached so far, both Beijing and Moscow leaders continue to announce efforts to build a common front against US dominance and transatlantic power. In order to counter such a threat and prevent such an alliance, Russia, being considered the “weakest link”, began to be constantly drawn into the political games of the US administration during both President Donald Trump and Joe Biden, as well as to the European Union, in order to distance it from China and establish its historical role, of great Eurasian power.

The use of the latest and most advanced developments in science and technology in the military field will create amazing and unique opportunities for the one who will the global technological competition, because, in addition to the possibility of developing capabilities that are difficult to counteract, new operational concepts will be developed, such as “multi-field operations” and “mosaic warfare”, already in the attention of American military theorists and researchers. Also, the forces destined to participate in future conflicts will be reorganized and tailored differently to achieve the effectiveness and team action of the “man-machine” binomial in the multidimensional operating space.

But there is also a downside to this fierce technological competition. In addition to the hard-to-overlook moral and legal issues of how far one can go with the freedom of decision given to machines and robots or the change in human performance, there is also the danger of the consequences of using sophisticated weapons near urban areas. What happened in Nagasaki and Hiroshima at the end of World War II, may be repeated in the future, with far greater effects, similar to the Fukushima disaster. And a competition like this one, the states with a lower economic power, such as Romania, will not be able to keep up and will become mere spectators, having to be on one side or the other of the great competitive powers.

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