Defense & Modern War

Figures current as of October 2026

How wars are fought and paid for, as of October 18, 2026: world military spending, the drone age, missiles and the interceptor problem, the nuclear order, the arms industry and trade, the great and middle powers with their ministers and commanders, the wars in Ukraine and Iran, the new technologies, and the economics underneath them. Israel's October 27 election, the November 3 midterms, and the other dates ahead are in Module 16.

MODULE 1 — Foundations: What Militaries Are For and What the World Spends

Goal: Size the subject and set its vocabulary.

The purposes of force, world military spending in a table, the twelve wars in progress, whether wars are becoming more common, and the terms the course uses.

MODULE 2 — How Wars Are Fought Now

Goal: Trace the way of war from the Gulf War to the transparent battlefield.

The eras of modern war in a table, five facts about the battlefield of the 2020s, and the reconnaissance-strike loop.

MODULE 3 — The Drone Age

Goal: Understand the weapon that remade the battlefield.

Ukraine's and Russia's drone numbers in a table, the arc from Nagorno-Karabakh to the jet-powered drone, what the drone changed, and the cost exchange, worked.

MODULE 4 — Missiles and Air Defense

Goal: Do the arithmetic of the magazine.

The missile family in a table, the Iran war's interceptor count, inventories and production in a table, the layered defense and its economics, and the magazine, worked.

MODULE 5 — The Nuclear Order

Goal: Count the weapons and read the rules that have expired.

The arsenals in a table, the end of the last arms-control treaty and the testing question, whether limits can return, Iran and proliferation, and nuclear signaling.

MODULE 6 — The Arms Industry and the Arms Trade

Goal: Map who makes the weapons and who buys them.

The largest companies and exporters in tables, three facts about the industry, the new entrants, and whether the arms trade deters wars or feeds them.

MODULE 7 — The United States

Goal: Read the largest military as it stands after the Iran war.

The force and the money in a table, what the war showed, the programs and their problems, and the arguments over the budget and Golden Dome.

MODULE 8 — China

Goal: Assess the force built for one contingency.

The force in a table, the exercises, purges, and diplomacy of 2025-26, whether a move on Taiwan by 2027 is likely, the Pacific balance, and a blockade's first month, worked.

MODULE 9 — Russia

Goal: Study the war economy in its fifth year.

The force, the budgets, and the casualties in a table, and what the war taught Russia's army.

MODULE 10 — Europe's Rearmament

Goal: Follow the fastest rise in European NATO spending since 1953.

National budgets and plans in a table, NATO's pledge and the Ankara summit, whether the pledge is sound, and the capability gaps.

MODULE 11 — The Other Powers

Goal: Survey the states that shaped 2026's wars.

Israel, India, Pakistan, South Korea, Japan, Türkiye, the Gulf, and Australia in a table, and what they have in common.

MODULE 12 — The Iran War

Goal: Take the year's war as the case in coercion.

The timeline in a table, what the war showed, whether it worked and whether it was lawful, and what it cost.

MODULE 13 — Ukraine

Goal: Take the decade's war as the case in attrition.

The war in numbers, what it taught, how it might end, and the lessons Europe is buying.

MODULE 14 — The New Technologies

Goal: Weigh the weapons arriving now.

Eight technologies in a table, what works and what is promised, and whether autonomous weapons can be governed.

MODULE 15 — The Economics of Defense

Goal: Price the force.

What ships, interceptors, and drones cost; procurement's pathologies; the end of the peace dividend; and a percent of GDP, worked.

MODULE 16 — Where Things Stand, and What to Watch

Goal: Assemble the picture and name the dates.

The argument, five contradictions, and the dated watch list, from Israel's election and the midterms to NATO's deadline in 2035.

Ministers and Commanders, as of October 18, 2026

The heads of government, defense ministers, military chiefs, and alliance officials the course names, with their ages on October 18, 2026 and their years in office

The United States

Office	Officeholder	Age	In office since (years)	How appointed
President	Donald Trump (also 2017-21)	80	Jan 20, 2025 (1)	Elected
Secretary of Defense, also styled Secretary of War	Pete Hegseth	46	Jan 25, 2025 (1)	Senate, 51-50, the vice president breaking the tie
Deputy Secretary of Defense	Stephen Feinberg	66	Mar 17, 2025 (1)	Senate, 59-40
Chairman of the Joint Chiefs of Staff	Gen. Dan Caine	58	Apr 14, 2025 (1)	Senate, 60-25
Chief of Staff of the Army (acting)	Gen. Christopher LaNeve	59	Apr 2, 2026 (6 mo)	Acting since Gen. Randy George's removal; not nominated as chief
Chief of Naval Operations	Adm. Daryl Caudle	62-63	Aug 25, 2025 (1)	Senate
Chief of Staff of the Air Force	Gen. Kenneth Wilsbach	62-63	Nov 3, 2025 (11 mo)	Senate; recalled from retirement
Chief of Space Operations	Gen. Douglas Schiess	56	Sep 3, 2026 (6 wks)	Senate, August 2026
Commander, Central Command	Adm. Brad Cooper	58-59	Aug 8, 2025 (1)	Senate
Director of the Golden Dome program	Gen. Michael Guetlein	58	Jul 21, 2025 (1)	Senate
Secretary of the Navy (acting)	Hung Cao	—	Apr 22, 2026 (5 mo)	Acting after John Phelan's removal

Ages are from published birth dates; where only a birth year is published, the age is given as a range. Hung Cao's birth date was not found, and Gen. Schiess's start date comes from a single account.

Russia and Ukraine

Office	Officeholder	Age	In office since (years)	How appointed
President of Russia	Vladimir Putin (also 2000-08)	74	May 7, 2012 (14)	Elected
Minister of Defense, Russia	Andrei Belousov	67	May 14, 2024 (2)	Appointed by the president
Chief of the General Staff, Russia	Gen. Valery Gerasimov	71	Nov 9, 2012 (13)	Appointed by the president; past the statutory age limit of 70

Office	Officeholder	Age	In office since (years)	How appointed
President of Ukraine	Volodymyr Zelensky	48	May 20, 2019 (7)	Elected; no election held under martial law
Prime Minister of Ukraine	Serhii Koretskyi	—	Jul 16, 2026 (3 mo)	Approved by the parliament
Minister of Defense, Ukraine	Yevhen Khmara	—	Aug 19, 2026 (1 mo); acting from July	Parliament, 312-2
Commander-in-Chief, Ukraine	Col. Gen. Oleksandr Syrskyi	61	Feb 8, 2024 (2)	Appointed by the president
Chief of the General Staff, Ukraine	Maj. Gen. Ihor Skybiuk	50	Jul 22, 2026 (2 mo)	Appointed by the president

The birth dates of Koretskyi and Khmara were not found.

China and the Pacific

Office	Officeholder	Age	In office since (years)	How appointed
General Secretary of the Communist Party, President, and Chairman of the Central Military Commission	Xi Jinping	73	Nov 15, 2012 (13)	The party's Central Committee and the National People's Congress
Vice-Chairman of the Central Military Commission	Gen. Zhang Shengmin	68	Oct 23, 2025 (11 mo)	The party's Central Committee
Minister of National Defense, China	Adm. Dong Jun	64-65	Dec 29, 2023 (2)	The National People's Congress Standing Committee; not on the commission
President of Taiwan	Lai Ching-te	67	May 20, 2024 (2)	Elected with about 40% of the vote
Minister of National Defense, Taiwan	Wellington Koo	67	May 20, 2024 (2)	Appointed by the president
Prime Minister of Japan	Sanae Takaichi	65	Oct 21, 2025 (11 mo)	Elected by the Diet; her party won 316 of 465 seats on February 8, 2026
Minister of Defense, Japan	Shinjirō Koizumi	45	Oct 21, 2025 (11 mo)	Appointed by the prime minister
President of South Korea	Lee Jae-myung	—	Jun 4, 2025 (1)	Elected with 49.42% of the vote
Minister of National Defense, South Korea	Kang Shin-chul	57-58	Sep 22, 2026 (3 wks)	Appointed by the president
Prime Minister of Australia	Anthony Albanese	63	May 23, 2022 (4)	His party won 94 of 150 seats on May 3, 2025

Lee Jae-myung's birth date was not confirmed in this audit.

Europe and NATO

Office	Officeholder	Age	In office since (years)	How appointed
Secretary General of NATO	Mark Rutte	59	Oct 1, 2024 (2)	Chosen by the allies
European Commissioner for Defence and Space	Andrius Kubilius	69	Dec 1, 2024 (1)	Nominated by Lithuania; approved by the European Parliament
Minister of Defence, Germany	Boris Pistorius	66	Jan 19, 2023 (3)	Appointed under two chancellors
Secretary of State for Defence, United Kingdom	Wes Streeting	43	Jul 20, 2026 (2 mo)	Appointed by Prime Minister Andy Burnham
Chancellor of the Exchequer, United Kingdom (defence secretary, 2024-26)	John Healey	66	Jul 20, 2026 (2 mo)	Appointed by the prime minister
Minister of the Armed Forces, France	Catherine Vautrin	66	Oct 12, 2025 (1)	Appointed in Sébastien Lecornu's government
Deputy Prime Minister and Minister of National Defence, Poland	Władysław Kosiniak-Kamysz	45	Dec 13, 2023 (2)	Appointed in Donald Tusk's government
Minister of Defence, Italy	Guido Crosetto	63	Oct 22, 2022 (3)	Appointed in Giorgia Meloni's government
Minister of Defence, Spain	Margarita Robles	69	Jun 7, 2018 (8)	Appointed in Pedro Sánchez's governments

The Middle East and South Asia

Office	Officeholder	Age	In office since (years)	How appointed
Supreme Leader of Iran	Mojtaba Khamenei	57	Mar 8, 2026 (7 mo)	Chosen by the Assembly of Experts after his father was killed
President of Iran	Masoud Pezeshkian	72	Jul 2024 (2)	Elected
Commander-in-Chief of the Revolutionary Guard, Iran	Maj. Gen. Ahmad Vahidi	68	Mar 1, 2026 (7 mo)	Succeeded a commander killed in the war
Secretary of the Supreme National Security Council, Iran	Mohsen Rezaei	72	Aug 9, 2026 (2 mo)	Appointed by the Supreme Leader
Foreign Minister of Iran	Abbas Araghchi	63	Aug 21, 2024 (2)	Approved by the parliament
Prime Minister of Israel	Benjamin Netanyahu	76	Dec 29, 2022 (3), after earlier terms	The Knesset
Minister of Defense, Israel	Israel Katz	71	Nov 2024 (1)	Named by the prime minister

Office	Officeholder	Age	In office since (years)	How appointed
Chief of the General Staff, Israel	Lt. Gen. Eyal Zamir	60	Mar 5, 2025 (1)	Named by the defense minister; approved by the government
Minister of Defence, India	Rajnath Singh	75	May 31, 2019 (7)	Appointed on the prime minister's advice
Prime Minister of Pakistan	Shehbaz Sharif	75	Mar 4, 2024 (2)	Elected by the National Assembly
Chief of Defence Forces and army chief, Pakistan	Field Marshal Asim Munir	57-58	Dec 4, 2025 (10 mo); army chief since Nov 29, 2022	A five-year term created by a constitutional amendment of November 2025
Minister of National Defence, Türkiye	Yaşar Güler	72	Jun 4, 2023 (3)	Appointed by the president

Who's Who, as of October 18, 2026

The alliances, armed groups, weapons, institutions, and people the course names, with their abbreviations

Alliances, Treaties, and Programs

Name	What it is
North Atlantic Treaty Organization (NATO)	The alliance of 32 states, whose members pledged 5% of GDP for defense and related spending by 2035, Spain excepted (Module 10)
AUKUS (Australia, the United Kingdom, and the United States)	The 2021 pact under which Australia is to acquire nuclear-powered submarines
Non-Proliferation Treaty (NPT)	The 1968 treaty under which five states keep nuclear weapons and the rest forswear them
New START (New Strategic Arms Reduction Treaty)	The last treaty limiting American and Russian strategic warheads; it expired on February 5, 2026
Anti-Ballistic Missile (ABM) and Intermediate-Range Nuclear Forces (INF) Treaties	American-Soviet treaties that the United States left in 2002 and 2019
Convention on Certain Conventional Weapons (CCW)	The UN treaty under which states are debating rules for autonomous weapons
Security Action for Europe (SAFE)	The European Union's €150 billion of loans for joint arms purchases
Prioritized Ukraine Requirements List (PURL)	NATO's arrangement through which allies buy American weapons for Ukraine
European Long-Range Strike Approach (ELSA)	The program launched in July 2024 to build European long-range missiles
National Defense Authorization Act (NDAA)	The annual American law that authorizes defense programs
Golden Dome	The American program for a national missile defense with a space-based layer
Drone Dominance Program	The Pentagon's program, begun in December 2025, to buy small attack drones in large numbers
Islamabad Memorandum	The American-Iranian framework of June 17, 2026, which collapsed in July
Mecca pact	The defense agreement of Saudi Arabia, Pakistan, and Türkiye, signed on August 7, 2026

Armed Forces and Armed Groups

Name	Who they are
People's Liberation Army (PLA)	China's armed forces, commanded by the Communist Party's Central Military Commission
Israel Defense Forces (IDF)	Israel's armed forces
Islamic Revolutionary Guard Corps	Iran's ideological army, which controls its missiles and its forces at the Strait of Hormuz
Rapid Support Forces (RSF)	The Sudanese paramilitary force at war with the army since April 2023
M23 (March 23 Movement)	The Rwandan-backed rebel group holding Goma and Bukavu in eastern Congo
Hezbollah	The Lebanese armed party allied with Iran

Name	Who they are
The Houthis	The Yemeni movement that holds the capital and, since September 2026, all of Yemen's Red Sea coast
Al-Shabaab	The Somali jihadist insurgency
Africa Corps	Russia's defense-ministry force in Africa, which replaced the Wagner group in Mali in June 2025

Weapons and Systems, with Their Abbreviations

Name	What it is
Patriot PAC-3 MSE (Missile Segment Enhancement), PAC-3 ACE (Lockheed's cheaper model, unveiled in 2026), and GEM-T	The American medium-range interceptors: Lockheed Martin's PAC-3 models and Raytheon's GEM-T
THAAD (Terminal High Altitude Area Defense)	The American interceptor that strikes ballistic missiles high in their descent
SM-3 and SM-6 (Standard Missiles)	The Navy's ship-launched interceptors; the SM-3 hits ballistic missiles above the atmosphere
Arrow, David's Sling, Iron Dome, and Iron Beam	Israel's layers of air defense, from long range to short, and its laser
NASAMS (National Advanced Surface-to-Air Missile System), IRIS-T, and SAMP/T	Norwegian-American, German, and Franco-Italian air-defense systems
Precision Strike Missile (PrSM), Tomahawk, and the Joint Air-to-Surface Standoff Missile (JASSM)	American battlefield, ship-launched, and air-launched missiles
Storm Shadow and SCALP, the Anglo-French cruise missile, and Taurus	European cruise missiles, made in small numbers
Iskander, Kinzhal, Kalibr, Kh-101, and Oreshnik	Russian ballistic, air-launched, and cruise missiles; the Oreshnik is an intermediate-range ballistic missile
DF-17, DF-21D, DF-26, and DF-27	Chinese missiles: a hypersonic glide vehicle, the anti-ship missiles called carrier killers, and a conventional intercontinental missile
Intercontinental ballistic missile (ICBM)	A missile with a range above 5,500 km
Shahed and Geran; Lancet	The Iranian-designed one-way attack drone, called the Geran in Russian production, and Russia's loitering munition
First-person-view (FPV) drone and fiber-optic drone	A small strike drone flown through a camera feed, and the version steered through a trailing cable that jamming cannot reach
Bayraktar TB2, the Turkish armed drone, and Sea Baby	The drone of the Nagorno-Karabakh war, and Ukraine's naval drone
F-35, F-47, and B-21	The American stealth fighter, the sixth-generation fighter Boeing is building, and the stealth bomber
KAAN, the Turkish fighter; J-20; Rafale; Typhoon	Turkish, Chinese, French, and European fighters
Columbia, Virginia, Ford, and Arleigh Burke	American ballistic-missile and attack submarines, the newest carrier class, and the destroyer
Sentinel, Minuteman III, and Trident	The American ICBM in development, the one it replaces, and the submarine-launched missile
K2 (Korean tank) and K9 (Korean howitzer)	The tank and self-propelled gun that Poland bought in quantity
Typhon and Dark Eagle	The American Army's launcher for Tomahawk and SM-6 missiles, and its hypersonic missile

Name	What it is
Meadowlands, HELIOS (High Energy Laser with Integrated Optical-dazzler and Surveillance), and DragonFire	The Space Force's satellite jammer, the Navy's ship-borne laser, and Britain's laser

Institutions, Companies, and Sources

Name	What it is
Stockholm International Peace Research Institute (SIPRI)	The source of the course's figures on spending, arms companies, arms transfers, and nuclear forces
International Institute for Strategic Studies (IISS)	The London institute that publishes *The Military Balance*
Center for Strategic and International Studies (CSIS)	A Washington think tank whose analysts estimated the Iran war's use of interceptors
Royal United Services Institute (RUSI)	The British defense think tank
Institute for the Study of War (ISW)	A Washington research group that maps the fronts in Ukraine daily
Uppsala Conflict Data Program (UCDP)	The Swedish database that counts the world's armed conflicts
International Centre for Defence and Security (ICDS)	An Estonian think tank that tracks NATO members' budgets
Centre for Eastern Studies (OSW)	A Polish government research center that studies Ukraine and Russia
Jewish Institute for National Security of America (JINSA)	A Washington group that published dated updates on the Iran war
RAND, the American research corporation	A research organization working mainly for the Pentagon
Congressional Budget Office (CBO) and Government Accountability Office (GAO)	Congress's budget scorekeeper and its auditor
Energy Information Administration (EIA)	The American government's energy statistics agency
Federal Bureau of Investigation (FBI)	The American federal police
International Atomic Energy Agency (IAEA)	The UN's nuclear inspectorate
International Monetary Fund (IMF)	The lender to Ukraine and Pakistan whose estimates of GDP the course uses
Office of the UN High Commissioner for Refugees (UNHCR)	The UN's refugee agency
Military Officers Association of America (MOAA)	An association of officers that reports on recruiting
American Broadcasting Company (ABC), British Broadcasting Corporation (BBC), Cable News Network (CNN), and Agence France-Presse (AFP)	News organizations whose reports the course cites
NV (Novoye Vremya)	A Ukrainian news outlet
Lockheed Martin, Northrop Grumman, General Dynamics, and Boeing	The largest American arms makers
RTX (Raytheon Technologies until 2023)	The American maker of Patriot's radar, the SM-series interceptors, and Tomahawk
BAE (British Aerospace) Systems	Europe's largest arms maker
MBDA, the European missile maker	Builder of a German plant for Patriot's GEM-T missile
Aviation Industry Corporation of China (AVIC) and China Electronics Technology Group (CETC)	Two of China's largest arms makers

Name	What it is
Rheinmetall, Hanwha, and Rostec	German, Korean, and Russian arms makers
Anduril, Palantir, SpaceX, and Fire Point	American defense-technology companies, and the Ukrainian maker of the FP-1 drone and the Flamingo missile
Taiwan Semiconductor Manufacturing Company (TSMC)	The maker of most of the world's most advanced chips

Places and Terms

Name	What it is
United Arab Emirates (UAE)	The Gulf federation that absorbed thousands of Iranian missiles and drones in 2026
Liquefied natural gas (LNG)	Natural gas cooled to a liquid for shipping
Strait of Hormuz and Bab el-Mandeb	The straits at the mouths of the Gulf and the Red Sea
Donbas	The eastern Ukrainian region of Donetsk and Luhansk
Durand Line	The border between Pakistan and Afghanistan

Analysts, Advocates, and Officials Quoted

Name	Who they are
Adm. Samuel Paparo	Commander of the American Indo-Pacific Command
Troy Meink	Secretary of the Air Force
Steve Witkoff and Jared Kushner	American envoys in the talks over Ukraine and Iran
John Thune; Roger Wicker	The Senate majority leader; the chairman of the Senate Armed Services Committee
Patty Murray and Tammy Duckworth	Democratic senators
Joe Wilson and Seth Moulton	Republican and Democratic members of the House Armed Services Committee
Andy Burnham	Britain's prime minister since July 20, 2026
Pedro Sánchez; Donald Tusk; Lars Klingbeil	The prime ministers of Spain and Poland; Germany's finance minister
Zhang Youxia	The former senior vice-chairman of China's Central Military Commission, expelled on September 21, 2026
Jack Watling	A land-warfare analyst at RUSI
Mark Cancian and Chris Park; Max Bergmann and Maria Snegovaya	Analysts at CSIS
George Beebe and Anatol Lieven	Analysts at the Quincy Institute, a Washington think tank
Tatiana Stanovaya	An analyst of Russian politics at the Carnegie Endowment
Reuel Marc Gerecht	A former Central Intelligence Agency officer at the Foundation for Defense of Democracies
Brian Finucane	A former State Department lawyer at the International Crisis Group
John Yoo	A law professor and fellow of the Civitas Institute
Franklin Miller; Rose Gottemoeller; Steven Pifer; Daryl Kimball	A member of the congressional Strategic Posture Commission; New START's chief American negotiator; a former ambassador; the head of the Arms Control Association
Bonnie Glaser; Ruby Osman	Analysts of China at the German Marshall Fund and the Tony Blair Institute

Name	Who they are
Bear Braumoeller; Shawn Davies	A political scientist at Ohio State University; a senior analyst at UCDP
A. Trevor Thrall; Sam Perlo-Freeman; Lisa Saum-Manning	Analysts of the arms trade at the Cato Institute, the Campaign Against Arms Trade, and RAND
Laura Grego; Todd Harrison	A physicist at the Union of Concerned Scientists; a budget analyst at the American Enterprise Institute
Jade Guiberteau Ricard	A researcher at SIPRI

Module 1 — Foundations

What Militaries Are For and What the World Spends

Recommended Reading / Reference

Book: Lawrence Freedman, *The Future of War: A History* (2017)

Reference: SIPRI, *Trends in World Military Expenditure, 2025* (April 2026); the Uppsala Conflict Data Program's release on 2025 (June 9, 2026)

1a. What Force Is For

States keep armed forces for four purposes, and the mix decides what they buy. **Deterrence**, persuading an adversary not to act by making the cost certain, is the purpose of nuclear weapons, of alliances, and of most of the peacetime spending on earth; it fails silently, and its success is the war that did not happen. **Defense**, stopping an attack once made, is the purpose of air defense, of fortifications, and of the armies of Poland, Korea, Israel, and Taiwan.

Coercion, using or threatening force to change another state's behavior, is the logic of the 2026 strikes on Iran, of Russia's missiles on Ukraine's power grid, and of China's exercises around Taiwan. **Conquest** or its prevention, taking and holding territory, is what Ukraine has fought over since 2022 (Module 13), and the drone has made it harder than ever. Most forces serve all four purposes, but the emphasis shows in the budget: a state that buys interceptors is defending, one that buys long-range missiles is preparing to coerce, one that buys tanks means to take or hold ground, and one that keeps thousands of warheads is deterring.

1b. The Money

Measure	2025	Note
World military spending	$2,887 billion, the eleventh straight rise	Up 2.9% in real terms; 2.5% of world GDP, the highest share since 2009
United States	$954 billion, 33% of the world total	Down 7.5%, because no new military aid for Ukraine was approved during the year. The fiscal 2027 request is in Module 7
China	$336 billion, a SIPRI estimate (12%)	Up 7.4%, the thirty-first rise in a row, the longest streak of any country. Beijing's announced budget is in Module 8
Russia	$190 billion, a SIPRI estimate; 7.5% of GDP	Up 5.9%; 20% of government spending, the highest share SIPRI has recorded for Russia. The ruble budgets are in Module 9
Ukraine	$84.1 billion, a SIPRI estimate; 40% of GDP	Up 20%; 63% of government spending, the heaviest military burden of any state
Europe, including Russia and Ukraine	$864 billion, up 14%	The highest level SIPRI has recorded for Europe. National figures are in Module 10
NATO	$1,581 billion, 55% of the world total	Members' shares of GDP and the alliance's pledge are in Module 10
The United States, China, and Russia together	$1,480 billion, 51% of the world total	Other large spenders are in Modules 10 and 11

SIPRI Military Expenditure Database (April 27, 2026); current 2025 dollars, with percentage changes in real terms. Figures marked as estimates are SIPRI's own, not official ones.

1c. The Wars in Progress

War	Since	Scale (October 2026)	The physical fact beneath it
Ukraine	February 2022	At least 94,700 battle-related deaths in 2025 alone, about 62% of the world's (Module 13)	The Donbas, the Black Sea, and the grid
The Iran war	February 28, 2026	No ceasefire in force; the strait closed to ships Iran has not authorized (Module 12)	The Strait of Hormuz, through which about a fifth of the world's oil passed before the war
Gaza and Lebanon	October 2023; Lebanon again from March 2, 2026	More than 74,000 killed in Gaza, by its health officials, at least 1,400 of them since the truce of October 2025; in Lebanon, more than 1.2 million displaced and an Israeli-held zone up to 10 km deep	The border zones and the tunnels
Sudan	April 2023	The army against the Rapid Support Forces (RSF); aid workers estimate more than 200,000 killed and more than 13 million displaced; the fighting now centered on Kordofan	The Nile's banks and the gold
Myanmar	February 2021	The army regaining towns with air power and Chinese-brokered ceasefires; about 4 million people internally displaced (UN, August 2026)	The rare earths and the borders
The Sahel	2012; escalating since 2020	Juntas under jihadist blockade; Russia's Africa Corps helped Mali's army re-enter Kidal on October 6, 2026	The gold and the desert roads
Eastern Congo	1996; renewed 2021	The M23 rebels, backed by Rwanda, hold Goma and Bukavu; the former president Joseph Kabila launched a coalition that includes them on October 12, 2026, and leads it	The cobalt and the coltan
Yemen and the Red Sea	2014; the Red Sea since November 2023	The Saudi-Houthi war resumed in July 2026, and the Houthis took Yemen's whole Red Sea coast in September; Suez traffic is about half its 2023 level	Bab el-Mandeb
Somalia	1991	Al-Shabaab against a contested state; the African Union mission loses its main funding at the end of 2026	The coast and the ports
India and Pakistan	May 2025 (four days); frozen since	Their first war since 1999; no fighting found in 2026, but counted because Kashmir remains contested by force	The rivers of the Indus basin
Ethiopia and Eritrea	2020; renewed in 2023 (Amhara) and on September 23, 2026 (Tigray)	Federal forces retook Mekelle on October 4 and reached the Eritrean border on October 13; Eritrea cut diplomatic ties	The Red Sea claim and the dam
Pakistan and Afghanistan	October 2025; 'open war' declared on February 26-27, 2026	Pakistani strikes into Afghanistan as recently as September 30-October 1; talks in Doha, Istanbul, Urumqi, and Moscow have failed	The Durand Line border

Twelve wars by the course's count: armed conflicts with more than 1,000 battle deaths a year, or with a state's territory contested by force. Sources: the Uppsala Conflict Data Program; Reuters, AFP, and Al Jazeera (September-October 2026); UNHCR; IMF PortWatch.

Is the world entering an age of more wars? Those who say yes include the analysts of the Uppsala Conflict Data Program (UCDP), who counted 65 state-based conflicts in 2025, the most since 1946, with 8 of them between states, also a record. They also counted about 244,600 deaths in organized violence, the

second-highest toll since 1994. 'We see a clear increase in conflicts between states,' said its senior analyst, Shawn Davies. **Those who doubt it** include the political scientist Bear Braumoeller, who finds states 'neither less nor more warlike than they have been for the past two centuries' once their growing number is counted, and the researchers of Our World in Data, who note that a few very deadly wars dominate any trend.

The evidence: part of the record count reflects coding, since those conflicts were in 35 countries and one country's war can count as several conflicts. The count of conflicts between states, the 13 conflicts at war intensity, and the death toll are not artifacts of that kind, and most of 2025's battle deaths came in a single war, Ukraine's. **The course's reading:** the rise in conflicts between states is real, while the headline count overstates how widely war has spread, because the deaths are concentrated in a few large wars.

1d. The Vocabulary

- **Deterrence and compellence**: deterrence as defined in 1a, and compellence, forcing an adversary to act. The first is easier than the second, a difference the Iran war tested (Module 12).
- **Escalation**: the ladder from threat to limited strike to general war to nuclear use. 'Escalation dominance' is the ability to win at every rung, which Russia sought in 2022 and the United States sought over Iran in 2026.
- **Attrition and maneuver**: wearing an enemy down by exchange, against defeating him by movement. Ukraine became a war of attrition when the transparent battlefield made maneuver suicidal.
- **Mass and precision**: many cheap weapons against a few expensive ones, a balance the drone has shifted (Modules 2 and 3).
- **Magazine depth**: the number of munitions a force holds and can replace, a constraint that accounts of the Iran war's pauses cite (Module 4), and the problem Europe's rearmament is built to fix.
- **Readiness**: the share of a force that can fight now, trained, equipped, and supplied, and the American question after the Iran war drew down its interceptors (Module 4).
- **The domains**: land, sea, air, space, cyberspace, and the electromagnetic spectrum. A modern operation runs in all six at once.

Module 1 Key Points

Foundations

• Force serves four purposes, deterrence, defense, coercion, and conquest or its prevention, and budgets show which a state stresses.

• The world spent a record $2,887 billion on its militaries in 2025, 2.5% of GDP, the highest share since 2009.

• The United States, China, and Russia spent 51% of the world's total, and NATO's members spent 55%.

• UCDP counted 65 state-based conflicts in 2025, the most since 1946, eight of them between states.

• Ukraine and Iran are 2026's two most consequential wars, the course's cases in attrition and in coercion.

Module 1 Quiz

Check Your Understanding

1. What did the world spend on its militaries in 2025?

A) $954 billion
B) About $1.5 trillion, half of it American
C) About $5 trillion, a third of it in China
D) $2,887 billion

2. Why did American military spending fall 7.5% in 2025?

A) No new military aid for Ukraine was approved
B) Congress cut the base budget
C) The dollar rose
D) The Iran war's costs were moved into a separate supplemental request

3. Which purpose of force does a state stress by buying interceptors?

A) Coercion, the power to strike first
B) Conquest, the taking of ground
C) Defense
D) Deterrence by the threat of retaliation

4. What did UCDP count in 2025?

A) 12 conflicts, the fewest since 1991
B) 65 state-based conflicts, the most since 1946, eight of them between states
C) 40 conflicts, as in most years since 2000
D) 100 wars with more than 1,000 deaths apiece

5. What is magazine depth?

A) The munitions a force holds and can replace
B) A missile's range
C) The depth at which a submarine can fire
D) The number of soldiers a state can mobilize in its first month of war

Module 2 — How Wars Are Fought Now

From the Precision Revolution to the Transparent Battlefield

Recommended Reading / Reference

Book: Stephen Biddle, *Military Power: Explaining Victory and Defeat in Modern Battle* (2004)

Reference: RUSI and CSIS reports on the wars in Ukraine and Iran, 2022-26

2a. The Precision Revolution and Its Limits

The 1991 Gulf War introduced a way of war in which a few precise weapons replaced many imprecise ones. Stealth aircraft and laser-guided bombs destroyed Iraq's air defenses, command posts, and armor in six weeks of bombing and a hundred hours of ground war, at a cost of a few hundred coalition dead. For the next thirty years every major military bought precision, in satellite-guided bombs, cruise missiles, stealth fighters, and networked sensors, on the assumption that quality would beat quantity.

That assumption held against enemies who could neither see nor shoot back, but in Ukraine and the Gulf it failed in part, for a reason the planners of 1991 did not face: the other side had precision too, and it had numbers. A drone costing a few hundred dollars finds a tank that once had to be hunted by a missile costing millions, and a thousand cheap missiles saturate a defense built for a hundred. The weapons of the precision revolution still work, but its economics have reversed: precision became cheap enough to buy by the million, and the side that can afford to lose more of it wins the exchange.

Era	Way of war	Examples	What decided it	What it cost
Industrial (1914-45)	Mass: conscript armies, artillery, and factories	The Somme; Stalingrad; the strategic bombing campaigns	Production and manpower	Tens of millions of dead
Nuclear (1945-91)	Deterrence by weapons that could not be used	The Cuban missile crisis; the arms race; the proxy wars	Control of escalation	Two superpowers' budgets, and no direct war between them
Precision (1991-2020)	Quality: sensors, stealth, guided munitions, and networks	The Gulf War; Kosovo; the 2003 invasion of Iraq; the drone strike	Information and command of the air	Few casualties for the side that had it, then long and costly occupations
Precision at mass (2020-)	Cheap precision at scale: drones, missiles, and electronic warfare on a battlefield that hides nothing	Nagorno-Karabakh in 2020; Ukraine; the Red Sea; the Iran war	Stocks of munitions, production, and the cost of each exchange	Attrition, and the defender's advantage, return

2b. Five Facts of the 2020s Battlefield

• **It is transparent.** Satellites, drones, radars, and phones see everything that moves, and a column that masses is struck within minutes. Surprise at scale is nearly impossible, which is why Russia's columns died on the road to Kyiv in 2022 and Ukraine's counteroffensive could not break through in 2023.

• **The defense has the advantage.** Mines, drones, and artillery make the last kilometer before an enemy trench the most dangerous ground on any front. Attacks in Ukraine gain ground village by village, at a heavy cost in lives (Modules 9 and 13).

• **The magazine is the constraint.** A war uses munitions faster than peacetime industry makes them. Russia was firing about 20,000 shells a day in mid-2022, by RUSI's estimate, so it fired more in a few weeks than Europe's factories then made in a year (Module 10). By the Iran war's first ceasefire the United States had fired its main air-defense interceptor far faster than its factories could replace it (Module 4).

• **The spectrum is a front.** Jamming, spoofing, and interception decide whether drones fly and missiles hit. Each side answers the other's advances within months, as the fiber-optic drone shows (Module 3).

• **Depth is reachable.** Drones and missiles strike refineries, air bases, and cities a thousand kilometers behind the front. Ukraine hits Russia's oil industry, Russia hits Ukraine's grid, and Iran struck Gulf cities, so the rear is no longer safe and no state can afford to defend all of its airspace.

2c. The Reconnaissance-Strike Complex

The organizing idea of modern war is the reconnaissance-strike complex, the loop that runs from a sensor to a decision to a weapon, and the contest is over the loop's speed and its cost. A Ukrainian brigade runs it in minutes: a reconnaissance drone spots a target, the image reaches a command post over a satellite link, software matches the target to a weapon, and a first-person-view drone or a guided shell arrives. Russian units run the same loop with the Orlan drone, the Lancet loitering munition, and glide bombs. The American and Chinese versions run through satellites, over-the-horizon radars, and long-range missiles across an ocean.

The first of two consequences is that the loop can be attacked at every link, by jamming the sensor, cutting the connection, striking the command post, or intercepting the weapon, so the contest in the electromagnetic spectrum and in space decides the fighting on the ground. The second is that the side with the cheaper loop wins the exchange, the economics of 2a applied to the whole chain from sensor to weapon. That is why armies are dispersing, digging in, and buying drones, and why the tank, the warship, and the manned aircraft must now justify their cost.

Module 2 Key Points

How Wars Are Fought Now

• The 1991 Gulf War made precision the measure of military power; it worked for thirty years against enemies who could not see or shoot back.

• Precision became cheap enough to buy by the million, so the side that can afford to lose more weapons now wins the exchange.

• The 2020s battlefield hides nothing, favors the defense, runs short of munitions, is fought in the spectrum, and reaches far behind the front.

• The reconnaissance-strike loop, from sensor to decision to weapon, organizes modern war; the contest is over its speed and its cost.

• A cheap loop that can kill an expensive platform forces tanks, warships, and manned aircraft to justify their cost.

Module 2 Quiz

Check Your Understanding

1. What did the 1991 Gulf War establish about precision weapons?

A) That mass conscript armies would still decide the wars of the future, whatever the technology
B) That they could replace mass against an enemy who could not see or shoot back
C) That air power alone could occupy a country and hold it afterward against any insurgency
D) That nuclear weapons made large wars obsolete

2. Why did the economics of precision reverse in the 2020s?

A) Because guided weapons stopped working against modern armor
B) Because satellites were destroyed at the start of each war
C) Because armies returned to conscription and mass infantry
D) Because precision became cheap enough to buy by the million, so the side that can lose more wins

3. What is the reconnaissance-strike complex?

A) A constellation of satellites that guides missiles to their targets
B) A class of long-range drones that both scout and strike
C) The loop from sensor to decision to weapon
D) A treaty regime that limits long-range missiles in Europe

4. Which of the five facts explains why no state can defend all of its airspace?

A) The defense has the advantage on the ground
B) The spectrum is a front where jamming decides what flies
C) Depth is reachable: drones and missiles strike a thousand kilometers behind the front
D) The battlefield is transparent to satellites and phones

5. What does a cheap reconnaissance-strike loop force on tanks, warships, and manned aircraft?

A) A test of their cost
B) Retirement within the decade from every major army and navy
C) A return to the massed formations of the industrial era
D) Replacement by long-range missiles fired from home territory

Module 3 — The Drone Age

The Weapon That Remade the Battlefield

Recommended Reading / Reference

Report: Jack Watling and Nick Reynolds, *Stormbreak: Fighting Through Russian Defences in Ukraine's 2023 Offensive* (RUSI, 2023)

Reference: The Institute for the Study of War's monthly counts of Russian long-range drone launches; Ukraine's defense ministry and its Brave1 procurement market

3a. The Numbers

Measure	Ukraine	Russia	Note
Drone makers	About 500, from about 7 in 2021	State plants, led by the Alabuga works in Tatarstan that build the Geran, and many smaller workshops	Ukraine also has about 200 makers of jamming equipment (CNN, January 2026), and its defense ministry had codified 650 unmanned aerial systems for military use by September 22, 2026
First-person-view (FPV) strike drones	On course for about 4.5 million in 2026, with capacity estimated at 8-10 million a year	No reliable figure published	Units ordered more than 590,000 drones through Ukraine's Brave1 Market in the first nine months of 2026, one buying channel among several
Long-range strike drones and missiles	Fire Point makes 'hundreds' of FP-1 and FP-2 drones a day, the FP-1 at $55,000-75,000 each, and about 100 Flamingo cruise missiles a month, by its chief executive's account in July 2026	About 8,400 drones launched in September 2026: 3,520 jet-powered Gerans and about 4,900 with piston engines	Ukraine intercepted about 90% of the piston-engine drones but only 54% of the jet-powered ones, which entered daily use in August. Ukraine stopped publishing counts of Russian missiles on August 11, 2026
Interceptor drones	Listed in a Brave1 directory at $1,000-2,500 each, described as succeeding 70% of the time or more	—	Built to catch slow piston-engine drones; the faster jet-powered Geran is the problem of 2026

Drone Intelligence (September 28, 2026); Ukraine's defense ministry; Fire Point's chief executive to The Guardian (July 27, 2026); the Ukrainian Air Force and ISW (October 17, 2026). Figures are estimates and change monthly.

3b. From Nagorno-Karabakh to the Jet Drone

The drone war's arc runs from a preview to a transformation: in the 44-day war over Nagorno-Karabakh in 2020, Azerbaijan used Turkish Bayraktar TB2 drones and Israeli loitering munitions to destroy Armenia's armor and air defenses with almost no manned aircraft, and every general studied the result. Ukraine began the 2022 war with the same TB2s and with commercial quadcopters carrying grenades, and within two years it had built an industry around the FPV drone, flown by a pilot in goggles into a tank, a trench, or a truck at little cost.

The counter was electronic warfare, jamming the radio link, which by 2024 grounded many FPVs near the front. The answer was the fiber-optic drone, trailing a spool of glass cable that no jammer can touch, which both armies now field at scale. Then came the interceptor drone, which hunts the Shahed for a small fraction of a missile's cost, and in 2026 Russia's jet-powered Geran, fast enough to escape many of the interceptors. Naval drones, with no Ukrainian navy behind them, took the war to the Black Sea Fleet (Module 9), and drones that finish the attack after the link is cut have followed (Module 14).

3c. What the Drone Changed

- **Mass returned.** A cheap weapon, made in the millions, restored quantity to the battlefield, on the economics set out in Module 2.
- **The tank's question.** Armor exposed to the cheap drone of Module 2 is being dispersed, netted, and kept back. Some analysts read this as the tank's end; the armies still buying tanks read it as a call for escorts of jammers, interceptors, and cover, which changes the tank's economics.
- **The industrial model.** Ukraine's many small makers, a digital marketplace, and design changes in weeks compete with Russia's state plants at scale (Module 13), and Europe and the United States are copying the Ukrainian model.
- **The cost exchange.** Air defense built for missiles cannot afford to shoot drones, so the interceptor drone, the gun, and the laser are the answers, and the arithmetic below is the whole argument.

Worked example — The Cost Exchange

Take September 2026, the month in the table above. Assume the piston drones cost $35,000 each, inside published estimates of $10,000-50,000, which makes about $170 million of ordnance. Shooting them all down with Patriot interceptors would cost $20-26 billion, two to three times what Ukraine plans to spend on defense in a month of 2027, and would use about eight years of Patriot production at the 2025 rate (Module 4). Ukraine's defense is layered by cost instead: mobile gun teams and jammers take the cheapest share, interceptor drones (table above) take a growing share, and the Patriots are kept for ballistic missiles. If guns and interceptor drones stop piston drones at the rate in the table above, at an average of $5,000 a kill, the month's defense costs about $22 million, far less than the attack, an exchange the defender can sustain. The jet drones break the arithmetic: at the rate in the table above, about 1,600 of them got through in September, and stopping them takes faster interceptors or missiles that cost far more. Reverse the exchange for Russia, and the drone-against-tank trade of Module 2 is one the tank's owner cannot sustain. The rule every planner has drawn is that the weapon which costs less than what it kills wins the war of exchange, and the interceptor which costs more loses it, which is the Iran war's problem in Module 4.

Module 3 Key Points

The Drone Age

- Ukraine is on course to make about 4.5 million FPV drones in 2026, from about 500 makers.
- Russia launched about 8,400 long-range drones in September 2026, 3,520 of them jet-powered.
- Ukraine intercepted about 90% of the piston-engine drones but only 54% of the jet-powered ones.
- Jamming grounded radio-linked drones; fiber-optic cable and onboard targeting are the answers.
- The weapon that costs less than what it kills wins the exchange; the interceptor that costs more loses it.

Module 3 Quiz

Check Your Understanding

1. How many FPV drones is Ukraine on course to make in 2026?

A) About 50,000
B) About 500,000, from state plants
C) About 45 million, most of them decoys
D) About 4.5 million

2. What share of Russia's jet-powered drones did Ukraine intercept in September 2026?

A) About 95%, as with the older Shaheds
B) About 54%, against about 90% of the piston drones
C) Almost all of them, using Patriot interceptors at a cost of billions
D) About 20%, before interceptor drones arrived

3. In which war did drones destroy an army's armor and air defenses with almost no manned aircraft, a preview of the drone age?

A) The Gulf War of 1991, with its Pioneers
B) Nagorno-Karabakh, 2020
C) The invasion of Iraq in 2003
D) Russia's invasion of Ukraine, 2022

4. Why did the fiber-optic drone appear?

A) Because fiber is cheaper
B) Because it flies faster and farther than radio-controlled drones
C) Because regulators banned the radio frequencies drones use
D) Because jamming grounded radio-linked drones

5. In the worked example, what breaks the defender's favorable arithmetic?

A) The rising price of the guns and jammers
B) A shortage of radars to guide the Patriot batteries
C) The jet-powered drones, which cheap interceptors catch only about half the time
D) Russia's decoys, which cost more than its strike drones

Module 4 — Missiles and Air Defense

The Arithmetic of the Magazine

Recommended Reading / Reference

Report: CSIS, Mark F. Cancian and Chris H. Park, 'Last Rounds? Status of Key Munitions at the Iran War Ceasefire' (April 21, 2026)

Report: CSIS, Mark F. Cancian and Chris H. Park, 'Renewed Iran War Would Test Diminished Interceptor Inventories' (July 2026)

4a. The Missiles

Type	Range and speed	Who has them	What stops them
Ballistic missile (short and medium range)	300-3,000 km; Mach 5-15 as it descends	Iran (thousands before the war), Russia (Iskander, and the Oreshnik, fired at Ukraine three times since November 2024), North Korea, China (Module 8), the US (the new Precision Strike Missile, PrSM)	Patriot, the Terminal High Altitude Area Defense (THAAD), Israel's Arrow and David's Sling; the Navy's SM-3 and SM-6 at sea
Cruise missile	500-2,500 km; subsonic, flying low and following the terrain	The US (Tomahawk, and the air-launched Joint Air-to-Surface Standoff Missile, JASSM), Russia (Kalibr, Kh-101), China, Iran, Ukraine (Flamingo)	Fighters, Patriot, the Norwegian-American NASAMS, and guns; harder to detect than to kill
Hypersonic missile	Mach 5 and above, maneuvering in flight	China (DF-17), Russia (Avangard, Kinzhal), the US (programs entering service)	Little in the final phase of flight, although Patriots shot down Kinzhals over Kyiv in 2023; Golden Dome's space layer is the proposed answer (Module 7)
One-way attack drone	1,000-2,500 km; about 180 km/h for piston versions, far faster for jets	Iran and its partners, Russia (Geran), Ukraine (FP-1), the Houthis	Guns, jammers, interceptor drones, and, expensively, missiles (Module 3)
Anti-ship ballistic missile	1,500-4,000 km	China (DF-21D, DF-26), Iran	SM-3 and SM-6 at sea; unproven against a mass salvo

4b. The Iran War's Arithmetic

Operation Epic Fury (Module 12) was the largest test of ballistic-missile defense since the Gulf War of 1991. Iran fired ballistic missiles, cruise missiles, and drones by the thousand at Israel, at American bases, and at the Gulf states. The United Arab Emirates alone engaged 537 ballistic missiles, 26 cruise missiles, and 2,256 drones by April 8, and Israel's military reported intercepting 92% of the more than 400 ballistic missiles fired at Israel by late March.

The cost of that rate was the magazine: CSIS estimated that American forces fired 1,060-1,430 Patriot PAC-3 MSE interceptors by the ceasefire of April 8, about two years of 2025 production, and that by late July about 65% of the pre-war inventory was gone. When the president halted the July air campaign (Module 12), he acted on the advice of his commanders, and one account of the decision cites the chairman's warnings about interceptor stocks. CSIS warned in July that 'diminished stockpiles may force the United States and its coalition partners to take more risks with interceptions.'

Rebuilding takes years: Lockheed Martin delivered 620 PAC-3 MSEs in 2025, and a seven-year framework agreed with the Pentagon on January 6, 2026 aims at about 2,000 a year, which CSIS expects by 2030, with about half of the output going to allies. A contract award of up to $58.6 billion followed on July 29, but CSIS counts about 52 months from appropriation to delivery, so new money buys missiles from about 2029, and it put the rebuilding of seven key munitions at one to four years.

Interceptor	Pre-war inventory	Expended	Remaining	Unit cost	Production
Patriot PAC-3 MSE	About 2,200-2,500, implied by CSIS's figures	See text above	759-827	About $5.3 million in the fiscal 2027 request; about $4 million in earlier buys	See text above
THAAD	452	38-48%	234-278	See Module 15	96 a year, rising to 400 under a $35 billion contract action of June 2026; no deliveries from August 2023 until about April 2027
SM-3 and SM-6 (Navy)	Classified	SM-3 130-250 and SM-6 190-370 by April 8, by CSIS's estimate	Not published	SM-3 in Module 15; SM-6 not published	SM-6 planned to rise above 500 a year
Arrow and David's Sling (Israel)	Classified	RUSI estimated in March that about 81% of pre-war Arrow stocks had been used; Israel denies any shortage	Not published	Arrow 2 about $1.5 million; Arrow 3 about $2 million	An increase in Arrow production approved on April 6, 2026
Tomahawk (strike, not defense)	About 3,100	More than 1,000 by the April ceasefire	Fewer than 2,100 in April; not published since	Not published	RTX plans more than 1,000 a year

CSIS (April 21 and late July 2026), as reported by Stars and Stripes and ABC News (July 30, 2026); Army Recognition (July 22, 2026); Calibre Defence (July 31, 2026); Globes (April 6, 2026). Inventories are analysts' estimates, not Pentagon disclosures.

4c. The Layered Defense and Its Economics

Air defense is built in layers because no single weapon can afford every target. Long-range interceptors (THAAD, SM-3, Arrow 3) take ballistic warheads high and early, medium-range ones (Patriot, David's Sling, SM-6) take them in the final phase, short-range systems (NASAMS, Iron Dome, and Germany's IRIS-T) take cruise missiles and drones, and guns, jammers, lasers, and interceptor drones take the cheapest threats. The rule that governs the stack is the one Module 3 set: each layer should cost less than what it kills, and a defense that fires a Patriot (4b) at a cheap drone (Module 3) loses even when it hits.

The Iran war forced that rule into the open, and the industrial response is visible. Lockheed unveiled the PAC-3 ACE on July 20, 2026 with the goal of a price under half the MSE's, for use against aircraft, cruise missiles, and short-range ballistic missiles, although no test or delivery date has been given. Lasers (Module 14), interceptor drones on the Ukrainian model, and Golden Dome's bet on a space layer (Module 7) are the other answers. Against the saturation described in Module 2, the only durable answers are to strike the launchers first, to make the interceptor cheap, or to accept that some of what is fired will get through.

Worked example — The Magazine

A Gulf state's Patriot battalion has four batteries and about 500 PAC-3 MSE interceptors in stock on the war's first day, about $2.65 billion of missiles at the price in the fiscal 2027 request. Assume that doctrine fires two interceptors at each ballistic missile, for a kill probability of about 95%. Iran's first salvo is 150 ballistic missiles: 300 interceptors are fired, about 143 missiles are killed and 7 get through, and 200 interceptors are left after one night. A second salvo of the same size on the third night can be met only in part, and a third finds the battalion empty. That arithmetic is why shrinking stocks push defenders toward one interceptor per target and toward triage over which targets justify any. On the production side, Lockheed's 2025 output (4b) came to about 1.7 a day, while American forces fired an average of 26-36 a day in the war's first forty days. A month at that rate uses 800-1,100 interceptors, 15-21 months of 2025 production, which is the case for the cheaper answers listed in 4c. The lesson for every budget is that the number that matters in an air war is not the number of batteries but the number of rounds and the rate at which the factory replaces them, and in 2026 the factory was losing.

Module 4 Key Points

Missiles and Air Defense

• Ballistic, cruise, and hypersonic missiles and one-way drones each demand a different defense, and the cheapest attacks are the hardest to afford.

• CSIS estimated that 1,060-1,430 Patriot interceptors were fired by the April 8 ceasefire, about two years of 2025 production.

• By late July about 65% of the American Patriot inventory was spent, leaving 759-827, and 38-48% of THAAD.

• Lockheed made 620 PAC-3 MSEs in 2025 and aims at about 2,000 a year; new money buys missiles from about 2029.

• A layered defense must cost less than what it kills, so cheaper interceptors, lasers, and interceptor drones are the answers.

Module 4 Quiz

Check Your Understanding

1. How many PAC-3 MSE interceptors did CSIS estimate American forces fired by the April 8 ceasefire?

A) 1,060-1,430, about two years of 2025 production
B) About 300, half a year's output
C) About 150, a quarter of a year's output
D) About 5,000, the whole pre-war inventory and more besides

2. What share of the pre-war Patriot inventory had been spent by late July 2026, by CSIS's estimate?

A) About 10%
B) About 65%, leaving 759-827
C) About 30%, leaving about 1,600
D) Nearly all of it, leaving a few dozen

3. What is the rule that governs a layered air defense?

A) Each layer should cost less than what it kills
B) Fire the most expensive interceptor first, to be sure of the kill
C) Use missiles for every target, since guns and jammers cannot hit drones
D) Defend every target equally, whatever the threat costs to stop

4. Why did Lockheed unveil the PAC-3 ACE in July 2026?

A) To replace THAAD in the upper tier
B) To replace the GEM-T on European lines
C) To offer an interceptor at under half the MSE's price for cheaper threats
D) To fit Patriot launchers on warships

5. In the worked example, what decides an air war?

A) The number of batteries deployed
B) The range of the radar
C) The number of fighters in the theater and the sorties they can fly each day
D) The number of rounds and the rate at which the factory replaces them

Module 5 — The Nuclear Order

The Weapons, the Rules, and Their Expiry

Recommended Reading / Reference

Book: Thomas Schelling, *Arms and Influence* (1966); Michael Dobbs, *One Minute to Midnight* (2008), on the Cuban missile crisis

Reference: *SIPRI Yearbook 2026*, chapter 8, 'World nuclear forces' (June 8, 2026); the Federation of American Scientists' *Status of World Nuclear Forces 2026*

5a. The Count

State	Warheads, January 2026	Deployed	Delivery systems	Trend
Russia	About 4,400 in the military stockpile; 5,420 including retired warheads	About 1,800 (1,718 a year earlier)	Intercontinental ballistic missiles (ICBMs), submarines, and bombers; the largest arsenal of non-strategic weapons	A Sarmat test failed in 2025; a nuclear-powered Burevestnik cruise missile claimed tested; the Oreshnik in service in Belarus from December 2025
United States	About 3,700 in the stockpile; 5,042 including 1,342 retired	About 1,770, including 100 bombs in Europe	400 Minuteman III ICBMs, 14 Ohio-class submarines, and B-52 and B-2 bombers	Sentinel, Columbia, and the B-21 replacing all three legs (Module 7)
China	About 620	About 34	DF-41 and DF-31 ICBMs, with more than 100 silos loaded by the Pentagon's count and hundreds by SIPRI's; submarines; bombers	Up by 20 in 2025, a slower pace than before; the Pentagon still projects more than 1,000 by 2030
France	About 290; 370 counting up to 80 retired	About 280	Submarines and aircraft	Growing: in March 2026 the president ordered the first increase since 1992 and ended publication of the figures
United Kingdom	About 225	About 120	Trident submarines; 12 nuclear-capable F-35As ordered in 2025 to join NATO's nuclear sharing	A ceiling of 260 set in 2021; no increase measured in 2025
India	About 190 (180 a year earlier)	About 12	Missiles, aircraft, and ballistic-missile submarines	Growing
Pakistan	About 170	None counted	Missiles and aircraft	Developing new delivery systems and accumulating fissile material
Israel	About 90	None counted	Aircraft, missiles, and submarines; never declared	Stable in number; believed to be modernizing
North Korea	About 60 (50 a year earlier)	None counted	Missiles of every range, including ICBMs	Growing; its production of fissile material is speeding up
World	12,187 (12,241 a year earlier), of which 9,745 in military stockpiles	4,012 (3,912 a year earlier); 2,100-2,200 on high alert		The total falls only because retired warheads are dismantled, and SIPRI expects that to reverse

SIPRI Yearbook 2026 (June 8, 2026) and the Federation of American Scientists (June 2026), whose figures are estimates by the same authors. Russia and the United States hold about 86% of all warheads and 83% of those in military stockpiles.

5b. The Rules and Their Expiry

The nuclear order rested on treaties, and most of them are gone. The Non-Proliferation Treaty (NPT) of 1968 lets five states keep the weapons while everyone else forswears them in exchange for civil technology and a promise of eventual disarmament. Its bargain is strained by four armed states outside it and by the recognized states' modernization. Its review conference, held in New York from April 28 to May 22, 2026, ended without a final document for the third time in a row, after the United States insisted on a line that Iran could never acquire the bomb and Iran objected that the text did not condemn the strikes on its safeguarded sites.

The American-Russian treaties that capped the two largest arsenals ended in sequence: the Anti-Ballistic Missile (ABM) Treaty in 2002, the Intermediate-Range Nuclear Forces (INF) Treaty in 2019, and New START, with its limit of 1,550 deployed strategic warheads each, on February 5, 2026. For the first time since 1972 no agreement limits the two arsenals or provides for their inspection. Russia's foreign ministry said that day that the parties were 'no longer bound,' and the president said experts should write 'a new, improved, and modernized' treaty instead. The State Department then proposed multilateral talks that would include China, which has refused them since 2020 and says the two largest powers must cut first.

The test-ban treaty of 1996 never entered into force: the United States and China signed it without ratifying, and Russia withdrew its ratification in 2023. In October 2025 the president ordered testing 'on an equal basis,' and his energy secretary said the tests would not be nuclear explosions. Russia says its Arctic test site has been ready for years, and in February 2026 Washington accused China of a concealed low-yield test in 2020, which Beijing called groundless. No state is known to have conducted a nuclear explosion in 2026.

Does the end of arms control make a new arms race inevitable? Those who say the limits are gone, among them Franklin Miller of the congressional Strategic Posture Commission, argue that the United States must now deter Russia and China at once. The commission recommended in 2023 that Washington prepare to add warheads to its existing missiles and bombers, and a State Department official said in February 2026 that 'a bunch of options' were under study. **Those who say limits can return**, among them Rose Gottemoeller, who negotiated New START, the former ambassador Steven Pifer, and Daryl Kimball of the Arms Control Association, argue that holding to the old ceilings while negotiating would not prejudice the response to China's buildup, and that a deal will take time and hard bargaining.

The evidence cuts both ways: Russia's deployed warheads rose in 2025 and France ordered an increase (5a), but American deployments were unchanged, and Russia's foreign minister said in February that Moscow would keep to the old limits as long as Washington did. On October 16, 2026 the president said the United States was 'talking to Russia' and to China about cuts, although no talks had been scheduled. **The course's reading:** the two largest arsenals still sit near the old ceilings by choice, so their limits could be restored by a political decision faster than either side could add warheads, while China's buildup, which no treaty has ever limited, is the part of the race already under way.

5c. Iran and Proliferation

The American and Israeli strikes on Iran's nuclear sites in June 2025 and again in 2026 were the first sustained attempt to end a state's nuclear program by force since Israel's strikes on Iraq in 1981 and Syria in 2007, and they can be read two ways. Read as counter-proliferation, they set the enrichment program back (Module 12) and showed that a state without a weapon can be struck. Read as an advertisement for proliferation, they showed that the states struck are the ones without a weapon, while North Korea, which has the weapon, is not.

The International Atomic Energy Agency (IAEA), the UN's inspectorate, has had no access to the bombed sites since June 2025, or to Iran's 440.9 kilograms of uranium enriched to 60%. Its best estimate in April 2026 was that about 200 kilograms lay in tunnels at Isfahan, and in September Britain, France, Germany, and the United States told its board that the agency had 'lost all visibility' over the stockpile. Other states are hedging: Saudi Arabia's crown prince said in 2018 that the kingdom would match an Iranian bomb, and a civil nuclear agreement the United States signed with it on July 22, 2026 opens a path to enrichment. In South Korea, 65% of those Gallup polled in late August 2026 supported a national bomb, and Japan's prime minister has declined to commit to keeping the three non-nuclear principles in its revised security documents.

Europe's answer runs through France: in a speech at its submarine base on March 2, 2026, President Macron offered 'forward deterrence': allies may host nuclear-capable French aircraft for periods and join French exercises, while the decision to use the weapons stays his alone. Germany, Poland, the Netherlands, Belgium, Greece, Sweden, and Denmark were named as the first partners, and Poland signed a strategic dialogue on deterrence in April, although its president argues for joining NATO's nuclear sharing instead.

5d. Signaling: The Cuban Precedent

Nuclear weapons are used every day without being fired, in the signals states send about when they might be. The Cuban missile crisis of October 1962 remains the manual. It combined a blockade rather than a strike, a private deal on American missiles in Turkey beneath the public one, and a deadline both sides could step back from, and only afterward did Washington learn that Soviet commanders in Cuba had tactical weapons it did not know about.

The signals of the 2020s follow the manual and stretch it: Russia's 2024 doctrine treats a conventional attack backed by a nuclear power as a joint attack, and it has stationed tactical weapons and the Oreshnik missile (5a) in Belarus. China displayed all three legs of its arsenal at its September 2025 parade. The norm of non-use has now held for 81 years, through the war in Ukraine (Module 13) and strikes on a nuclear program, and Schelling gave the reason: a nuclear weapon's value lies in the threat, and the threat is spent the moment it is carried out.

Module 5 Key Points

The Nuclear Order

• Nine states hold about 12,187 warheads; Russia and the United States hold about 86%, and deployed warheads rose by 100 in 2025.

• New START expired on February 5, 2026; for the first time since 1972, no treaty limits or inspects the two largest arsenals.

• China's arsenal of about 620 grew by 20 in 2025; the Pentagon projects more than 1,000 by 2030, and China refuses three-way talks.

• The strikes left the IAEA blind to Iran's 440.9 kilograms of 60% uranium, while Saudi Arabia, South Korea, and Japan weigh their options.

• The norm of non-use has held for 81 years, because a nuclear threat loses its value the moment it is carried out.

Module 5 Quiz

Check Your Understanding

1. What happened to New START on February 5, 2026?

A) It was extended for five years under an exchange of notes between the two presidents
B) It expired
C) It was replaced by a three-way treaty that also binds China's growing arsenal
D) It was expanded to cover the non-strategic weapons both sides keep in Europe

2. How did China's arsenal change in 2025, by SIPRI's estimate?

A) It grew by about 20, to about 620 warheads
B) It shrank as older warheads were retired and dismantled
C) It doubled to about 1,200 warheads
D) It was frozen under the test-ban treaty

3. What has the IAEA lost since June 2025?

A) Its seat on the UN Security Council
B) Its funding from the United States
C) The right to inspect Saudi Arabia's reactors
D) Access to the bombed sites and to Iran's 440.9 kilograms of 60% uranium, now unseen for more than a year

4. What did France offer allies in March 2026?

A) A shared nuclear command based in Brussels with joint launch authority
B) Warheads stationed permanently on German and Polish soil
C) Forward deterrence, with use decided in Paris alone
D) Its submarines placed under NATO command

5. Why has the norm of non-use held, on Schelling's account?

A) A threat is spent once used
B) Because the Non-Proliferation Treaty has banned any use of the weapons since 1968
C) Because no state has had warheads small enough to use on a battlefield
D) Because missile defenses can stop every warhead fired

Module 6 — The Arms Industry and the Arms Trade

Who Makes the Weapons and Who Buys Them

Recommended Reading / Reference

Book: Andrew Cockburn, *The Spoils of War: Power, Profit and the American War Machine* (2021)

Reference: SIPRI, *The SIPRI Top 100 Arms-producing and Military Services Companies, 2024* (December 2025) and *Trends in International Arms Transfers, 2025* (March 2026)

6a. The Industry

Company	Country	Arms revenue (2024)	Note
Lockheed Martin	US	$64.65 billion, up 3.2%	The F-35, the PAC-3 MSE, and THAAD; nearly half again as large as the second company. SIPRI records it as warning that Chinese export bans could disrupt its production network
RTX	US	$43.6 billion, up 4.1%	Patriot's radar and its GEM-T missile, the Navy's SM-series interceptors, Tomahawk, and Pratt & Whitney engines
Northrop Grumman	US	$37.85 billion, up 3.3%	The B-21, the Sentinel, and space systems
BAE Systems	UK	$33.79 billion, up 6.9%	Europe's largest and fourth in the world: ships, munitions, and the Typhoon fighter
General Dynamics	US	$33.63 billion, up 8.1%	Submarines, tanks, and munitions
Boeing	US	$30.55 billion, down 4.6%	Fighters, the F-47, and tankers
Rostec and United Shipbuilding	Russia	$31.2 billion combined, up 23% (a SIPRI estimate)	Domestic demand replaced lost exports
Eight Chinese companies	China	$88.3 billion combined, down 10%	AVIC $20.3 billion and CETC $18.9 billion; major contracts postponed or cancelled amid corruption allegations
Rheinmetall	Germany	$8.24 billion, up 47%	Shells, vehicles, air defense, and now naval ships; its 2025 sales were €9.9 billion and its guidance for 2026 is €14.0-14.5 billion
Four South Korean companies	South Korea	$14.1 billion combined, up 31%	Hanwha, Korea Aerospace Industries, Hyundai Rotem, and a missile maker; the K2 tank and K9 howitzer
Five Japanese companies	Japan	$13.3 billion combined, up 40%	The fastest growth of any country with more than one company in the Top 100
SpaceX	US	$1.81 billion, up 103%	In the Top 100 for the first time
Top 100 total	—	$679 billion, a record, up 5.9%	American companies almost half; European companies 22%; those of Asia and Oceania about 19%, the only region to decline

SIPRI Top 100 (December 1, 2025): arms revenues for 2024 in constant 2024 dollars, with real changes. The next edition, with 2025 data, is due in early December 2026.

6b. The Trade

Exporter	Share, 2021-25	Main customers	Trend
United States	42% (36% in 2016-20)	Saudi Arabia 12%, Ukraine 9.4%, Japan 8.9%	Exports up 27%; Europe took 38% of them, the largest share for the first time in two decades
France	9.8%	India 24%, Egypt 11%, Greece 10%	Second in the world
Russia	6.8% (21% in 2016-20)	India 48%, China 13%, Belarus 13%	Exports down 64%, the only top-ten supplier to fall
Germany	5.7%	Ukraine 24%, Egypt 14%, Israel 10%	Fourth; up 15%
China	5.6%	Pakistan 61%, Serbia 6.8%, Thailand 4.7%	Fifth; Pakistan's Chinese fighters and missiles fought India in May 2025
Italy	5.1%	Qatar 26%, Kuwait 17%, Indonesia 12%	Up 157%
Israel	4.4%	India 29%, Germany 21%, the US 7.8%	Up 56%; in the top ten for the first time, with 41% of its exports going to Europe
United Kingdom	3.4%	Qatar 31%, the US 14%, Ukraine 13%	Eighth
South Korea	3.0%	Poland 58%, the Philippines 18%, the UAE 9.5%	Up 24%; 47% of Poland's imports; $15.4 billion of exports in 2025 by Seoul's count
Spain	2.3%	Saudi Arabia 28%, Türkiye 16%, Belgium 12%	Tenth
Türkiye	1.8%	Pakistan 16%, the UAE 12%, Ukraine 8.4%	Up 122%; $10.05 billion of exports in 2025 by Ankara's count, its first year above $10 billion
Ukraine	0.3%	China 64%, India 23%, mostly older sales	Its first export permit for finished drones came on July 1, 2026, too recently to show in SIPRI's data

SIPRI, Trends in International Arms Transfers, 2025 (March 2026): shares of the volume of major conventional arms, measured by SIPRI's trend-indicator values rather than dollars. National export figures are each government's own. The largest importers were Ukraine (9.7%), India (8.2%), and Saudi Arabia (6.8%).

6c. The Three Facts About the Industry

• **It is a monopsony.** Each company has essentially one customer, its government, which sets demand by budget and election. The industry's cycle is the political cycle, and its capacity follows orders with a lag of years, which is why the magazines were empty in 2022 and are still filling in 2026.

• **It is consolidated.** The Pentagon counted 51 American aerospace and defense prime contractors in the 1990s and 5 by 2022. Each major system has one or two makers, and each of Patriot's two interceptors has a single prime contractor, Lockheed Martin for the PAC-3 MSE and RTX for the GEM-T (for a licensed German line, see Module 10).

• **It is exposed.** Airbus and Safran once depended on Russia for half of their titanium, Leonardo calls gallium and germanium 'irreplaceable,' and China controls about 60-70% of rare-earth mining and about 90% of processing. China's licensing of seven rare earths, imposed in April 2025, remains in force; its suspension of broader controls expires on November 10, 2026, and of its ban on gallium and germanium sales to the United States on November 27, 2026.

6d. The New Entrants

The decade's change in the industry is the arrival of companies that build like Silicon Valley rather than like the primes. Anduril, which makes autonomous systems and the Lattice software, had revenue of $2.2 billion in 2025 and raised $5 billion in May 2026 at a valuation of about $61 billion, and Reuters reported talks in July at about $100 billion. Palantir, whose software the Army and Ukraine use for targeting and logistics, holds a ten-year Army agreement worth up to $10 billion. SpaceX listed its shares on June 12, 2026 and won $6.45 billion of Space Force contracts in late May.

Their claim is that the primes' cost-plus contracts, decade-long programs, and hand-built systems cannot produce the mass the drone age needs. The Pentagon's Drone Dominance Program (Module 7) and its agreement to buy about 10,000 lower-cost hypersonic missiles over three years from four firms, Anduril among them, are bets on that claim. The primes answer that no startup has built a submarine, a fighter, or an interceptor, and that most of the money is still theirs. For now the budget buys from both, exquisite systems in small numbers from the primes and cheap systems in large numbers from the entrants.

6e. Does the Arms Trade Deter Wars or Feed Them?

Those who say it deters include Senator Roger Wicker, who calls 'arming allies and partners' 'a core function of the U.S. military,' and Lisa Saum-Manning of RAND, who told the Senate in 2025 that sales are 'a vital U.S. foreign policy tool that strengthens allied contributions to U.S. integrated deterrence.' The administration's executive order of April 2025 says faster sales 'strengthen the security capabilities of our allies.' **Those who say it feeds wars** include Trevor Thrall of the Cato Institute, who argues that sales do not create conflicts 'out of thin air' but make them likelier where the conditions exist, and Sam Perlo-Freeman, who found 'no evidence of conflict acting as an impediment to arms sales' by any of the eleven major exporters he studied.

The evidence fits both cases: the states nearest Russia have armed against a larger neighbor, Europe's imports rose 210% in 2021-25, and imports have kept Ukraine in the war. But China supplies 80% of Pakistan's imports and Russia 40% of India's, arming both sides of a rivalry that fought in May 2025, and statistical studies, such as one by Pamp and colleagues in 2018, find that arms imports raise the odds of civil war where conditions already favor it. **The course's reading:** the 'feeds' case rests on civil wars in fragile states and on rivals armed from outside, as India and Pakistan were, and the 'deters' case on states arming against a larger neighbor, so the recipient, more than the sale, decides the effect.

Module 6 Key Points

The Arms Industry and the Arms Trade

• The 100 largest arms companies earned a record $679 billion in 2024; American companies took almost half.

• Among countries with more than one company in the Top 100, Japan's, Korea's, and Russia's grew fastest; China's fell 10%.

• The United States made 42% of the world's arms exports in 2021-25; Russia's share fell from 21% to 6.8%.

• The industry has one customer per company, few makers per system, and supply chains exposed to Chinese minerals.

• Anduril, Palantir, and SpaceX bring software and mass production to defense, but the primes still hold most of the money.

Module 6 Quiz

Check Your Understanding

1. What did the 100 largest arms companies earn in 2024?

A) $100 billion
B) $679 billion, a record
C) $2.9 trillion
D) About $50 billion, most of it in Russia and China combined

2. How did Russia's share of arms exports change from 2016-20 to 2021-25?

A) It doubled
B) It rose to first place in the world
C) It held steady at about a fifth
D) It fell from 21% to 6.8%

3. Why does the course call the arms industry a monopsony?

A) Because one buyer abroad takes most exports
B) Because the UN sets weapons prices
C) Because each company has essentially one customer, its own government
D) Because a few firms make each system

4. What happened to Chinese arms companies' revenues in 2024, by SIPRI's count?

A) They doubled
B) They rose 40%
C) They fell 10%, as corruption allegations delayed or cancelled contracts
D) They overtook America's

5. In the course's reading, what decides whether arms sales deter wars or feed them?

A) The recipient more than the sale
B) The price
C) The seller
D) Whether the sale is approved by the UN Security Council in advance

Module 7 — The United States

The Largest Military After the Iran War

Recommended Reading / Reference

Reference: The Pentagon's fiscal 2027 budget request (April 2026); the Congressional Budget Office (CBO), *Potential Costs of a National Missile Defense System* (May 12, 2026)

Reference: The Government Accountability Office's (GAO) reports on F-35 readiness (June 2026) and the Columbia-class submarine (April 2026)

7a. The Force and the Money

Measure	Figure	Note
Spending	About $1 trillion in fiscal 2026, counting reconciliation money; $1.5 trillion requested for fiscal 2027, $1.15 trillion in the base budget and $350 billion through a reconciliation bill	The request is $445 billion, more than 40%, above fiscal 2026. No fiscal 2027 appropriation has been enacted, and a stopgap runs to December 11, 2026. SIPRI's figure for 2025 is in Module 1
People	1,321,916 active troops authorized for fiscal 2026 and 1,342,900 requested for fiscal 2027; about 700,000 civilians (695,248 in January 2026, after a cut of 82,940 since December 2024)	The Army had about 453,000 active soldiers in mid-2025. Every service met its recruiting goal for fiscal 2026, and the Army met its goal of 61,500 four months early
Navy	291 battle-force ships (May 2026); 11 carriers; 49 attack submarines against a goal of 66	The 381-ship goal is giving way to a 'Golden Fleet' of 15-25 battleships and 50-65 frigates. The fiscal 2027 request seeks $65.8 billion for shipbuilding, against $27.2 billion enacted for fiscal 2026, and the plan for fiscal 2027-31 includes three nuclear-powered 'Trump-class' battleships
Air and space	Nearly 1,300 F-35s in service worldwide after a record 191 deliveries in 2025, with 2,470 planned for the American services; the B-21 bomber in production; the F-47 sixth-generation fighter, built by Boeing, to fly in 2028	The Space Force's fiscal 2027 request is $71.2 billion, up 77%, including about $21 billion for 'space control'
Nuclear	The Sentinel intercontinental missile, 81% over its baseline (7c)	Module 5
Munitions after Iran	Interceptor stocks are in Module 4; an Army official reportedly said the whole inventory of the new PrSM had been fired, which others dispute	New PAC-3 MSE and THAAD contracts in 2026 (Module 4), and RTX's seven-year frameworks for Tomahawk, SM-6, and the Advanced Medium-Range Air-to-Air Missile (February 3)
Golden Dome	$185 billion through 2035 (the Pentagon, March 2026); about $1.2 trillion over 20 years (CBO, May 2026); $252 billion to $3.6 trillion over 20 years (Todd Harrison of the American Enterprise Institute, 2025)	About $38 billion appropriated so far. Of the fiscal 2027 request's $17.5 billion, all but $400 million depends on a reconciliation bill that has not passed

Akin Gump and CSIS on the fiscal 2027 budget (June-August 2026); Breaking Defense (April 2026); the Navy's fiscal 2027 shipbuilding plan (May 11, 2026); the Congressional Research Service; MOAA (October 5, 2026); CBO (May 12, 2026); Washington Technology (March 17, 2026).

7b. What the Iran War Showed

Operation Epic Fury pitted American forces against a state with a large modern missile force, and it showed the force's two faces at once. The offense struck its targets at scale (Module 12). The sustainment strained: the Patriot and THAAD magazines were drawn down hard (Module 4), carriers stayed deployed far beyond normal tours, with the Abraham Lincoln home on October 8, 2026 after more than 300 days, and the Pentagon's Inspector General found 'strategic inventory shortfalls,' with chokepoints in solid rocket motors, explosives, and skilled labor.

The administration disputes the alarm: the defense secretary called reports of shortages a 'manufactured story,' and the UN ambassador said that 'the U.S. military has everything it needs.' CSIS judged in April that the United States had enough missiles to continue the Iran war 'under any plausible scenario,' and that 'the risk—which will persist for many years—lies in future wars.'

The strategic finding is the one Module 4 drew from the arithmetic of the magazine. The response is in the contracts of 2026 and in the fiscal 2027 request, which raises Army missile procurement from just over $7 billion to $37 billion, and the readiness question for the interval is whether the force could fight in the Pacific tomorrow with the magazines it has today.

7c. The Programs and Their Problems

Program	Cost	Status (October 2026)	The problem
F-35	More than $2 trillion over its life, by the Pentagon's estimate	Block 4 upgrades more than $6 billion over their first estimate and at least five years late	Mission capable 44% of the time and fully mission capable 25% in fiscal 2025, against targets of 80% and 65% by 2030
Columbia-class submarine	$126.4 billion to buy 12; about $311 billion over the life cycle	The first boat at least 18 months late; delivery scheduled for March 2029	It must be ready for its first patrol by October 2030, as the Ohio class retires
Sentinel ICBM	$141 billion	Restructured around newly built silos; a key review due by the end of 2026; first capability in the early 2030s	The silos and the ground infrastructure
B-21 bomber	Unit cost not published; at least 100 planned	In low-rate production, with capacity raised 25% in February 2026; first operational aircraft to Ellsworth in 2027	On schedule, the exception
Constellation-class frigate	About $1.2-1.3 billion each	Ships three to six cancelled in November-December 2025 and the first two put under review; replaced by a new frigate based on a Coast Guard cutter, with the first hull to launch in 2028	Design changes and the shipyards
Golden Dome	See 7a	Ordered on January 27, 2025; led by Gen. Michael Guetlein since July 21, 2025; 1,014 companies qualified for a Missile Defense Agency contract vehicle worth up to $151 billion	An 'objective architecture' that has not been published; an operational demonstration due by summer 2028

Program	Cost	Status (October 2026)	The problem
Drone programs	$1.1 billion for the Drone Dominance Program from the 2025 reconciliation law	Replicator fielded 'hundreds' of systems rather than thousands; of its two successors, the Drone Dominance Program aims at more than 200,000 small attack drones by 2027 and had accepted 12,720 by September 10, 2026	Scale against Ukraine's millions (Module 3)
Munitions	The Army missile procurement increase in 7b	Contracts to raise Tomahawk and SM-6 output (Module 4)	The factories' lag (Module 4)

GAO (September 2025, April and June 2026); the Congressional Research Service (January 2026); Defense News (February 24, 2026); DefenseScoop (December 2025); drone-warfare.com (September 28, 2026); Breaking Defense (April 2026).

7d. Two Arguments: The Budget and the Dome

Will Congress fund the fiscal 2027 request in full? Its advocates include the Senate majority leader, John Thune, who says Congress has 'an obligation' to give the forces 'everything they need for whatever the mission may be,' and Senator Roger Wicker, chairman of the Armed Services Committee, who calls this 'the most dangerous threat environment we have faced since World War II.' **Its critics** include Senator Patty Murray, who called the request a 'nonstarter,' and Senator Tammy Duckworth, who said that 'simply throwing more money at an out-of-control military operation is not strategy.'

The evidence: the House passed its National Defense Authorization Act (NDAA) by 216 votes to 212 in late July, Senate cloture failed by 50 to 46 on July 14, and Congress's committee bills sit at $1.07-1.15 trillion, none of them including the reconciliation money (7a). **The course's reading:** the votes so far support a budget above $1 trillion but not the party-line reconciliation bill, which carries most of Golden Dome's request.

Is Golden Dome worth its cost? Its advocates include its director, General Guetlein, who calls the higher estimates 'sensational projections' built on 'legacy technology and outdated cost models,' and who says space-based interceptors will not be produced unless they are affordable. Representative Joe Wilson argues that a defense which makes attack infeasible deters Russia and China. **Its critics** include Laura Grego of the Union of Concerned Scientists, who calls it 'technically unrealistic in practice, profoundly destabilizing and wildly expensive,' and Representative Seth Moulton, who argues that a large homeland defense undermines mutual deterrence, while backing its drone defenses, tracking satellites, and Patriots.

The evidence: CBO puts about 60% of the system's cost in the space-based interceptor layer, the architecture has not been published, and the program office first briefed CBO on September 25, 2026. **The course's reading:** the price depends on a space layer whose size is secret, so the estimates in 7a, made over different periods, cannot be narrowed until the architecture is published or the demonstration (7c) flies, and nothing published yet settles the dispute over deterrence and stability.

Module 7 Key Points

The United States

• The fiscal 2027 request is $1.5 trillion, more than 40% above fiscal 2026; no appropriation has passed, and a stopgap runs to December 11.

• The Navy has 291 battle-force ships and 49 attack submarines, and its major shipbuilding programs are late.

• The Iran war showed an offense that struck at scale and a sustainment that strained; the inspector general found 'strategic inventory shortfalls.'

• The F-35 was fully mission capable only 25% of the time in fiscal 2025; the first Columbia is at least 18 months late.

• Golden Dome costs $185 billion through 2035 by the Pentagon's count and about $1.2 trillion over 20 years by CBO's; its architecture is unpublished.

Module 7 Quiz

Check Your Understanding

1. What is the Pentagon's budget request for fiscal 2027?

A) $954 billion, flat on 2025
B) $700 billion, a cut from 2025
C) $3 trillion, double the current budget
D) $1.5 trillion

2. How many battle-force ships did the Navy have in May 2026?

A) 381
B) About 291
C) About 450, more than China's navy
D) About 210, the fewest since 1916

3. What did the Pentagon's Inspector General find about munitions after the Iran war?

A) 'Strategic inventory shortfalls,' with chokepoints in rocket motors, explosives, and skilled labor
B) That stocks were fully rebuilt by June
C) A surplus of interceptors in the Gulf
D) That only shells were short

4. What happened to the Constellation-class frigate?

A) It entered service in 2026 as planned
B) Most of the class was cancelled
C) Its hulls were transferred to the Coast Guard
D) It was sold to Australia under AUKUS

5. What does CBO estimate Golden Dome would cost?

A) $17.5 billion
B) $185 billion through 2035, matching the Pentagon
C) About $1.2 trillion over 20 years
D) About $5 trillion over its first decade

Module 8 — China

The Force Built for One Contingency

Recommended Reading / Reference

Reference: The Pentagon's *Military and Security Developments Involving the People's Republic of China 2025* (December 23, 2025)

Reference: The Office of the Director of National Intelligence, *Annual Threat Assessment* (March 2026); IISS, *The Military Balance 2026*

8a. The Force

Measure	Figure	Note
Budget	1.91 trillion yuan for 2026 (about $277 billion), up 7%	Announced March 5, 2026; the three before it rose 7.2% each. The Pentagon put actual 2024 spending at $304-377 billion against $231 billion announced
Command	The Central Military Commission, chaired by Xi Jinping	Only two of its seven seats were occupied in October 2026, Xi's and Gen. Zhang Shengmin's, after the purges described in 8b
Active troops	About 2 million, the world's largest force	Reorganized in April 2024 into services that include new aerospace, cyberspace, and information-support forces
Navy	More than 370 ships and submarines in 2023, projected at 395 for 2025 and 435 for 2030; about 60 submarines	The third carrier, the Fujian, the first with electromagnetic catapults, entered service on November 5, 2025; a fourth is reported to be under construction at Dalian
Rocket Force	The world's largest force of land-based conventional missiles	DF-21D and DF-26 anti-ship missiles; the DF-17 glide vehicle; the DF-27, which the Pentagon called a fielded conventional ICBM in December 2025
Air power	About 3,150 military aircraft, 2,400 of them combat aircraft, in the air force and naval aviation	J-20 stealth fighters in service; prototypes of a sixth-generation design seen flying since December 2024
Nuclear	A growing arsenal	Module 5
The 2027 goal	The People's Liberation Army's centenary on August 1, 2027	The Pentagon says Beijing wants the capability to win a war over Taiwan by the end of 2027 (8b)

Announcement of the 2026 budget (March 5, 2026); the Pentagon's China reports of December 2025 and, for ship, submarine, and aircraft counts, the 2023 edition; Naval News. Chinese figures are estimates.

8b. The Contingency

The People's Liberation Army (PLA) has been built since the 1990s for one contingency, Taiwan, and nearly everything in the table serves it. The missiles are meant to keep American carriers beyond the first chain of islands off China's coast, the navy to blockade or land, the air force to contest the skies over the strait, and the space and cyber forces to blind the American reconnaissance-strike loop in a war's first hours. Its exercises around the island rehearse an opening short of invasion: a quarantine or cordon that stops Taiwan's imports of energy (8c) and dares the United States to break it.

The exercises have grown since 2022: Joint Sword in 2023, two more in 2024, Strait Thunder in April 2025, and Justice Mission 2025 on December 29-30, the largest by the area it covered. In that drill the PLA listed the blockade of key ports among its aims and fired rockets into zones near Keelung and Kaohsiung, ten of

which landed inside Taiwan's contiguous waters, the closest to its coast yet. Taiwan's defense ministry reported on October 16, 2026 that no encircling exercise had been held so far that year.

The purges have reached the top of the command: two members of the Central Military Commission, its vice-chairman He Weidong and Admiral Miao Hua, were expelled in October 2025. The senior vice-chairman, Zhang Youxia, the PLA's most senior officer with combat experience, and the chief of the Joint Staff, Liu Zhenli, were placed under investigation in January 2026 and expelled on September 21. Two former defense ministers were sentenced in May 2026 to death with a two-year reprieve, and the Center for Strategic and International Studies (CSIS) counts 101 senior officers purged since 2022. Analysts do not expect the commission's empty seats to be filled before the party's 21st Congress in late 2027. Beijing's diplomacy has meanwhile eased: the American president made a state visit in May 2026, Xi Jinping went to Washington on September 23-25, and their trade truce was extended to January 10, 2027.

Taiwan's own preparation is contested at home: its legislature cut the government's special defense budget of 1.25 trillion Taiwan dollars to 780 billion (about $24.8 billion) in May 2026 and removed its funding for domestic drones. The regular budget for 2026, still not fully approved in mid-June, is 3.32% of GDP, and the government has proposed about 1.1 trillion Taiwan dollars for 2027. In Washington, an arms package of about $14 billion has been held since May, and the president has called arms sales a 'very good negotiating chip.'

Is a Chinese move on Taiwan by 2027 likely? Those who see a real danger include the Pentagon, which reported in December 2025 that the PLA 'continues to make steady progress toward its 2027 goals,' and Admiral Samuel Paparo of Indo-Pacific Command, who calls the exercises 'rehearsals' showing 'clear intent and capability.' They point to Justice Mission 2025, the new carrier, the frozen arms package, and the interceptors the Iran war consumed (Module 4). **Those who see it as unlikely** include the American intelligence agencies, which judged in March 2026 that China's leaders 'do not currently plan to execute an invasion of Taiwan in 2027,' and officials who told Reuters in October that the risk was shifting toward 2028. Ruby Osman of the Tony Blair Institute finds it 'hard to imagine upheaval on this scale wouldn't create issues for more complex operations.'

The evidence includes the empty seats on the commission and the absence of a large exercise in 2026, against the steady growth of the force and Bonnie Glaser's observation that orders still flow through the joint staff, the theater commands, and the party. **The course's reading:** 2027 is a goal for capability, not a date for war. The evidence of 2026, a purged command, two state visits, and a truce, points to waiting, with the danger moving toward Taiwan's election in January 2028 rather than away.

8c. The Balance in the Pacific

The balance in the western Pacific turns on American forces based forward and on the allies' long-range weapons. China's navy, the larger by number of ships (8a), faces an American battle force spread across the world (Module 7). The US Army's Typhon launcher has been in the Philippines since April 2024 and fired its first Tomahawk there on May 5, 2026, over about 600 km, during the Balikatan exercises, and China condemned the deployment. The Iran war draws on the same force: on October 13, 2026 the carrier George Washington, normally based in Japan, was in the Arabian Sea supporting operations against Iran. Japan's, Korea's, and Australia's programs are in Module 11.

Worked example — A Blockade's First Month

China declares a customs quarantine of Taiwan: every ship bound for the island must submit to inspection at a Chinese port. The coast guard and navy enforce it on a cordon offshore, backed by the Rocket Force's missiles. Taiwan imports nearly all of its energy, and its gas, about eleven days' supply in storage, made nearly half of its electricity in 2025, so in the first week it rations power, its chip plants cut output, and insurers withdraw from ships in the strait. Because TSMC makes most of the world's most advanced chips, the shortage reaches phones, cars, and data centers within weeks. Washington then has three choices: it can escort convoys through the cordon, which means a shooting war with the largest missile force on earth while its own interceptors are still being rebuilt (Module 4). It can impose a counter-blockade at the Strait of Malacca, through which most of China's imported oil passes, a slow strangulation that would take months and hurt Japan and Korea first. Or it can negotiate, which accepts the cordon in practice. By the end of the second week, even with rationing, Taiwan's gas is nearly gone unless convoys have run. The planners' lesson is that the contest turns on whether the convoys sail and whether the missiles meeting them can be intercepted, so the deterrent is a credible readiness to sail on the first day.

Module 8 Key Points

China

• China announced a 2026 defense budget of 1.91 trillion yuan, about $277 billion and up 7%; outside estimates of real spending run higher.

• The PLA rehearses a blockade of Taiwan; Justice Mission 2025 was the largest drill by area, and none had been held in 2026 by mid-October.

• The purges left two of the Central Military Commission's seven seats filled, Xi's and Zhang Shengmin's.

• US intelligence judged in March 2026 that China does not plan to invade in 2027; officials see the risk shifting toward 2028.

• A blockade's first month turns on whether convoys sail and whether the missiles meeting them can be intercepted.

Module 8 Quiz

Check Your Understanding

1. What did China announce for its 2026 defense budget?

A) A cut of 5% to fund civilian stimulus
B) About $1 trillion, matching America's budget for the first time
C) No figure, for the first time since 1980
D) 1.91 trillion yuan, about $277 billion, up 7%

2. How many of the seven seats on China's Central Military Commission were occupied in October 2026?

A) All seven, after new appointments in September
B) Five of seven
C) Four
D) Two: Xi's and Zhang Shengmin's

3. What did American intelligence judge in March 2026 about a 2027 invasion of Taiwan?

A) That China does not currently plan one
B) That an invasion order had been issued for the summer of 2027
C) That China would invade before Taiwan's election
D) That an attack is likely

4. What was Justice Mission 2025?

A) A joint Chinese-Russian naval patrol in the Sea of Japan
B) China's first amphibious landing exercise on an outlying Taiwanese island
C) A blockade drill around Taiwan
D) A cyberattack campaign against Taiwan's power grid

5. In the worked example, what decides a blockade's first month?

A) Taiwan's stock of artillery shells
B) Whether convoys sail and whether the missiles meeting them can be intercepted
C) A vote in the UN Security Council
D) The price of oil in Shanghai

Module 9 — Russia

The War Economy in Its Fifth Year

Recommended Reading / Reference

Book: Mark Galeotti, *Putin's Wars: From Chechnya to Ukraine* (2022)

Report: Jack Watling and Nick Reynolds, *Meatgrinder: Russian Tactics in the Second Year of Its Invasion of Ukraine* (RUSI, 2023); the Institute for the Study of War's daily campaign assessments

9a. The Force and the Money

Measure	Figure	Note
Defense budget	12.93 trillion rubles in the budget for 2026; 17.1 trillion (about $203 billion) in the draft for 2027, published on September 28-29, 2026	The draft is 27% above the earlier plan for 2027. Defense takes more than a third of federal spending, while health and education each fall by more than 5%. SIPRI's estimate for 2025, a share of all government spending rather than the federal budget, is in Module 1
The economy	A key interest rate of 14%, held on September 11, 2026; growth forecast for 2026 cut to 0-1%; inflation forecast raised to 6-7%	The 2026 deficit was revised to 3.2% of GDP from 1.6%, and the estimate of oil and gas revenue was cut to 7.6 trillion rubles from 8.9 trillion
Under arms	An authorized strength of 1.5 million active personnel, set by decree in September 2024; about 700,000 in and around Ukraine, by Putin's count in June 2024	Recruited by contract, with large signing bonuses, and from prisons; no mobilization since the partial call-up of September 2022
Casualties in Ukraine	About 1.2 million casualties (killed, wounded, and missing) by January 2026, up to 325,000 of them dead, by the estimate of the Center for Strategic and International Studies (CSIS)	BBC Russian and the outlet Mediazona had confirmed 229,254 deaths by name by June 26, 2026, and the BBC puts the true toll at 417,000-509,500. Ukraine's General Staff has claimed more than 40,000 Russian casualties a month since July 2026
Weapons and supply	Most of the tanks sent to the front since 2022 refurbished from Soviet-era storage rather than newly built, by the IISS's assessment	North Korea had sent about 28,000 containers of munitions by July 2025, which South Korean military intelligence reckoned could hold more than 12 million 152 mm shells (an open-source count put deliveries at about 4 million), and about 13,000 troops since October 2024. Iran's Shahed design is now built in Russia as the Geran, and Chinese machine tools and electronics feed the plants
Navy and air force	The Black Sea Fleet moved most of its ships from Sevastopol to Novorossiysk after Ukrainian missile and naval-drone strikes in 2023-24	The air force has never won control of the air and fights with glide bombs released beyond the reach of Ukraine's air defenses. A Ukrainian strike destroyed four Su-34 bombers at Borisoglebsk air base on October 14-15, 2026, as satellite images confirmed
Nuclear	The largest arsenal, a revised doctrine, and the Oreshnik missile in Belarus	Module 5

Russia's budget documents, reported by Reuters and Bloomberg (September 28 to October 4, 2026); the Bank of Russia; CSIS (January 27, 2026); BBC Russian and Mediazona; South Korean military intelligence and the Open Source Centre; the IISS (February 2024); ISW (October 16, 2026). Russian and Ukrainian claims are unverified.

9b. What the War Taught Russia's Army

The Russian army that crossed the border in February 2022 was built for a short war of maneuver against a smaller enemy, and its drive on Kyiv (Module 2) also broke on the anti-tank missile and its own logistics. The army fighting in 2026 is larger, cruder, and adapted to attrition: it trades infantry for ground under glide bombs and artillery, it has learned electronic warfare and the fiber-optic drone, and it has added the jet-powered Geran (Module 3).

It has rebuilt its munitions industry on a war footing with foreign supply, and it has absorbed losses on a scale that, CSIS wrote in January 2026, no major power has suffered 'in any war since World War II.' Its gains have been real but slow, and since Bakhmut fell in May 2023 it has taken no larger city. In the winter of 2025-26 it took Pokrovsk, Myrnohrad, Siversk, and Huliaipole; it has claimed Kostiantynivka since July 3, 2026, but that city and Kupiansk were still contested in October, and in 2026 its advance stalled in net terms (Module 13).

The economy now sets the pace, and the squeeze shown in the table came even though the Iran war had raised the world price of oil (Module 12). American sanctions relief in October (Module 13) eases it, and whether that relief lasts is one of the war's open questions.

The world's militaries drew three lessons from Russia's war. Mass and endurance can outlast a smaller force's precision; a state willing to spend and to lose on this scale can sustain a war its enemies expected to end in weeks; and the Soviet inheritance of depots, doctrine, and artillery proved worth more than the military reforms of 2008-20. Europe's rearmament (Module 10) assumes that Russia's next army will have learned everything this war taught it.

Module 9 Key Points

Russia

• Russia's draft budget for 2027 sets defense at 17.1 trillion rubles, 27% above plan, while cutting health and education.

• CSIS estimated about 1.2 million Russian casualties by January 2026, up to 325,000 of them dead.

• The army of 2022 was built for a short war of maneuver; the army of 2026 is larger, cruder, and adapted to attrition.

• Since Bakhmut fell in May 2023, Russia has taken no larger city, and its advance stalled in 2026.

• North Korean shells and troops, Iran's drone design, and Chinese machine tools supply Russia's war economy.

Module 9 Quiz

Check Your Understanding

1. What does Russia's draft budget for 2027 do to defense spending?

A) Raises it to 17.1 trillion rubles
B) Cuts it by a tenth
C) Holds it flat so that health and education spending can grow
D) Moves it off the budget and into the National Wealth Fund

2. What did CSIS estimate about Russian casualties by January 2026?

A) About 300,000 casualties, a tenth of them dead
B) About 3 million casualties, a million of them dead, in Ukraine and Kursk
C) About 1.2 million casualties, up to 325,000 of them dead
D) About 600,000 casualties

3. Which towns did Russia take in the winter of 2025-26?

A) Kharkiv and Sumy, after a summer offensive in the north
B) Kramatorsk and Sloviansk, the last Donbas strongholds
C) Zaporizhzhia and the towns around its nuclear plant
D) Pokrovsk and Myrnohrad

4. Where have most of the tanks Russia sent to the front since 2022 come from?

A) New production at modernized plants
B) Soviet-era storage, refurbished in Russian plants rather than newly built
C) Purchases from Belarus and North Korea
D) Captured Ukrainian and Western tanks, repaired

5. What was the Bank of Russia's key interest rate in September 2026?

A) 21%, the wartime peak, held for a second year
B) 14%, held on September 11
C) 17%, after a single cut in the spring
D) 9%, after a run of cuts to rescue growth

Module 10 — Europe's Rearmament

The Fastest Rise Since 1953

Recommended Reading / Reference

Reference: NATO, *Defence Expenditure of NATO Countries* (July 7, 2026); the Hague Summit Declaration (June 25, 2025) and the Ankara Declaration (July 8, 2026)

Reference: The International Institute for Strategic Studies (IISS), *Defending Europe Without the United States: Costs and Consequences* (May 2025)

10a. The Money

Country	2025 spending	Share of GDP, 2025	Real change, 2025	NATO estimate, 2026	Plans
Germany	$114 billion	2.3%	+24%	2.69%	3.5% of GDP by 2029 on the government's plan; a defense budget of €109.7 billion for 2027, up €27.1 billion, at first reading in September 2026; the €100 billion special fund of 2022 to be spent by the end of 2027
United Kingdom	$89.0 billion	2.4%	-2.0%	2.56%	The Defence Investment Plan of June 30, 2026: £298 billion over four years and 2.7% of GDP by 2027/28, with 3% an 'ambition' for the next parliament
France	$68.0 billion	2.0%	+1.5%	2.22%	The military programming law, updated on July 1, 2026: €436 billion for 2024-30 and more than 2.5% of GDP by 2030
Poland	$46.8 billion	4.5%	+23%	4.68%	NATO's highest share in 2025 on SIPRI's figures; 198.1 billion złoty, 4.5% of GDP, planned for 2027
Italy	$48.1 billion	1.9%	+20%	2.1%	Called fiscally 'stressed' by the International Centre for Defence and Security (ICDS); see 10b
Spain	$40.2 billion	2.1%	+50%	—	Above 2% for the first time since NATO set that target in 2014
Netherlands, Belgium, and the Nordic states	About $100 billion combined	2.0-3.3%	Belgium +59%, Norway +49%, Denmark +46%, Sweden +24%, Finland +17%, Netherlands +14%	Denmark, Norway, and Sweden above 3%	The fastest risers; Sweden and Finland in their first years in NATO
European NATO (29 members)	$559 billion	—	The fastest growth since 1953	2.53%, counting Canada	22 of them at 2% or more in 2025, by SIPRI's count

SIPRI (April 27, 2026), in current 2025 dollars with real changes; NATO's estimates for 2026 (July 7, 2026), as reported by Reuters and ICDS; national budgets. SIPRI's and NATO's definitions differ. Europe's total, Russia and Ukraine included, is in Module 1.

On NATO's own estimates, whose definition differs from SIPRI's, 29 of its 32 members spent at least 2% of GDP on defense in 2025 and 31 will in 2026, all but Slovenia. Five spend more than 3.5% in 2026: Lithuania

(5.33%), Estonia (5.1%), Latvia (4.92%), Poland (table above), and Greece (3.65%). The European Union's own instrument is Security Action for Europe (SAFE), €150 billion of loans for joint purchases agreed in 2025 under the ReArm Europe plan. Poland's provisional allocation of €43.7 billion is the largest, ahead of Romania's €16.7 billion and France's and Hungary's €16.2 billion each, while Germany asked for none. Poland received the first €6.6 billion of pre-financing in May 2026, and by October 6 almost €13.5 billion had gone to eleven states.

10b. The Pledge and Its Critics

The pledge was agreed at The Hague on June 25, 2025: 5% of GDP by 2035, of which 3.5% is core defense and 1.5% is related spending such as infrastructure and resilience, with an exception for Spain. At the Ankara summit on July 7-8, 2026, the allies adopted a declaration naming Russia a long-term threat, announced more than $50 billion of new purchases and €27 billion for fuel storage and pipelines on the eastern flank, and committed €70 billion of military support for Ukraine in 2026. The United States promised to license production of Patriot missiles in Ukraine, and the president said of Spain that it 'is a wasted cause.' The next summit will be held in Albania.

National timetables for the core 3.5% differ: the five allies above it in 2026 (10a) are already there, Germany plans to reach it on the date in the 10a table, and Denmark, Sweden, and Türkiye plan to in 2030, while Slovenia has set its own ceiling of 3% and Spain remains reluctant.

Is the 5% pledge sound and affordable? Its advocates include NATO's secretary general, Mark Rutte, who expects allies to show 'a clear and credible path towards the 5% objective,' and Germany's finance minister, Lars Klingbeil: 'We cannot defend Germany against Putin with a balanced-budget policy.' Poland's prime minister, Donald Tusk, puts it the same way: 'We will not defend the Polish border with a small deficit, but with a modern, strong army.' **Its skeptics** include Spain's prime minister, Pedro Sánchez, who called the target 'unreasonable' and 'counterproductive,' and Britain's defence secretary, Wes Streeting, who argues that promising 3% by 2030 without a funding plan risks 'a loss of market confidence, a rise in borrowing costs.' SIPRI's Jade Guiberteau Ricard warns that the line between military and other security spending is becoming 'blurred.'

The evidence: European allies and Canada raised core defense investment by more than $139 billion, about 20%, in 2025, and the frontline states already spend above the core target, while Germany has exempted most defense spending from its debt rule. Against that, ten allies sit at 2.0-2.1%, ICDS counts France, Italy, and Belgium as fiscally stressed, with public debts above 100% of GDP, and Poland plans a deficit of 7.1% of GDP for 2027. **The course's reading:** the core 3.5% is within reach for the frontline states and for Germany. For the indebted large states of the south and west, the 2035 date and the loose definition of the 1.5% make the pledge a political target, and the test is their budgets over the next five years.

10c. The Gaps

Even where the money is found, the capabilities Europe lacks are the ones the United States has always supplied, and they take a decade to build: the IISS put the cost of replacing the American contribution at about $1 trillion over twenty-five years. Air defense is the sharpest gap, because Europe's medium- and long-range batteries are counted in dozens while Russia launches thousands of long-range drones at Ukraine in a single month (Module 3). Europe's output of 155 mm artillery shells rose from about 300,000 a year in 2022 to nearly 1 million by May 2025, by CSIS's count, and the EU's defence commissioner, Andrius Kubilius, projected about 2 million for 2025.

The industrial answer is under way, from Rheinmetall's new shell plants to the lines in Britain and Germany that build Ukrainian-designed drones, and the political answer is the pledge. The question is whether both arrive in time: NATO's secretary general said in June 2025 that Russia could be ready to use force against the alliance within five years, and Germany's defense minister has named 2029.

Capability	Europe's position (2026)	What the United States supplies	How Europe is closing the gap
Air and missile defense	Too few batteries (above); a new MBDA plant in Germany for the Patriot's GEM-T missile, scheduled for completion in September 2026, completion not yet confirmed	Aegis ships, THAAD, and the sensors	The German-led European Sky Shield Initiative; the Patriot promise made at Ankara (10b)
Artillery shells	Output rising (above)	Stocks, and an American output of about 36,000 a month in March 2026	New plants built or planned in Germany and the Baltic states
Long-range strike	Storm Shadow, SCALP, and Taurus missiles in small numbers	Tomahawk, JASSM, and PrSM	The European Long-Range Strike Approach (ELSA), launched in July 2024
Enablers	Satellites, tankers, transport aircraft, and intelligence in a fraction of the need	Nearly all of them	Years of purchases (above)
People	Armies that shrank for thirty years	—	Conscription in the Nordic and Baltic states; Germany's new military-service law, in force since January 2026
Nuclear	France's and Britain's arsenals (Module 5)	The American umbrella	France's nuclear offer to its allies (Module 5)

IISS (May 2025); CSIS (May 2025); Ukrainska Pravda, reporting the EU's defence commissioner (December 24, 2024); the Pentagon's Inspector General (via Stars and Stripes, July 14, 2026); NATO.

Module 10 Key Points

Europe's Rearmament

• European NATO spending rose faster in 2025 than at any time since 1953, SIPRI found; Germany spent $114 billion.

• On NATO's estimates, 31 of 32 allies spend at least 2% of GDP in 2026, and five spend more than 3.5%.

• The pledge is 5% of GDP by 2035, 3.5% core and 1.5% related, with an exception for Spain.

• The EU's SAFE program lends €150 billion for joint purchases; Poland's €43.7 billion is the largest allocation.

• The gaps are the ones the United States fills: air defense, shells, long-range strike, enablers, and people.

Module 10 Quiz

Check Your Understanding

1. What is NATO's 2035 pledge, agreed at The Hague in June 2025?

A) 2% of GDP
B) 3% of GDP on defense, with no related spending
C) 10% of GDP, matching the Cold War's peak burden
D) 5% of GDP: 3.5% core, 1.5% related

2. Which ally has the highest share of GDP in NATO's 2026 estimates?

A) Lithuania, at 5.33%
B) Poland, at 4.68%
C) Estonia, 5.1%
D) The United States, at 3.17%, as the alliance's largest spender

3. What is SAFE?

A) A NATO nuclear-sharing plan
B) A European army under one command
C) The EU's program of €150 billion in loans for joint defense purchases
D) A ceasefire mission for Ukraine

4. How much did Germany spend on defense in 2025, by SIPRI's count?

A) $55 billion, about 1% of GDP
B) $200 billion, the most in Europe by far
C) $114 billion
D) $89 billion, level with Britain

5. What did the allies commit for Ukraine at the Ankara summit?

A) €70 billion of support in 2026
B) €5 billion
C) Membership talks to open in 2027, with a date for accession
D) A peacekeeping force of 60,000 troops for a future ceasefire line

Module 11 — The Other Powers

The States That Shaped 2026's Wars

Recommended Reading / Reference

Reference: IISS, *The Military Balance 2026*

Reference: SIPRI, *Trends in World Military Expenditure, 2025* (April 2026), and its country data on Israel, India, Pakistan, Japan, and Korea

State	Spending (2025)	Force and posture	What it decided in 2025-26	The question
Israel	$48.3 billion; 7.8% of GDP; down 4.9% as the Gaza war's intensity fell	The Iron Dome, David's Sling, and Arrow layers; an undeclared nuclear arsenal (Module 5)	Fought in Gaza, in Lebanon again (Module 1), and against Iran twice. The Basic Law: Torah Study, enacted on July 13, 2026 by 63-52, declares Torah study 'a foundational value,' and the chief of staff wrote that it is 'clearly and unequivocally inconsistent with the IDF's needs'	The election on October 27, 2026: Netanyahu's bloc was short of the 61 seats needed in all four polls of October 7-12, at 49-60, and the opposition passed 61 only with the Arab parties counted
India	$92.1 billion, fifth in the world; 2.3% of GDP; up 8.9%	The Rafale, the S-400, and the BrahMos missile; a nuclear triad. The defense ministry's budget for 2026-27, 7.85 trillion rupees, is up 15.2%	The war with Pakistan in May 2025 (Module 1), ended by a ceasefire that Washington says it brokered and India says the two militaries agreed; India's suspension of the Indus Waters Treaty in April 2025	Whether another attack like the one at Pahalgam in April 2025, which killed 26 civilians, produces a longer war, with water as a weapon
Pakistan	$11.9 billion; 2.9% of GDP; up 11% on orders for Chinese aircraft and missiles	Chinese J-10C fighters and PL-15 missiles; nuclear weapons (Module 5). Field Marshal Asim Munir, army chief since 2022, became the first Chief of Defence Forces on December 4, 2025, for five years	The May 2025 war; open war with Afghanistan (Module 1); mediation between Washington and Tehran; the Mecca defense pact with Saudi Arabia and Türkiye, signed on August 7, 2026	Whether a nuclear-armed state with an IMF program and two hostile borders can afford its commitments
South Korea	$47.8 billion; 2.6% of GDP; a request of 73.27 trillion won for 2027, up 8.2%	The 'three-axis' system of missile defense, preemptive strike, and retaliation; American approval of nuclear-powered submarines, recorded on November 14, 2025, which Seoul said in May 2026 it will build at home	Arms exports (Module 6); a special act on the submarines approved by the cabinet on September 29, 2026; a new defense minister, Kang Shin-chul, from September	Whether wartime command of its forces passes from Washington to Seoul before 2030, as President Lee wants
Japan	$62.2 billion; 1.4% of GDP, its highest since 1958; a record request of 8.9 trillion yen for fiscal 2027	Upgraded Type-12 missiles with a range of about 1,000 km deployed to Kyushu in 2026; Tomahawk launchers on its Aegis destroyers, with the fiscal 2027 request covering the last three of the eight	Reached 2% of GDP on its own wider measure in fiscal 2025, two years early; eased its limits on arms exports in April 2026	What target the revised security documents set; the Asahi reported on October 16 that they will not set 3.5%

State	Spending (2025)	Force and posture	What it decided in 2025-26	The question
Türkiye	$30.0 billion; 1.9% of GDP	NATO's second-largest army; the Bayraktar drones; the KAAN fighter, with first delivery targeted for 2028; 20 new Eurofighters under a $10.7 billion contract of October 2025	Record arms exports in 2025 (Module 6); signed the Mecca pact, which its parliament has not ratified	Whether it can buy the F-35 without giving up its Russian S-400 missiles
Saudi Arabia and the Gulf	Saudi Arabia $83.2 billion, 6.5% of GDP; SIPRI publishes no figure for the UAE or Qatar	American THAAD and Patriot batteries; 48 F-35s for Saudi Arabia ($24.3 billion) approved by the State Department on September 17, 2026, pending Congress	Absorbed Iranian missiles and drones through the war; $16.5 billion of emergency American sales to the UAE, Kuwait, and Jordan in March 2026; the Mecca pact activated against the Houthis on October 5	Whether they keep buying American while hedging with Pakistan and Türkiye
Australia	$35.3 billion; 1.9% of GDP	AUKUS nuclear-powered submarines; a Pentagon review of the pact, completed on December 4, 2025, found 'opportunities' to put it on the strongest footing	A defense strategy of April 2026 adding A$53 billion over a decade toward 3% of GDP by 2035, with little of it in the first years	Whether the submarines arrive in time to matter in the Pacific

SIPRI (April 2026), current 2025 dollars; national budgets; Reuters, AFP, Al Jazeera, and the Times of Israel (2026); the Congressional Research Service. Israeli polls: Channel 12 (October 12, 509 respondents), Maariv by Lazar Research (October 7-8, 700), Zman Yisrael by Tatika (October 7-8, 500), and i24 by Direct Polls (October 7, 518). Poland's share, NATO's highest in 2025, is in Module 10.

11a. What They Have in Common

The eight states in the table shaped the year's wars without being great powers, and they share three things. Most depend in some measure on an American guarantee and have hedged against it: Korea and Japan by building long-range strike and, in Korea's case, nuclear-powered submarines, Saudi Arabia and Türkiye by joining Pakistan in the Mecca pact, and Israel by expanding its own production of Arrow interceptors (Module 4).

Each fought or prepared to fight with the weapons of Modules 3 and 4, and each drew the lesson about magazines. And each is a case in the arms trade of Module 6: Korea and Türkiye as exporters that deliver at scale, Pakistan as the showcase for Chinese aircraft and missiles, and the Gulf as the market whose orders keep production lines open. The middle powers are where the alliance system's stresses show first, and 2026 showed them in the Gulf, in East Asia, and on the subcontinent.

Module 11 Key Points

The Other Powers

• Israel spent 7.8% of GDP in 2025 and votes on October 27, with Netanyahu's bloc short of 61 seats in every October poll.

• Pakistan's army chief became its first Chief of Defence Forces; Pakistan has fought Afghanistan openly since February 2026.

• Saudi Arabia, Pakistan, and Türkiye signed the Mecca defense pact on August 7, 2026 and activated it on October 5.

• Japan reached 2% of GDP on its own measure two years early; Korea will build nuclear-powered submarines.

• The American allies among them hedge against doubts about the guarantee, and each drew the lesson about magazines.

Module 11 Quiz

Check Your Understanding

1. What share of GDP did Israel spend on its military in 2025, by SIPRI's count?

A) 2%, the NATO guideline
B) 4%, near the American level
C) 15%, matching Ukraine's burden
D) 7.8%, down from 2024 as the Gaza war's intensity fell

2. What is the Mecca pact?

A) A Gulf oil-pricing deal
B) A defense pact of Saudi Arabia, Pakistan, and Türkiye
C) A Saudi-Israeli treaty
D) A Gulf customs union with a common external tariff and a single currency

3. What did Japan reach in fiscal 2025, two years early?

A) 2% of GDP on defense, counting related spending on its own measure
B) Self-sufficiency in making its own munitions
C) 3.5% of GDP
D) A permanent seat on the Security Council

4. Who is Pakistan's first Chief of Defence Forces?

A) Imran Khan
B) Shehbaz Sharif, the prime minister
C) Gen. Sahir Shamshad Mirza, the former joint chiefs chairman
D) Field Marshal Asim Munir

5. What did the Pentagon's review of AUKUS find in December 2025?

A) That the submarines should be cancelled
B) 'Opportunities' to strengthen it
C) That Australia must pay twice the agreed price for its boats
D) That the boats would be built in Japan instead

Module 12 — The Iran War

Operation Epic Fury and the Unfinished War

Recommended Reading / Reference

Book: Afshon Ostovar, *Wars of Ambition: The United States, Iran, and the Struggle for the Middle East* (2024)

Reference: The Pentagon Inspector General's first report on Operation Epic Fury (September 2026); the Jewish Institute for National Security of America's dated war updates; Just Security's legal analyses (March-April 2026)

12a. The Timeline

Date	Event	Significance
June 2025	The twelve-day war: Israeli and American strikes on Iran's nuclear sites; Iranian missile barrages on Israel	The preview; the nuclear program set back
February 28, 2026	Operation Epic Fury and Israel's Operation Roaring Lion strike nuclear, missile, naval, and leadership targets, and Ali Khamenei is killed. Iran strikes Israel, American bases, and the Gulf states, and its Revolutionary Guard closes the Strait of Hormuz on March 2	The first closure of the strait; the air-defense test of Module 4
March 2026	Mojtaba Khamenei is named Supreme Leader (March 8); an Iranian strike on Ras Laffan cuts Qatar's capacity to export liquefied natural gas (LNG) by 17% (March 18)	The war at its widest
April 7-21, 2026	Pakistan mediates a two-week ceasefire (April 8); talks in Islamabad fail (April 11-12); the United States blockades Iran's ports from April 13; the ceasefire is extended indefinitely on April 21	A pause without a settlement
June 17, 2026	The Islamabad Memorandum: a 60-day ceasefire on all fronts, the blockade lifted, passage on Iran's 'best efforts,' and 60 days to negotiate a final deal, including the enriched stockpile's fate. Iran closes the strait again on June 20	A framework, not a settlement
July 7-24, 2026	Iran attacks tankers (July 7); the president declares the truce 'over' (July 8); the blockade is reinstated (July 14); thirteen nights of American strikes end on July 24	The war resumes three weeks after the memorandum
August 30 - early September	American strikes on launchers laying sea mines; Iranian missiles at American bases in Jordan, a drone on Kuwait City, and at least 59 missiles and drones on September 2, Iran's largest attack since April 8	A further round
September 11 - October 11	A drone attack shuts Saudi Arabia's East-West pipeline (September 11); the Revolutionary Guard declares the strait closed to unauthorized ships (September 27); talks through Qatar stall when Iran calls the American reply 'insufficient' and sets seven conditions for reopening the strait (October 11)	No ceasefire in force in mid-October

Reuters, AFP, Axios, and the Jewish Institute for National Security of America (JINSA), March-October 2026; the Islamabad Memorandum's text as published by CNN (June 17, 2026). The date given for the strait's closure varies by source from February 28 to March 4.

12b. What It Showed

- **About the offense:** American forces struck more than 11,000 targets in a month, by Central Command's count, and American and Israeli strikes destroyed most of Iran's navy, yet left Iran able to fire at least 501 missiles and drones between July 7 and September 2 and to close the strait.
- **About the defense:** a layered, networked defense intercepted most of what Iran fired at Israel, at a cost in interceptors that the factories will need years to replace (Module 4).
- **About the adversary:** Iran's missiles and drones reached Gulf cities, oil installations, and American bases through every phase of the war, which shows that a middle power with mass can impose costs on a superpower.
- **About the strait:** two agreements reopened Hormuz, for a day in April and for two days in June, and neither held. The Energy Information Administration (EIA) estimated 4.8 million barrels a day of Middle Eastern crude shut in during September.
- **About the allies:** the guarantor fought from its partners' bases and spent interceptors defending them, then negotiated a memorandum that collapsed, and the Gulf states drew the lessons of Module 11.
- **About the ending:** a state can be struck into a ceasefire without being struck into a decision, the gap between deterrence and compellence set out in Module 1.

12c. Did It Work, and Was It Lawful?

Did the war achieve its aims? The aims shifted, from dismantling the Revolutionary Guard at the outset to 'unconditional surrender' on March 6 and to preventing an Iranian bomb by July. **Those who say it succeeded** include Admiral Brad Cooper of Central Command, who called it a 'generational military defeat' for Iran, and the Institute for Science and International Security, which judged in June that Iran would now need 'more than a year' to build a first nuclear device, against months before the strikes.

Those who say it failed include Reuel Marc Gerecht of the Foundation for Defense of Democracies, who wrote in September that 'militarily, Iran has so far won the Hormuz contest.' **The evidence** runs both ways: Iran's oil exports had effectively ceased by August, and its currency fell to a record 2.2 million rials to the dollar on September 2. Against that, the regime survived under a new Supreme Leader, the strait is closed to ships Iran has not authorized, and the International Atomic Energy Agency (IAEA) cannot say where Iran's enriched uranium is (Module 5).

The course's reading: the war destroyed much of Iran's conventional military power, but it has produced neither a verifiable end to its bomb program, nor a settlement, nor control of the strait.

Was it lawful? The administration's case, set out in a letter to the Security Council on March 10 and by the State Department's legal adviser on April 21, is that the strikes continued an armed conflict under way since June 2025 and were collective self-defense of Israel, so no fresh showing of an imminent attack was needed. John Yoo of the Civitas Institute argues that imminence should be judged by 'the magnitude of a threat and the probability that it could be realized,' while conceding that the strikes would fail a strict test of timing. **Those who call it unlawful**, among them Brian Finucane of the International Crisis Group, who called it an 'unnecessary war,' argue that no Iranian armed attack had been shown and that diplomacy was not exhausted, since Omani mediators had said talks would continue the following week. The director of the National Counterterrorism Center resigned on March 17, saying that 'Iran posed no imminent threat.'

The evidence in American law is that there is no authorization for the use of military force and no declaration of war, and that every war-powers resolution has failed, the seventh in the Senate by 49 votes to

50 on May 13. **The course's reading:** the administration's case rests on a theory of an ongoing conflict that its critics reject, and Congress has declined both to authorize the war and to stop it.

12d. The Costs

Cost	Figure	Note
American money	$33.4 billion through June 30, including $22.3 billion of munitions and $3.7 billion of equipment lost (the Pentagon's Inspector General)	The defense secretary projected $37.5 billion through September 30. An $87.6 billion supplemental request, sent in June, has not been enacted
American casualties	About 20 killed and hundreds wounded by early September	Counts differ by source; JINSA's on September 2 was 18 killed and more than 500 injured
The Gulf	Dozens killed across the Gulf states; ports, refineries, gas plants, homes, and bases struck	Qatar's lost LNG capacity will take three to five years to repair
Israel	At least 67 killed and about 7,800 injured by September 2	RUSI's estimate of Arrow stocks, and Israel's reply, are in Module 4
Iran	At least 3,724 killed and 26,580 injured by September 2, by JINSA's count; the government's own count is 3,528 killed	A Supreme Leader killed; oil exports blockaded; inflation of 70% in September
The world	Brent crude rose from $72.48 on February 28 to a peak of $131 on September 15 and averaged $114 in September	Asian LNG spot prices rose more than 140% after the Ras Laffan strike. The EIA forecasts $105 for the fourth quarter, and the Congressional Budget Office (CBO) projects about half a point of extra American inflation in early 2027

The Pentagon's Inspector General (September 2026); JINSA (September 2, 2026); the EIA (October 6, 2026); the CBO. Casualty figures are partial and disputed.

Module 12 Key Points

The Iran War

• The war began on February 28, 2026; a ceasefire, a memorandum, and renewed fighting followed, and no ceasefire held by mid-October.

• Iran closed Hormuz on March 2; two agreements briefly reopened it, and since September 27 only ships it authorizes may pass.

• Air power struck more than 11,000 targets in a month but left Iran able to fire hundreds of missiles and drones in July-September.

• The Pentagon's inspector general put the war's cost at $33.4 billion through June, $22.3 billion of it in munitions.

• Brent crude rose from $72.48 when the war began to a peak of $131 on September 15.

Module 12 Quiz

Check Your Understanding

1. What happened to the strait after the June 17 memorandum?

A) It stayed open
B) It was mined shut
C) Iran closed it again on June 20
D) It reopened permanently under international escort

2. What ended the truce set by the Islamabad Memorandum?

A) A vote in the UN Security Council
B) Iran's withdrawal from the NPT
C) An Israeli strike on Tehran that Washington had not approved
D) Iran's tanker attacks of July 7 and the US response

3. Who mediated the April ceasefire?

A) Oman and Switzerland
B) Pakistan
C) The UN Secretary-General
D) China and Russia, jointly

4. What did the Pentagon's inspector general report about the war's cost through June 30?

A) $33.4 billion, including $22.3 billion of munitions and $3.7 billion of equipment lost
B) $5 billion, mostly fuel
C) $150 billion, mostly ships
D) $87.6 billion, the supplemental's total

5. Where did Brent crude peak during the war?

A) $90, in March
B) $200, after the Ras Laffan strike
C) $131, on September 15
D) $105, the level when the strait first closed

Module 13 — Ukraine

The Decade's Case in Attrition

Recommended Reading / Reference

Book: Serhii Plokhy, *The Russo-Ukrainian War: The Return of History* (2023)

Report: RUSI's 'Preliminary Lessons' reports on the war (2022 and 2024); the Institute for the Study of War's daily campaign assessments

13a. The War in Numbers

Measure	Figure (October 2026)	Note
Duration	Four years and almost eight months since February 24, 2022; the fifth winter ahead	The largest war in Europe since 1945
The front	Russia gained about 100 square kilometers net from January 1 to October 16, 2026, and lost 122 since September 1, by ISW's count	In August 2025 alone it had seized about 506. Moscow claims 6,500 square kilometers in 2026, which ISW and Ukraine's General Staff call false. Russia's captures are in Module 9
Territory	Russia occupies about a fifth of Ukraine, Crimea included: about 118,400 square kilometers on September 1, 2026	The Belfer Center's count. Ukraine's Operation Vivaldi retook at least 147 square kilometers around Lyman over several months, by ISW's count on October 1
Ukraine's casualties	500,000-600,000 casualties by January 2026, up to 140,000 of them dead (CSIS); 96,821 killed and 97,938 missing named by the UALosses project by June 21, 2026	The UN's human rights monitors counted 16,126 civilians killed and 46,590 injured through May 31, 2026, and say the true figures are higher. Russia's losses are in Module 9
Ukraine's forces	Mobilization from age 25, lowered from 27 in April 2024; men from 18 to 60 must register	In January 2026 the defense minister counted about 200,000 soldiers absent without leave and some 2 million men wanted for evading service
Ukraine's budget	Defense at 4.885 trillion hryvnias (about $110 billion) in the draft for 2027, nearly 44% of GDP, submitted on September 15, 2026	The war costs about $190 million a day. Kyiv needs more than $52 billion from abroad in 2027, of which about $20 billion is committed. SIPRI's estimate for 2025 is in Module 1
Outside money	The EU's Ukraine Support Loan of up to €90 billion for 2026-27, approved on April 22, 2026 and repaid only if Russia pays reparations; the EU's €50 billion Ukraine Facility (2024-27)	An $8.1 billion program from the International Monetary Fund (IMF), approved in February 2026. NATO's pledge of military support at Ankara is in Module 10
Weapons from abroad	No new American military aid approved in 2025 (Module 1); allies instead buy American weapons for Ukraine through NATO's Prioritized Ukraine Requirements List (PURL), $6.7 billion from 29 countries in its first year, to July 2026	About 95% of Ukraine's Patriot interceptors arrive through PURL. Norway, the Netherlands, Germany, Canada, and Sweden are its largest contributors
Deep strikes	Ukrainian drones and missiles on Russian refineries, ports, and air bases; at the peak in May-July 2026, estimates of Russian refining capacity offline ran from about a quarter (Reuters) to 42.7% (Ukraine's General Staff)	In July 2026 Ukraine said it had hit 20 Russian-linked vessels in the Black Sea, 17 of them oil tankers. Russian strikes have cost Ukraine about a third of its Black Sea grain-export capacity, by traders' estimates

Measure	Figure (October 2026)	Note
The negotiations	No ceasefire. Russia rejects one and demands the rest of Donbas; Ukraine offers a ceasefire on current lines with Western security guarantees	American envoys Steve Witkoff and Jared Kushner visited Moscow and Kyiv on September 5-6, 2026. The United States agreed on October 9 to waive sanctions on Russian diesel, and on October 16, the day Putin ruled out territorial concessions, the president signed an order waiving the Russia sanctions of a law enacted on September 18

ISW (October 1-17, 2026); the Belfer Center; CSIS (January 27, 2026); UALosses; the UN Office of the High Commissioner for Human Rights; Ukraine's draft budget and Reuters (September 15-16, 2026); Ukraine's defense ministry (July 23, 2026); the Kyiv Independent. Russian and Ukrainian claims are unverified.

13b. What the War Taught

• **The defense holds and the offense fails.** Every offensive since 2022 has met the defensive advantage described in Module 2, and the front in 13a shows the result.

• **Production decides.** The war is a contest between two industrial systems: Ukraine's drone makers, Europe's shell plants, and American weapons bought by allies, against Russia's state industry, its Soviet storage, and North Korean supply.

• **The rear is a front.** Each side's strikes on the other's economy, recorded in 13a and Module 2, make the war economic as much as territorial.

• **Manpower is the constraint.** Ukraine's shortfall in mobilization and Russia's reliance on bonuses and prisons show that a long war turns on who can keep soldiers in the trenches, which is why the drone is spreading as a substitute for the infantryman.

• **Money decides endurance.** Ukraine's defense is financed by Europe's loans and allies' purchases, and Russia's by a budget that now cuts health and education to pay for it; the side whose money runs short first will negotiate on worse terms.

• **Every army is watching.** The American, Chinese, and European programs of 2026 are attempts to buy what Ukraine learned (Module 3), and Europe's purchases are traced in 13d.

13c. How Does the War End?

Can Ukraine hold without new American aid, or should it seek a settlement now? Those who argue that Ukraine can hold include Jack Watling of RUSI, who wrote in February 2026 that Ukraine's best path to a durable settlement is to show Russia that it can keep fighting while raising the Kremlin's costs, since Russia will not concede without 'significantly higher casualties or greater economic pain.' A deal giving up the rest of Donbas for doubtful guarantees, he warned, would leave Ukraine much weaker if the ceasefire then collapsed. Max Bergmann and Maria Snegovaya of CSIS urged Europe in September 2025 to move from planning a peacekeeping force to a multi-year plan to sustain Ukraine, warning that 'U.S. military support for Ukraine is expected to phase out over the next year.' Ukraine's defense minister said in August 2026 that only military strength can 'force the enemy to make peace.'

Those who argue for a settlement now include George Beebe and Anatol Lieven of the Quincy Institute, who proposed in May 2025 a ceasefire 'along the current territorial battlelines,' with Ukraine outside NATO, because its army 'is not in a position to recapture the territories already lost.' The Trump administration has pressed for a deal, with the visits and sanctions waivers listed in 13a. A third view, Tatiana Stanovaya's at the Carnegie Endowment, is that 'there will be no final settlement either now or in the foreseeable future.'

The evidence favors neither camp cleanly: on the side of holding, the front barely moved in 2026, Ukraine retook ground around Lyman and in Kupiansk, its refinery strikes peaked in the summer, and European loans and allied purchases replaced American aid. On the side of a settlement, Ukraine's brigades were 40-60% manned in April 2026, by officials' estimates reported by Poland's Centre for Eastern Studies (OSW), Ukraine stops too few of Russia's jet-powered drones (Module 3), it depends on American-made Patriot interceptors, and most of its outside financing for 2027 is not yet committed. Russia's budget for 2027 says that it plans to fight on. Mark Cancian and Chris Park of CSIS judged in March 2025 that without American support Ukraine might do enough 'to hold ground' but not enough 'to repel Russia,' which fits both camps.

The course's reading: as of mid-October 2026 Russia's offensive has stalled in net terms, and neither side accepts the other's terms. Whether Ukraine holds now depends less on new American aid than on European money, American-made interceptors bought through PURL, and its own manpower, and the last of these is the hardest to buy.

13d. The Lessons Europe Is Buying

Ukraine is Europe's laboratory, and the rearmament of Module 10 is being shaped by it in three ways. Europe's shell plants expanded because Ukraine showed what a war consumes, its orders for air defense rose because Russia's barrages showed what a rear needs, and its drone programs exist because Ukraine built an industry that Europe had not. In October 2025 the European Commission proposed a drone-defense initiative for the eastern flank, and Europe's lines for Ukrainian designs are in Module 10.

The military lessons are being written into doctrine: dispersal, electronic warfare in every unit, the drone as the infantry's weapon, and the expectation that the next war will be long. The strategic lesson, the hardest, is the one Modules 9 and 10 draw for Europe.

Module 13 Key Points

Ukraine

• In its fifth year, the war's front barely moved in 2026: Russia gained about 100 square kilometers net by mid-October.

• Russia occupies about a fifth of Ukraine; Moscow demands the rest of Donbas, and Kyiv offers a ceasefire on current lines.

• Ukraine's draft budget for 2027 puts defense at nearly 44% of GDP, and it needs more than $52 billion from abroad.

• Allies buy American weapons for Ukraine through PURL, which delivers about 95% of its Patriot interceptors.

• The war taught that the defense holds, production decides, the rear is a front, and manpower and money set endurance.

Module 13 Quiz

Check Your Understanding

1. About how much of Ukraine does Russia occupy, Crimea included?

A) About a fifth
B) About two-fifths, including Kharkiv
C) Less than a tenth, almost all of it in Crimea
D) About a third, the whole left bank of the Dnipro

2. How did the front move in 2026, by ISW's count?

A) Russia took 6,500 square kilometers
B) Barely: Russia gained about 100 square kilometers net
C) Ukraine retook most of Zaporizhzhia province in a summer offensive
D) Russia advanced to the outskirts of Kramatorsk and Zaporizhzhia city

3. What is PURL?

A) An EU loan backed by frozen Russian assets
B) A US aid package passed by Congress in 2026
C) Ukraine's online marketplace for buying drones
D) A NATO list through which allies buy American weapons for Ukraine

4. What does Russia demand in the negotiations?

A) A ceasefire on current lines
B) Recognition of Crimea alone
C) The rest of Donbas, with no ceasefire first
D) Ukraine's neutrality and a UN peacekeeping force on the line

5. What share of GDP does Ukraine's draft budget for 2027 give defense?

A) About 25%, down from its wartime peak
B) About 70%, with civilian spending frozen
C) Nearly 44%
D) About 12%, as allies take over the cost

Module 14 — The New Technologies

The Weapons Arriving Now

Recommended Reading / Reference

Book: Paul Scharre, *Four Battlegrounds: Power in the Age of Artificial Intelligence* (2023)

Reference: The Secure World Foundation, *Global Counterspace Capabilities* (2026); Reaching Critical Will's reports on the talks over autonomous weapons (2025-26)

Technology	What it does	Status (October 2026)	Who leads	What it changes
Hypersonic weapons	Glide vehicles and missiles of hypersonic speed (Module 4) that maneuver to defeat final-phase defenses	China (DF-17, and the DF-27 of Module 8) and Russia (Avangard, Kinzhal) have them in service; the US Army began fielding its first Dark Eagle battery in December 2025; the Pentagon has agreed to buy lower-cost hypersonic missiles in bulk (Module 6)	China	The vulnerability of carriers and bases; Golden Dome's rationale (Module 7)
Autonomy and AI targeting	Drones that find and strike without a link; software that matches sensors to weapons in seconds; swarms	Ukraine's terminal-guidance drones; the American Drone Dominance Program and the Defense Autonomous Warfare Group, successors to Replicator; China's swarms in test	Ukraine in practice; the US and China in scale	The speed of the kill chain and the human's place in it
Space	Reconnaissance, communications, navigation, and missile warning, and the weapons against them	About 11,100 working Starlink satellites (October 15, 2026); anti-satellite missiles tested by China, Russia, India, and the US; the Space Force's Meadowlands jammer in operational use since June 26, 2026	The US in constellations; China closing	The transparent battlefield depends on it
Electronic warfare	Jamming, spoofing, and deceiving links, radars, and navigation	Everywhere in Ukraine (Module 3)	Russia, Ukraine	Whether anything flies or hits
Cyber	Attacks on grids, ports, command systems, and finance	NotPetya's precedent (2017); Volt Typhoon's positioning in American infrastructure; Salt Typhoon's intrusions into at least 200 companies in 80 countries, by the FBI's count in August 2025	The US, China, Russia, Israel	The war that begins before the war
Loitering munitions	Drones that wait over a target area and strike: Lancet, Switchblade, Harop	Mass-produced; the middle tier between the FPV and the cruise missile	Russia, Israel, the US, Türkiye	Artillery's rival at a fraction of the cost
Directed energy	Lasers and microwaves that kill drones at a tiny cost per shot	Israel's 100-kilowatt Iron Beam in service since December 28, 2025; Britain's DragonFire to be fitted to a Type 45 destroyer by 2027, at about £10 a shot; the Navy's HELIOS on the destroyer Preble	Israel and Britain	An answer to the cost exchange that does not run out of rounds

Technology	What it does	Status (October 2026)	Who leads	What it changes
Unmanned naval systems	Surface and underwater drones	Ukraine's Sea Baby drones struck shadow-fleet tankers off Turkey in November 2025, and its security service says an underwater version hit a Russian submarine at Novorossiysk in December 2025	Ukraine in practice; the US and China in scale	The surface ship's future; the blockade's tool

DefenseScoop (January 21, 2026); Washington Technology (May 13, 2026); Jonathan McDowell's Starlink statistics (October 15, 2026); Air & Space Forces Magazine (June 29, 2026); the UK Ministry of Defence (November 20, 2025); Naval News and the UK Ministry of Defence (December 2025).

14a. What Works and What Is Promised

The technologies divide by whether they have been used in war. Drones, electronic warfare, loitering munitions, and naval drones have been used at scale in Ukraine and have changed the battlefield, and every lesson of Modules 2 and 3 comes from them; cyber has been used everywhere, though its effect on the fighting is harder to show. Hypersonic weapons have been used in small numbers, and Patriot's interceptions of the Kinzhal (Module 4) showed that the label promises more than the weapon delivers, while China's glide vehicles remain the untested threat to the carrier.

Directed energy is the promise that would end the cost exchange, but it has not yet kept it: Iron Beam was of 'negligible use' in the war with Iran, an Israeli business daily reported in March 2026, because it is limited to drones and few in number. Space is the domain where a war between great powers would begin, because the satellites that make the battlefield transparent can be blinded quickly. In September 2026 the secretary of the Air Force said openly that the United States 'has on-orbit space control weapons,' without giving details. The technologies that matter are the ones that change the cost exchange and the loop's speed, and the side that fields them in numbers, not the side that fields them first, wins.

14b. Can Autonomous Weapons Be Governed?

Drones that finish a strike after their link is jammed are already in Ukrainian service, and fully autonomous targeting at scale is a program every great power funds. The Review Conference of the Convention on Certain Conventional Weapons (CCW) meets in Geneva on November 16-20, 2026 to decide whether negotiations on a treaty begin. **Those who want binding rules** include more than 70 states that backed negotiations by March 2026 and the International Committee of the Red Cross, which wants new rules rather than a restatement of existing law, while the campaign Stop Killer Robots insists on 'meaningful human control.' **Those who oppose a binding instrument** include the United States and Russia, which favor applying existing law over writing new rules, and the American delegation objected to the phrase 'human control' and reportedly proposed 'good faith human judgment and care' instead.

The evidence: the General Assembly backed action by 166 votes to 3 in December 2024, with the United States in favor, and by 164 to 6 in December 2025, with the United States against. **The course's reading:** a treaty that excludes the largest producers would set a norm without binding the arsenals that matter, so the November conference matters less than whether the United States, China, and Russia accept any limit at all.

Module 14 Key Points

The New Technologies

• Drones, electronic warfare, loitering munitions, and naval drones have changed the battlefield; hypersonics have promised more than delivered.

• The US Army began fielding its first Dark Eagle hypersonic battery in December 2025.

• About 11,100 Starlink satellites work in orbit, and the United States says it has weapons in space.

• The CCW Review Conference of November 16-20, 2026 decides whether treaty talks on autonomous weapons begin.

• Lasers promise to end the cost exchange, but Iron Beam mattered little in the war with Iran.

Module 14 Quiz

Check Your Understanding

1. Which technologies have changed the battlefield at scale?

A) Drones, electronic warfare, loitering munitions, and naval drones
B) Hypersonic glide vehicles
C) Lasers and microwaves
D) Space-based interceptors

2. How did the United States vote on the UN resolution on autonomous weapons in December 2025?

A) For it
B) It abstained, with China
C) It did not take part in the vote
D) Against it

3. What did American officials acknowledge in September 2026?

A) A space treaty with Russia
B) That the US has weapons in orbit
C) A laser test at sea
D) That Starlink had been placed under military command for the duration of the Iran war

4. What does Britain's DragonFire laser cost per shot?

A) About £1 million, like an interceptor
B) About £10,000, like a cheap drone
C) About £10
D) About £100,000 per engagement

5. When does the CCW Review Conference meet?

A) November 16-20, 2026
B) June 2026
C) January 2027, after the truce ends
D) It was cancelled after the expert group failed

Module 15 — The Economics of Defense

Pricing the Force

Recommended Reading / Reference

Book: Norman Augustine, *Augustine's Laws* (1983)

Reference: The Congressional Research Service's reports on Navy shipbuilding costs (2025-26); the GAO's weapon-system assessments

15a. What Things Cost

Item	Unit cost	Note
An attack submarine (Virginia class)	About $5.0 billion each when bought two a year (fiscal 2026 budget)	Production has run at 1.1-1.2 boats a year since 2022 and has never reached two
An aircraft carrier (Ford class)	$13.3 billion for the Ford; $13.2-15.2 billion estimated for the next three	The Kennedy is due in March 2027, 54 months late
A destroyer (Arleigh Burke class)	About $2.7 billion each when bought two a year	75 delivered by October 1, 2025
A THAAD interceptor	About $12.4 million (the Missile Defense Agency's fiscal 2026 request)	The upper layer of the defense in Module 4
An SM-3 interceptor, latest version	About $34-37 million (fiscal 2025 and 2026 budgets)	The Navy's interceptor for ballistic missiles in space
An American small attack drone	$3,500-4,500 unarmed; about $6,750-7,750 armed (September 2026)	Prices from the Drone Dominance Program's second competition; reusable 'bomber' drones cost about $20,000
A Ukrainian Flamingo cruise missile	About $600,000	Its maker's output is in Module 3

The Congressional Research Service (December 2025 and January 2026); Militarnyi's analysis of Pentagon budget exhibits (April 16, 2026); drone-warfare.com (September 28, 2026); NV, citing The Guardian (July 28, 2026). Prices of interceptors, drones, and programs given earlier are in Modules 3, 4, and 7.

15b. The Pathologies

• **Augustine's law.** The unit cost of a fighter has risen faster than the defense budget since 1945, and Norman Augustine extrapolated in 1983 that by 2054 the entire budget would buy one aircraft. The F-35's life-cycle cost (Module 7) and the prices in the table are the curve in action, and the cheap drone (Module 3) is the first break in it.

• **The cost-plus contract.** The government pays the contractor's costs plus a fee, so overruns are paid rather than punished. Sentinel's overrun (Module 7) was financed, not refused, and under cost-plus terms the cost of an overrun falls on the buyer rather than the builder.

• **Consolidation.** The concentration and the lag behind orders described in Module 6 mean that a surge in demand, as in 2022 and 2026, finds no capacity to surge.

• **Exquisite against expendable.** A force built of a few expensive systems is optimized for a short war it wins fast. A long war consumes those systems faster than they can be replaced, and whether today's acquisition system can buy the drone age's many cheap systems is the dispute of Module 6.

• **The magazine.** Munitions are the cheapest way to buy readiness and the first thing cut in peacetime, because they are consumed rather than displayed. Every war of the 2020s found the magazines short, and the munitions lines of the fiscal 2027 request are the attempted correction.

• **People.** Personnel are among the largest and least flexible costs, and the state of recruiting and manpower is in Modules 7, 10, and 13.

15c. The Peace Dividend's End

After the Cold War the world's military burden fell through the 1990s, and the money freed, the peace dividend, helped finance the welfare states, the tax cuts, and the public debt of a generation. The burden has now risen to its highest share of world GDP since the financial crisis (Module 1), and the pledges on the table, NATO's 5% above all (Module 10), imply a burden the rich democracies have not carried since the Cold War. The arithmetic is the one the worked example makes. On the IMF's estimates of GDP for 2026, each percent of GDP is about $324 billion in the United States, $43 billion in Britain and in Japan, and $11 billion in Poland, and it comes from taxes, borrowing, or other spending; the worked example takes Germany.

The European argument of 2026, pensions against Patriots, is the peace dividend running in reverse. Economists divide over what the money does: some find military spending a poor stimulus per dollar, while others stress how fast it acts and point to research spillovers such as the internet, satellite navigation, and the jet engine. Europe's rearmament has also become an industrial policy, with plants, jobs, and a rally in defense shares to show for it. What is not divided is the direction, since the world's spending on force reached a record in 2025, and the next decade's budgets will be shaped by that choice before anything else.

Worked example — The Price of a Percent of GDP

Germany's GDP is about $5.5 trillion on the IMF's estimate for 2026, so a percent of it is about $55 billion. Its spending in 2025 has to reach its target for 2029 (Module 10), which at 2026 GDP is about $191 billion, roughly $77 billion a year more. What would one percent buy at the American prices given in this course? A thousand PAC-3 MSE interceptors cost about $5.3 billion, more than a year and a half of Lockheed's output in 2025 (Module 4). Two hundred thousand armed small attack drones cost about $1.5 billion. Two Virginia-class submarines cost about $10 billion, and two destroyers about $5.4 billion. Together those come to about $22 billion, two-fifths of the percent, and the rest would go to people, fuel, training, and the enablers Europe lacks (Module 10). The list makes the course's argument in a budget line: the drones are a rounding error and the interceptors are limited by the factory rather than the money. In the United States the fiscal 2027 request would add about 1.4% of GDP (Module 7). A percent of GDP is the unit in which the decade's politics will be argued, and this is what it is worth.

Module 15 Key Points

The Economics of Defense

• A Virginia-class submarine costs about $5 billion, a Ford-class carrier about $13 billion, and the latest SM-3 interceptor $34-37 million.

• Augustine's curve, cost-plus contracts, consolidation, and peacetime cuts to munitions explain why capacity lags demand.

• A percent of GDP is about $55 billion in Germany, $43 billion in Japan, and $324 billion in the United States.

• Germany's 3.5% by 2029 means about $191 billion a year at 2026 GDP, some $77 billion more than in 2025.

• In a budget line, the drones are a rounding error and the interceptors are limited by factories, not money.

Module 15 Quiz

Check Your Understanding

1. What is Augustine's law about fighter costs?

A) Drones will replace fighters by 2030
B) A fighter's price doubles every decade
C) Each fighter takes twenty years to build
D) Unit costs rise faster than budgets, until the whole budget buys one aircraft

2. What is the flaw of a cost-plus contract?

A) Profits are capped too low
B) Overruns are paid rather than punished
C) It forbids competition
D) It requires the contractor to bear all of the risk of cost growth

3. Why are magazines often short when a war begins?

A) Treaties limit stockpiles
B) Munitions expire within a few years
C) Munitions are consumed rather than displayed, so they are cut first in peacetime
D) Munitions are the costliest item in any budget

4. About how much is one percent of Germany's 2026 GDP?

A) $5 billion
B) About $55 billion
C) $15 billion
D) About $191 billion, the cost of the whole 3.5% pledge

5. In the worked example, what limits Germany's purchase of interceptors?

A) Its price
B) A treaty that caps air-defense stocks in Europe
C) The lack of German soldiers trained to fire them
D) The factory's output

Module 16 — Where Things Stand, and What to Watch

The Argument, the Contradictions, and the Dates Ahead

Recommended Reading / Reference

Book: Lawrence Freedman, *Command: The Politics of Military Operations from Korea to Ukraine* (2022)

Reference: The calendars of NATO, the Convention on Certain Conventional Weapons, and the American budget for 2026-28; SIPRI's annual releases

16a. The Argument

War in the 2020s has become a contest of production rather than of first blows (Modules 2 and 15). The wars of the period, Ukraine's and Iran's above all, were not decided by the opening strike, however successful it was, but by what each side could replace: shells and drones in Ukraine (Modules 3 and 13) and interceptors in the Gulf (Module 4). The precision revolution of 1991 has been joined by mass, on a battlefield that satellites and phones make transparent, where the defense holds ground and the rear is a target.

That shift explains the money. The world spent a record in 2025 (Module 1), European NATO is rearming at its fastest pace in generations (Module 10), the United States has requested a steep increase (Module 7), and munitions are the fastest-growing American line (Module 7). The middle powers are hedging at the alliance system's edges (Module 11).

The course's argument follows: the decisive military resource of the decade is industrial depth, the ability to make the weapons that a war consumes. On that measure the United States and Europe are further behind than their budgets suggest, because money arrives years before missiles do (Modules 4 and 6). The interval between the budgets of 2025-27 and the deliveries of 2029-30 is the period of greatest risk, and it is also the period that the planners' own timelines name (Modules 8 and 10).

16b. Five Contradictions

First, the strongest offense in the world could not settle the war it fought. American and Israeli air power struck Iran at a scale no other state could match, yet the strait is closed to ships Iran has not authorized and no ceasefire holds (Module 12). Striking is a matter of capability, while settling requires the other side's consent, which compellence rarely buys (Module 1).

Second, the cheapest weapon sets the price of the most expensive. A cheap drone forces a defender to spend many times its price on each shot, and the durable answers, lasers and interceptor drones, are still unproven against the faster threats (Modules 3, 4, and 14).

Third, Europe spends more to depend less on America, and buys more from America to do it. Its budgets (Module 10) and its purchases from American makers (Module 6) both show it.

Fourth, the guarantor's strength is the evidence for the doubt. The American interceptors that defended the Gulf and Israel are the ones that Europe, Japan, and Taiwan count on, and the war that showed their worth also used up most of the Patriot stock (Modules 4 and 7).

Fifth, reliance on nuclear weapons is rising while the norm against using them holds. The treaties are gone, China is building, and allies debate bombs of their own (Module 5).

16c. What to Watch

Date	Event	Why it matters
Ongoing	The Iran war: Iran's seven conditions, the strait closed to ships it has not authorized, and the American blockade of its ports (Module 12)	The EIA's fourth-quarter Brent forecast (Module 12) assumes about 4.5 million barrels a day still shut in, a little below September's level
October 27, 2026	Israel's election (Module 11)	October's polls showed Netanyahu's bloc short of a majority; the next government decides the ultra-Orthodox draft, the Lebanon zone, and the posture toward Iran
October 28, 2026	Britain's budget (Module 10)	Whether the chancellor, John Healey, who resigned as defence secretary in June calling for a date for 3% of GDP, funds a path beyond the current target
November 3, 2026	The American midterms (Module 7)	Control of Congress decides whether the reconciliation money, including most of Golden Dome's request, survives
November 10 and 27, 2026	China's suspensions of its rare-earth controls and of its ban on gallium and germanium sales to the United States expire (Module 6)	Whether the trade truce's extension (Module 8) covers the minerals in every seeker and magnet
November 16-20, 2026	The CCW Review Conference in Geneva (Module 14)	Whether treaty negotiations on autonomous weapons begin, and whether the largest producers join them
Early December 2026	SIPRI's Top 100 for 2025 (Module 6)	The first measure of arms companies' revenues in the year rearmament began in earnest
December 11, 2026	The American stopgap funding expires (Module 7)	A full-year appropriation, another stopgap, or a lapse decides when the new munitions contracts are paid for
Winter 2026-27	Ukraine's coming winter of war (Module 13)	Whether its air defense, short of interceptors and facing jet-powered drones, can protect the power grid
January 10, 2027	The American-Chinese trade truce ends (Module 8)	The minerals, the held Taiwan arms package, and the next summit
2027 (expected; date not yet announced)	The NATO summit in Albania (Module 10)	The first test of the allies' national plans for the core 3.5%
August 1, 2027	The PLA's centenary (Module 8)	The date of Beijing's capability goal
Late 2027	China's 21st Party Congress (Module 8)	Who fills the five empty seats on the Central Military Commission
January 2028	Taiwan's presidential election (Module 8)	The point toward which American officials see the risk of a crisis shifting
2028	Golden Dome's operational demonstration (Module 7)	The first evidence for or against the space-based layer and its cost
2029-30	New Patriot money starts to deliver missiles; Germany reaches its core target (Modules 4 and 10)	The end of the interval of greatest risk, if the factories deliver
2035	NATO's deadline for 5% of GDP (Module 10)	Whether the pledge proves to be a budget or a slogan

16d. The Last Word

The course ends where the world's militaries stand in October 2026, with both wars unsettled and factories that cannot yet replace what one war consumed. The weapons that decide the decade are the ones that cost less than what they kill and can be replaced faster than they are used. The two wars teach the same lesson from opposite ends, since the side that can strike anything has not settled anything and the side that can endure anything has not won anything, and the difference between them is measured in rounds.

Module 16 Key Points

Where Things Stand, and What to Watch

• The decade's decisive military resource is industrial depth: the ability to replace the weapons a war consumes.

• Money arrives years before missiles, so the years before deliveries arrive in 2029-30 are the interval of greatest risk.

• The strongest offense could not settle the Iran war, and the cheapest weapons now set the price of defense.

• Europe spends to depend less on America and buys more from America to do it.

• Watch Israel's October 27 election, the November 3 midterms, December 11, and China's mineral deadlines in November.

Module 16 Quiz

Check Your Understanding

1. What does the course call the decade's decisive military resource?

A) Industrial depth
B) The number of aircraft carriers
C) Nuclear warheads on high alert
D) Air superiority over the front line

2. Why does the course call the years before 2029-30 the interval of greatest risk?

A) Because NATO's pledge expires in 2029 without renewal
B) Money arrives before missiles
C) Because every treaty on conventional arms lapses in those years
D) Because Russia's and China's budgets peak in those years

3. Which contradiction does the course find in Europe's rearmament?

A) It spends less each year
B) It builds nuclear weapons while banning them by treaty
C) It buys American to depend less on America
D) It cuts its armies while raising its defense budgets

4. What happens on December 11, 2026?

A) Israel votes
B) NATO meets in Albania
C) China's truce with the US ends
D) The stopgap funding the American government, the Pentagon included, expires

5. What lesson do the Iran and Ukraine wars teach, by the course's reading?

A) Striking is not settling, and enduring is not winning
B) Air power is obsolete
C) Tanks decide wars
D) Nuclear deterrence has failed and the next war between great powers will be short

Answer Sheet

Answers to every module's Check Your Understanding quiz.

Module	Answers
Module 1 Quiz	1. D 2. A 3. C 4. B 5. A
Module 2 Quiz	1. B 2. D 3. C 4. C 5. A
Module 3 Quiz	1. D 2. B 3. B 4. D 5. C
Module 4 Quiz	1. A 2. B 3. A 4. C 5. D
Module 5 Quiz	1. B 2. A 3. D 4. C 5. A
Module 6 Quiz	1. B 2. D 3. C 4. C 5. A
Module 7 Quiz	1. D 2. B 3. A 4. B 5. C
Module 8 Quiz	1. D 2. D 3. A 4. C 5. B
Module 9 Quiz	1. A 2. C 3. D 4. B 5. B
Module 10 Quiz	1. D 2. A 3. C 4. C 5. A
Module 11 Quiz	1. D 2. B 3. A 4. D 5. B
Module 12 Quiz	1. C 2. D 3. B 4. A 5. C
Module 13 Quiz	1. A 2. B 3. D 4. C 5. C
Module 14 Quiz	1. A 2. D 3. B 4. C 5. A
Module 15 Quiz	1. D 2. B 3. C 4. B 5. D
Module 16 Quiz	1. A 2. B 3. C 4. D 5. A