

Nuclear, Missile & Space Digest

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A Fortnightly Newsletter from the Indian Pugwash Society

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A. India

- Union Minister Dr Jitendra Singh addresses G20 meeting, describes India as an emerging Space economy
- NTPC eyes 3.5 GW n-power by 2030, in talks for SMRs
- Balakot proof air power can be used under nuclear overhang: IAF chief
- DRDO & Indian Navy Conduct Successful Trial of BMD Interceptor from Naval Platform
- Key equipment shipped together to India and China
- Union Minister Dr Jitendra Singh visits Satellite Applications Catapult at Oxford in the United Kingdom. Minister announces India UK Space Parks Partnership
- What are the ambiguities in India's nuclear liability law?
- India to collaborate in enhancing the facility at UK's premier Rutherford Appleton Laboratory
- Imphal, Indian Navy's Third Ship of Project 15b Sails for Maiden Sea Trials

B. Russia

- Over 160 Russian naval ships involved in Pacific Fleet's massive drills – defense chief
- Five G7 nations agree on reduction of nuclear fuel market's reliance on Russian supplies
- Kremlin explains Putin's words about Navy's potential employment in any areas
- FACTBOX: The Pyotr Veliky nuclear-powered battle cruiser
- Two Russian Tu-95MS strategic bombers perform scheduled flight over Bering, Okhotsk Seas
- Russian nuclear-powered subs deploy to Pacific waters in large-scale drills
- Eight Russian Tu-22M3 bombers patrol Pacific waters in large-scale drills
- Russian missile corvette hits enemy coastal targets in Pacific drills
- Nuclear industry specialists study codes for BREST-OD-300 reactor at TPU
- Russia could take asymmetric measures if West pursues nuclear escalation – MFA
- Russia may resort to first use of nuclear arms if its existence is threatened – Medvedev



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- Russia looking for alternative ways to supply power to Zaporozhye NPP – Rosenergoatom
- Russia to use nuclear space tug in joint project with China – Roscosmos CEO
- All sides observe moratorium on nuclear weapon test explosions – Kremlin
- Drone rigged with C4 explosives downed in Zaporozhye Region

C. Pakistan

- Nuclear Energy in Pakistan: Harnessing the Power, Confronting the Complexities
- Pakistan signs pact with UK for supply of rockets to Ukraine

D. Europe

- German government rejects Bavaria's request for nuclear power comeback
- Germany ends nuclear era as last reactors power down
- After 18 years, Europe's largest nuclear reactor starts regular output
- Finnish EPR enters regular electricity production
- Five G7 countries in nuclear fuel agreement
- Urenco, Cameco sign supply deals for Bulgaria's Kozloduy

E. Belarus

- Iskander teams begin combat training in Belarus after instruction in Russia

F. Ukraine

- Update 154 - IAEA Director General Statement on Situation in Ukraine
- Daily shelling attacks near ZNPP reported by IAEA experts throughout week
- IAEA says increased military activity underlines need to protect Zaporizhzhia
- Update 155 - IAEA Director General Statement on Situation in Ukraine

G. NATO

- China expected to have 1,500 nuke warheads by 2035 – NATO chief

H. United States of America

- US ready to lend Poland \$4 billion for nuclear energy plan
- Statement on Civil Nuclear Fuel Cooperation Between the United States, Canada, France, Japan, and the United Kingdom
- US ready to lend Poland \$4 billion for nuclear energy plan
- DOD Officials Detail Progress With Indo-Pacific Allies, Friends
- Minuteman III test launch showcases readiness of US nuclear force's safe, effective deterrent
- US warns Russia not to touch American nuclear technology at Ukrainian nuclear plant
- Russia says it doesn't need US fuel for Zaporizhzhia
- Company Seeks First-Time Restart of Shuttered Nuclear Plant
- US and South Korea agree key nuclear weapons deal
- Biden, Yoon warn N. Korea on nukes, unveil deterrence plan

West Asia

I. Iran

- IRGC test-fires new domestic anti-tank missile
- N. Chief: Iran Working on Manufacturing 2 New Radiopharmaceuticals
- Senior Commander: Iran's Anti-Sub Drones Come into Service
- Iran has never left negotiating table: Raisi
- Iranian Army's Ground Force Receives New Defense Equipment
- Iran's Army Receives Over 200 Strategic Drones for Various Missions
- Iran Warns Off US Nuclear-Powered Submarine in Strait of Hormuz
- Defense official says foreigners willing to buy Iranian-made drones
- Hostile Aircraft Systems Hacked as Attempting to Intrude Iran's Airspace
- New Fateh-class submarines to join Iranian Navy fleet
- Iran Unveils 1st Indigenous Drone Flight Simulator
- U.S. Arms Warplanes With 'Bunker Busting' Bombs in Message to Iran
- Iran Declares Readiness to Expand Military Exercises with China

J. Israel

- Philippine Navy receives two Israeli-made Shaldag MKV patrol ships
- British Army orders Carl-Gustaf M4 weapon systems
- Aeronautics to supply Greece with dozens of advanced Orbiter 3 tactical UAV systems
- Elbit awarded \$102 million contract to supply int'l customer with artillery systems
- Netherlands to procure Israeli-made Rocket launchers
- Elbit to supply intelligence, EW aircraft to int'l customer in \$100 million deal
- Raytheon Wins \$237 million counter-UAS US Army contract
- SCD launches SWIR detector for defense applications
- Sierra Nevada Corporation, BIRD Aerosystems enter airborne missile protection system agreement
- Elbit signs \$100 million follow-on contract with Israeli Ministry of National Security

K. Türkiye

- Türkiye's uncrewed fighter jet Kızılelma conducts 4th test flight
- White House notifies Congress on F-16 equipment sale to Türkiye
- National utility chopper takes flight with 1st Türkiye-built engine
- Türkiye's largest warship sets sail after public unveiling
- Turkish army gets revamped indigenous main battle tank for trials
- Türkiye's homegrown 5th-gen light attack jet makes maiden flight
- Turkish unmanned jet Kızılelma, drone Akıncı conduct formation flight
- Romania grants \$321M contract to buy Turkish TB2 combat drones
- Türkiye's 1st flying-wing, deep-strike stealth drone gets on runway
- Turkish arms pioneer CANiK buys British defense firm AEI Systems
- Aliyev hopes to see Turkish jet Kızılelma in Azerbaijan skies
- Physical start-up of first unit of Akkuyu NPP scheduled for next year — Rosatom CEO

East Asia

L. North Korea

- As Democratic People's Republic of Korea Increases Missile Launches, Inaction Has Left Pyongyang Unconstrained, Senior Official Tells Security Council
- G7 nations regret DPRK's refusal to take action towards denuclearization – statement
- US nuke threats against North Korea reach new level – North Korean official
- US, Allies Stage Drills as N. Korea Warns of Security Crisis
- US has nuclear warheads 'pointed right at' North Korea

M. South Korea

- South Korea's Nuclear Options
- Biden to unveil new efforts to protect South Korea from nukes

N. Japan

- Pacific Islands' Rejection of Japan's Radioactive Wastewater Disposal Plan Gains Support
- Japan puts military on alert fearing North Korean missile
- Japan hopes to start discharging Fukushima nuclear wastewater in July

O. Australia

- Canada, France, Japan, UK and US form nuclear power alliance
- Australia prepares more assertive military stance to deter conflict
- Australian defence review plots pivot from armour to missiles
- AUKUS Nuclear Submarine Cost Includes 50% Fund for Unexpected Overruns

A. India

Union Minister Dr Jitendra Singh addresses G20 meeting, describes India as an emerging Space economy

PIB, April 17, 2023

Addressing the inaugural session of G20 Space Economy Leaders Meeting here today, Union Minister of State (Independent Charge) Atomic Energy and Space, Dr Jitendra Singh described India as an emerging Space economy.

G20 Space Economy Leaders Meeting is being organised under India's G20 presidency by the Department of Space, Government of India. The Minister said that India is one of the very few countries who have built end to end capability in space. Over these years, space technology has penetrated to all walks of life. As a result, there is a huge demand for space based services which have huge commercial potential, he said.

<https://pib.gov.in/PressReleasePage.aspx?PRID=1917307>

NTPC eyes 3.5 GW n-power by 2030, in talks for SMRs

Mint, April 18, 2023

India's largest power generator NTPC Ltd hopes to commission 3.5 GW of capacity by 2030 from its two nuclear plants under construction, a company executive said. The state-run company is also working with the Bhabha Atomic Research Centre (BARC) and the Department of Atomic Energy (DAE) to develop smaller reactors which can be set up quickly. NTPC is developing the two nuclear plants—at Mahi Banswara in Rajasthan and Chutka in Madhya Pradesh—in a joint venture with Nuclear Power Corp. of India Ltd (NPCIL). "Work has started at the two plants of Mahi Banswara and Chutka. By 2030, we should be able to commission these plants," the executive said, adding nuclear capacity,

which is currently under NTPC, may be later housed under its subsidiary NTPC Green Energy Ltd (NGEL).

<https://www.livemint.com/companies/news/ntpc-eyes-3-5-gw-n-power-by-2030-in-talks-for-smrs-11681837818650.html>

Balakot proof air power can be used under nuclear overhang: IAF chief

Hindustan Times, April 19, 2023

Indian Air Force chief Air Chief Marshal VR Chaudhari on Tuesday said that the 2019 air strikes against a terror facility in Pakistan's Balakot demonstrated that if political will is there, air-power can be effectively used in a "no war, no peace" scenario, under a nuclear overhang, without allowing the situation to escalate into a full-blown conflict. "This is very important given the nature of our adversaries. The response options available to the leadership have suddenly increased, and increasingly, air power has become an option of choice due to inherent flexibility and unmatched precision strike capability," Chaudhari said

<https://www.hindustantimes.com/india-news/iaf-chief-air-strikes-on-balakot-terror-facility-showed-air-power-can-be-used-in-no-war-no-peace-scenario-without-escalation-101681843413706.html>

DRDO & Indian Navy Conduct Successful Trial of BMD Interceptor from Naval Platform

PIB, April 22, 2023

Defence Research and Development Organisation (DRDO) and Indian Navy successfully conducted a maiden flight trial of sea-based endo-atmospheric interceptor missile off the coast of Odisha in the Bay of Bengal on April 21, 2023. The purpose of the trial was to engage and neutralize a hostile ballistic missile threat thereby elevating India into the elite club of Nations having Naval BMD capability.

Prior to this, DRDO has successfully demonstrated land-based BMD system with capability to neutralize ballistic missile threats, emerging from adversaries.

Raksha Mantri Shri Rajnath Singh congratulated DRDO, Indian Navy and Industry involved in successful demonstration of ship based Ballistic Missile defence capabilities.

<https://pib.gov.in/PressReleasePage.aspx?PRID=1918799>

Key equipment shipped together to India and China

World Nuclear News, April 25, 2023

Russia's Rosatom says two reactor vessels and eight steam generators are being shipped to Kudankulam unit 5 in India and Tianwan unit 7 in China, calling it the first time two sets of such equipment have been shipped at the same time from one production site. The combined weight of the components is 3400 tonnes, with the shipment first travelling by road from Atommash, in the Volgodonsk area of Russia, to a specialised factory berth before being moved by barge to St Petersburg from where they will travel by sea to be delivered to India and China.

<https://www.world-nuclear-news.org/Articles/Key-equipment-shipped-together-to-India-and-China>

Union Minister Dr Jitendra Singh visits Satellite Applications Catapult at Oxford in the United Kingdom. Minister announces India UK Space Parks Partnership

PIB, April 27, 2023

Union Minister of State (Independent Charge) Atomic Energy and Space, Dr Jitendra Singh today undertook a visit to the Satellite Applications Catapult at Oxford and witnessed a technical demonstration by Chief Technical Officer Paul Febvre at Harwell, Oxfordshire, United Kingdom. The Satellite Applications Catapult is one of nine Catapults, uniquely established to transform the UK's capability for innovation in specific

areas and to help drive future economic growth. It is helping organisations make use of, and benefit from, satellite technologies, and bring together multi-disciplinary teams to generate ideas and solutions in an open innovation environment. The aim of the Catapult Centre is to support UK industry by accelerating the growth of satellite applications and to contribute to capturing a 10% share of the global space market by 2030.

<https://pib.gov.in/PressReleasePage.aspx?PRID=1920316>

What are the ambiguities in India's nuclear liability law?

The Hindu, April 27, 2023

The issues regarding India's nuclear liability law continue to hold up the more than a decade-old plan to build six nuclear power reactors in Maharashtra's Jaitapur, the world's biggest nuclear power generation site under consideration at present. An official at the French energy company Electricite de France (EDF), which submitted its techno-commercial offer for the construction of the 9,900 MW project two years ago, told *The Hindu* that the issues arising out of the liability law "would have to be solved before any contract" could be signed with India.

<https://www.thehindu.com/news/national/explained-what-are-the-ambiguities-in-indias-nuclear-liability-law/article66782725.ece>

India to collaborate in enhancing the facility at UK's premier Rutherford Appleton Laboratory

PIB, April 28, 2023

Union Minister of State (Independent Charge) Atomic Energy and Space, Dr Jitendra Singh today visited the United Kingdom's premier institution, Rutherford Appleton Laboratory (RAL) and met researchers, including those working on the UK- India iSiS project.

The Rutherford Appleton Laboratory (RAL) is one of the national scientific

research laboratories in the UK operated by the Science and Technology Facilities Council (STFC). In addition to hosting facilities for the UK, RAL also operates departments to co-ordinate the UK programme of participation in major international facilities. The largest of these are the areas of particle physics, and space science. The site hosts some of the UK's major scientific facilities, including: the ISIS Neutron and Muon Source (1984), a spallation neutron source, the Central Laser Facility, the Diamond Light Source synchrotron.

<https://pib.gov.in/PressReleasePage.aspx?PRID=1920496>

Imphal, Indian Navy's Third Ship of Project 15b Sails for Maiden Sea Trials

PIB, April 28, 2023

Imphal, Indian Navy's third indigenous stealth destroyer of the Project 15B class, planned to be commissioned later this year, undertook her maiden sea sortie today. The ship incorporates several niche technologies and high indigenous content and is designed in-house by the Navy's Warship Design Bureau and constructed by Mazagon Dock Ltd. (MDL) stands proud testimony to the Indian Navy's thrust on the national vision of 'AatmaNirbhar Bharat' and 'Make in India' initiative. Imphal will have the unique distinction of being the largest and most advanced destroyer to be ever named after a city from the North-East. Imphal would thus be a befitting symbol of the growing importance and contribution of the North-Eastern region and the state of Manipur towards national security and development.

<https://pib.gov.in/PressReleasePage.aspx?PRID=1920605>

B. Russia

Over 160 Russian naval ships involved in Pacific Fleet's massive drills – defense chief

TASS, April 17, 2023

The Pacific Fleet's surprise combat readiness inspection involves over 160 ships and

vessels, including 12 submarines, Defense Minister Army General Sergey Shoigu reported to Russian President Supreme Commander-in-Chief Vladimir Putin on Monday.

"A sudden inspection of the Pacific Fleet began from April 14. The inspection involves over 25,000 personnel, 167 combat ships and support vessels, including 12 submarines, 89 aircraft and helicopters," the defense chief reported.

The forces participating in the Pacific Fleet's massive drills have gone on high alert and have begun accomplishing their assigned combat training objectives, Shoigu added.

<https://tass.com/defense/1605221>

Five G7 nations agree on reduction of nuclear fuel market's reliance on Russian supplies

TASS, April 17, 2023

Japan, the UK, Canada, the US and France have reached an agreement on cooperation in the area of nuclear fuel and maintenance of stable supply chains for reducing the global market's reliance on Russia as a supplier of such resources, according to a statement issued on Monday at the Nuclear Energy Forum that is being held in Japan's Sapporo alongside the meeting of G7 ministers on climate, energy and environment.

"Acknowledging the risks that come along with the present structure of global reliance of nuclear supply and the significance of diversifying it, the G7 commits to exploring further cooperation to promote global nuclear supply chains by responsible actors, further reduce our reliance on civil nuclear and related goods from Russia, and assist countries seeking to diversify their supplies," the statement reads.

<https://tass.com/defense/1605329>

Kremlin explains Putin's words about Navy's potential employment in any areas

TASS, April 17, 2023

Russian President Vladimir Putin's statement at a meeting with Defense Minister Sergey Shoigu about the potential use of the Navy in various areas was prompted by the tense situation around Russia, Kremlin Spokesman Dmitry Peskov said on Monday.

"Our present-day [geopolitical] environment is very turbulent in many ways, [and] fraught with conflict situations [and] regional conflicts," he said. "We are all well aware of the geography of these regional conflicts. This is exactly what he [Putin] was speaking about."

Peskov added that President Putin held meetings with Defense Minister Shoigu both on Sunday and Monday.

<https://tass.com/defense/1605351>

FACTBOX: The Pyotr Veliky nuclear-powered battle cruiser

TASS, April 17, 2023

On April 18, 1998, the St. Andrew's flag, Russia's naval ensign, was hoisted for the first time on the nuclear-powered missile cruiser The Pyotr Veliky. This event, 25 years ago, heralded the vessel's formal commissioning into the Russian Navy's Northern Fleet. The TASS FACTBOX team has gathered the basic facts and figures about the vessel. The heavy nuclear-powered missile cruiser The Pyotr Veliky (Peter the Great) is classified as part of the Project 1144.2 family of vessels (codename: Orlan; NATO reporting name: Kirov), a series of Soviet and Russian multipurpose surface combat ships equipped with nuclear power plants and guided missile weapons for blue-water oceangoing operations.

<https://tass.com/defense/1605419>

Two Russian Tu-95MS strategic bombers perform scheduled flight over Bering, Okhotsk Seas

TASS, April 18, 2023

Two Russian Tu-95MS strategic missile-carrying bombers performed a scheduled flight over the Bering and Okhotsk Seas as part of a combat readiness inspection, Russia's Defense Ministry reported on Tuesday.

"As part of the surprise combat readiness inspection of the Pacific Fleet, a part of the Aerospace Forces and logistic support units, two Tu-95MS strategic missile-carrying bombers performed a scheduled flight in the airspace over the neutral waters of the Bering and Okhotsk Seas," the ministry said in a statement.

The crews of the strategic bombers will continue aerial patrols in other areas, the ministry specified.

<https://tass.com/defense/1605727>

Russian nuclear-powered subs deploy to Pacific waters in large-scale drills

TASS, April 18, 2023

Russian strategic nuclear-powered submarine cruisers and multi-purpose nuclear subs have deployed to the Pacific Ocean in the Pacific Fleet's large-scale combat readiness drills, Russia's Defense Ministry reported on Tuesday.

"As part of the Pacific Fleet's sudden combat readiness inspection being carried out by decision of Supreme Commander-in-Chief of the Russian Armed Forces Vladimir Putin, strategic nuclear-powered missile-carrying submarine cruisers and multi-purpose nuclear submarines have deployed to the designated areas in the Pacific waters," the ministry said in a statement.

<https://tass.com/defense/1605747>

Eight Russian Tu-22M3 bombers patrol Pacific waters in large-scale drills

TASS, April 19, 2023

Eight Russian Tu-22M3 long-range missile-carrying bombers performed combat training flights over the neutral waters of the Sea of Okhotsk and the northern part of the Sea of Japan in the Pacific Fleet's large-scale drills, Russia's Defense Ministry reported on Wednesday.

"As part of the sudden combat readiness inspection of the Pacific Fleet, a part of the Airborne Forces and logistic support units, eight Tu-22M3 long-range bombers conducted a combat training flight in the airspace over the neutral waters of the Sea of Okhotsk and the northern part of the Sea of Japan. During the inspection, the crews of the Tu-22M3 long-range bombers provided air support for the Pacific Fleet's forces," the ministry said in a statement.

<https://tass.com/defense/1606395>

Russian missile corvette hits enemy coastal targets in Pacific drills

TASS, April 20, 2023

A Russian missile corvette conducted artillery firings in the Sea of Japan and wiped out a notional enemy's coastal targets during the Pacific Fleet's snap combat readiness inspection, the corvette's commander reported on Thursday.

"During the ongoing measures for raising the Fleet's combat preparedness, the crew of the corvette Aldar Tsydenzhapov successfully conducted a combat firing exercise from an A-190 artillery gun against the notional enemy's coastal stronghold," corvette commander Andronik Shishmanyanyan said.

<https://tass.com/defense/1606991>

Nuclear industry specialists study codes for BREST-OD-300 reactor at TPU

TASS, April 21, 2023

New generation codes which allow modeling complex processes in nuclear

reactors are being studied by the industry specialists at Tomsk Polytechnic University (TPU). Such codes will, among other things, help the Breakthrough project and will be used when operating the next-generation BREST-OD-300 fast neutron reactor which is being built in the Tomsk region, the university's press service said on Friday.

<https://tass.com/science/1608487>

Russia could take asymmetric measures if West pursues nuclear escalation – MFA

TASS, April 25, 2023

Russia could take certain asymmetric steps if the United States and NATO pursue escalation in the deployment of nuclear weapons in Europe, Vladimir Yermakov, director of the Russian Foreign Ministry's Non-Proliferation and Arms Control Department, said in an interview with TASS. "If the United States and NATO decide to escalate things further, we will assess the new risks to identify an [appropriate] response, including an asymmetric one," the diplomat said, when asked whether the West could deploy its nukes close to Belarus' borders in the wake of Russia's decision to station part of its nuclear arsenal on Belarusian soil.

<https://tass.com/defense/1609195>

Russia may resort to first use of nuclear arms if its existence is threatened – Medvedev

TASS, April 25, 2023

Russia may be the first to use nuclear weapons if aggression against it threatens the very existence of the state, Russian Security Council Deputy Chairman Dmitry Medvedev said on Tuesday, addressing participants in the Znanie (Knowledge) educational marathon.

Medvedev was speaking by video link from the defense sector enterprise NPO Mashinostroyeniya, which is one of the leading players in Russia's rocket and space industry. Military hardware features prominently on the list of its products.

“You’ve said that Russia would never use nuclear weapons first, but that’s not quite so,” Medvedev said in commenting on a remark by one of the participants. He quoted paragraph 19 of Russia’s nuclear doctrine.

<https://tass.com/defense/1609287>

Russia looking for alternative ways to supply power to Zaporozhye NPP – Rosenergoatom

TASS, April 25, 2023

Russia is looking at a number of creative alternatives to get electricity to the Zaporozhye nuclear power plant, Renat Karchaa, an adviser to Rosenergoatom’s CEO, said in an interview with TASS.

Currently, the Zaporozhye NPP depends on electricity from Ukraine, which goes through one Dnieper transmission line and the Kiev regime uses this as a tool for blackmail, he added.

“Ukraine’s policy on this matter is nuclear blackmail in its purest form. The powers that be in Ukraine use the power line as a tool (of blackmail - TASS). But we do not sit around and wait for them to come up with another way to blackmail us. Of course, we are hedging, we’re coming up with different options, we’re just doing it quietly.”

<https://tass.com/defense/1609375>

Russia to use nuclear space tug in joint project with China – Roscosmos CEO

TASS, April 26, 2023

Russia’s Zevs nuclear space tug will be involved in the joint Russian-Chinese lunar scientific station project, Roscosmos CEO Yuri Borisov said Wednesday.

“Our space tug is called the Zevs. We expect to implement it in practice by 2030. This is one of many products that will aid us in the expansion to the Moon, we plan to use in the joint project with China,” Borisov said.

According to the CEO, the space tug will make it possible to deliver large objects from the near-Earth orbit to the lunar orbit.

<https://tass.com/science/1610151>

All sides observe moratorium on nuclear weapon test explosions – Kremlin

TASS, April 28, 2023

All sides are currently observing the moratorium on nuclear tests, Kremlin Spokesman Dmitry Peskov told reporters on Friday.

“At the moment, everyone is observing the moratorium. There is nothing more to say,” he said, commenting on the words of the US ambassador to Moscow on observing the moratorium.

US ambassador to Russia Lynne Tracy earlier told Kommersant that Washington remained faithful to its obligations to observe the moratorium on nuclear weapon test explosions. At the same time, the American diplomats called on all states that possess nuclear weapons to declare or observe such a moratorium.

<https://tass.com/defense/1611097>

Drone rigged with C4 explosives downed in Zaporozhye Region

TASS, April 30, 2023

Russian forces downed a drone equipped with a container for delivery of C4 explosives near Energodar, where the Zaporozhye Nuclear Power Plant is located, regional law enforcement agencies told reporters Sunday.

“Today, Russian Armed Forces detected and eliminated an enemy, drone, equipped with a container for delivery of C4 explosives, shipped to Ukraine from the US, near the city of Energodar,” the law enforcement representative said.

He underscored that the drone’s payload is unable to inflict serious damage to armored vehicles, but could be efficiently used against civilians.

<https://tass.com/defense/1611759>

C. Pakistan

Nuclear Energy in Pakistan: Harnessing the Power, Confronting the Complexities

Modern Diplomacy, April 19, 2023

A severe energy crisis has been plaguing Pakistan for a number of years due to an insufficient electricity supply and rising energy demand. The majority of the nation's energy needs are met by costly and environmentally harmful non-renewable resources like oil and gas. The country's social and economic development has additionally been negatively impacted by the energy crisis. Pakistan has implemented several measures in recent years to address the energy crisis and move toward renewable energy sources. Wind, solar, and hydropower plants are just some of the renewable energy initiatives undertaken by the Government. These projects have contributed to those objectives by reducing the nation's reliance on non-renewable resources and diversifying the country's energy mix. Similarly, Pakistan is looking into alternative energy sources, and nuclear energy has emerged as a potential remedy. Nuclear power plants, though, have the capacity to generate a significant amount of electricity at a low cost and with little greenhouse gas emissions.

<https://moderndiplomacy.eu/2023/04/19/nuclear-energy-in-pakistan-harnessing-the-power-confronting-the-complexities/>

Pakistan signs pact with UK for supply of rockets to Ukraine

Economic Times, April 19, 2023

Pakistan will soon ship 122 mm high explosive Yarmuk rockets for multi-barrel rocket launchers via Karachi port to Ternopil Oblast Ukraine, said the people. Just as in the past, the shipments will use the Polish port of Gdańsk to reach Ukraine, according to people with knowledge of the matter. Ukraine has been facing shortage of arms and ammunition and Pakistan has emerged as a key supplier of defence equipment in lieu of western aid. The UK's defence ministry signed a contract with Pakistan

Ordnance Factory in December 2022 for supplies of 200,000 rockets worth \$300 million to Ukrainian armed forces, as Pakistan emerged as a key defence supplier to several European Union states for their onward journey to Kiev, according to people with knowledge of the matter.

<https://economictimes.indiatimes.com/news/defence/pakistan-signs-pact-with-uk-for-supply-of-rockets-to-ukraine/articleshow/99604254.cms?from=mdr>

D. Europe

German government rejects Bavaria's request for nuclear power comeback

Reuters, April 16, 2023

Germany's Environment Ministry on Sunday rejected a demand from the state of Bavaria to allow it to continue operating nuclear power plants, saying jurisdiction for such facilities lies with the federal government. Germany pulled the plug on its last three nuclear power stations on Saturday, ending a six-decade programme, as Berlin enacts a plan to move to fully renewable electricity generation by 2035. The final wind-down, scheduled for the end of 2022, was delayed last summer to this year after Moscow's invasion of Ukraine prompted Germany to halt Russian fossil fuel imports and raised concerns about energy security supply.

<https://www.reuters.com/world/europe/bavaria-asks-nuclear-power-comeback-under-own-responsibility-after-fresh-exit-2023-04-15/>

Germany ends nuclear era as last reactors power down

Euractive, April 16, 2023

Germany switched off its last three nuclear reactors on Saturday (15 April), exiting atomic power even as it seeks to wean itself off fossil fuels and manage an energy crisis caused by the war in Ukraine.

While many Western countries are upping their investments in atomic energy to reduce their emissions, Germany brought an early end to its nuclear age.

It's "the end of an era," the RWE energy firm said in a statement shortly after midnight confirming the three reactors had been disconnected from the electricity grid.

Europe's largest economy has been looking to leave behind nuclear power since 2002, but the phase-out was accelerated by former chancellor Angela Merkel in 2011 after the Fukushima nuclear disaster in Japan.

<https://www.euractiv.com/section/energy/news/germany-ends-nuclear-era-as-last-reactors-power-down/>

After 18 years, Europe's largest nuclear reactor starts regular output

Reuters, April 16, 2023

Finland's much-delayed Olkiluoto 3 (OL3) nuclear reactor, Europe's largest, began regular output early on Sunday, its operator said, boosting energy security in a region to which Russia has cut gas and power supplies. Nuclear power remains controversial in Europe, primarily due to safety concerns, and news of OL3's start-up comes as Germany on Saturday switches off its last three remaining reactors, while Sweden, France, Britain and others plan new developments.

<https://www.reuters.com/world/europe/after-18-years-europes-largest-nuclear-reactor-start-regular-output-sunday-2023-04-15/>

Finnish EPR enters regular electricity production

World Nuclear News, April 17, 2023

Test production has been completed at the Olkiluoto 3 (OL3) EPR in Finland and the plant has now started regular electricity production, operator Teollisuuden Voima Oyj (TVO) has announced. TVO said the reactor will soon be declared to be in commercial operation. OL3 attained first criticality on 21 December 2021 and was connected to the grid on 12 March 2022. The EPR, a 1600 MWe pressurised water reactor, then entered a phase of test production during which some 3300 tests were conducted and more than 9000 test reports collated.

<https://www.world-nuclear-news.org/Articles/Finnish-EPR-enters-regular-electricity-production>

Five G7 countries in nuclear fuel agreement

World Nuclear News, April 17, 2023

The agreement by Canada, France, Japan, the UK and USA to leverage their civil nuclear power sectors to ensure a stable supply of nuclear fuel for existing and future reactors came as G7 climate, energy and environment ministers concluded a two-day meeting with a promise to accelerate the phase-out of fossil fuels. The war in Ukraine and the increasing impacts of climate change have "fundamentally altered the global energy landscape and accelerated the need for collaboration between like-minded allies," the five nations said in their statement at the Nuclear Energy Forum held alongside the G7 ministers' meeting in Sapporo, Japan. This follows a June 2022 Group of Seven Leaders' Communique which "made clear our collective intent to reduce reliance on civil nuclear and related goods from Russia, including working to assist countries seeking to diversify their nuclear fuel supply chains", the statement notes.

<https://www.world-nuclear-news.org/Articles/Five-G7-countries-in-nuclear-fuel-agreement>

Urenco, Cameco sign supply deals for Bulgaria's Kozloduy

World Nuclear News, April 21, 2023

Urenco and Cameco are joining Westinghouse in the supply chain for one of the Kozloduy units in Bulgaria as the country diversifies its nuclear fuel supplies. The long-term agreement will see Urenco's enrichment facilities in Europe - which are in the UK, Netherlands and Germany - receive natural uranium (UF6) from Cameco and supply enriched uranium product for fabrication into nuclear fuel rods by Westinghouse.

<https://www.world-nuclear-news.org/Articles/Urenco,-Cameco-sign-10-year-deals-with-Bulgaria-s>

E. Belarus

Iskander teams begin combat training in Belarus after instruction in Russia

TASS, April 26, 2023

The Belarusian teams of Iskander-M tactical missile systems who recently returned from Russia where they were trained how to handle tactical nuclear munitions have begun active combat training in their deployment area, the republic's Defense Ministry reported on Wednesday. "The teams of a separate missile battalion armed with Iskander-M tactical missile systems have begun active combat training on their permanent deployment site," the ministry said in a statement.

The training of the Belarusian missile personnel in Russia focused on "further developing the practical skills of preparing the missile system for its employment, the training in its deployment, and carrying combat training launches," the statement reads.

<https://tass.com/defense/1609789>

F. Ukraine

Update 154 – IAEA Director General Statement on Situation in Ukraine

IAEA, April 21, 2023

International Atomic Energy Agency (IAEA) experts present at Ukraine's Zaporizhzhya Nuclear Power Plant (ZNPP) have heard shelling almost every day over the past week and at one point were told to shelter at the site because of the potential dangers caused by continued military activity in the region, Director General Rafael Mariano Grossi said today.

The IAEA team's recent reports to headquarters in Vienna further underscore the serious nuclear safety and security risks facing Europe's largest nuclear power plant (NPP) during the military conflict, at a time of increased speculation of imminent

military offensives and counter-offensives in the southern Ukrainian region and elsewhere in the country, Director General Grossi said.

<https://www.iaea.org/newscenter/pressreleases/update-154-iaea-director-general-statement-on-situation-in-ukraine>

Daily shelling attacks near ZNPP reported by IAEA experts throughout week

TASS, April 22, 2023

Experts of the International Atomic Energy Agency (IAEA), who are present at the Zaporozhye Nuclear Power Plant (ZNPP), have reported shelling near the facility practically every day during the week, IAEA Director General Rafael Grossi said in a statement on Friday.

"International Atomic Energy Agency (IAEA) experts present at Ukraine's Zaporozhye Nuclear Power Plant (ZNPP) have heard shelling almost every day over the past week and at one point were told to shelter at the site because of the potential dangers caused by continued military activity in the region," he said.

<https://tass.com/defense/1608013>

IAEA says increased military activity underlines need to protect Zaporizhzhia

World Nuclear News, April 28, 2023

International Atomic Energy Agency (IAEA) Director General Rafael Mariano Grossi says agency staff stationed at the Zaporizhzhia nuclear power plant "were again forced to shelter after missile attack warnings, with the sound of continued shelling in the distance as military activity continues" in the region. In his latest update on the situation at Europe's largest nuclear power plant, which is on the frontline of the Russian and Ukrainian forces, Grossi said that "increased military presence and activity in the region again underlines the importance and urgency of agreeing on the protection of the plant".

He also reported that the latest rotation of staff had taken place - which involves crossing the military front line for both the team arriving, and the team leaving.

<https://www.world-nuclear-news.org/Articles/IAEA-says-increased-military-activity-underlines-n>

Update 155 - IAEA Director General Statement on Situation in Ukraine

IAEA, April 28, 2023

International Atomic Energy Agency (IAEA) experts present at Ukraine's Zaporizhzhya Nuclear Power Plant (ZNPP) were again forced to shelter this week after missile attack warnings, with the sound of continued shelling in the distance as military activity continues in the region. In addition, one landmine exploded near the site, Director General Rafael Mariano Grossi said today.

The increased military presence and activity in the region again underlines the importance and urgency of agreeing on the protection of the plant, Director General Grossi added.

Once again, a team from the IAEA Support and Assistance Mission to Zaporizhzhya (ISAMZ) crossed the front line of the armed conflict. Yesterday, the eighth IAEA team made the crossing to rotate with the previous team.

<https://www.iaea.org/newscenter/pressreleases/update-155-iaea-director-general-statement-on-situation-in-ukraine>

G. NATO

China expected to have 1,500 nuke warheads by 2035 – NATO chief

TASS, April 18, 2023

China is expected to possess some 1,500 nuclear warheads by 2035, NATO Secretary General Jens Stoltenberg said on Tuesday.

"In the longer term, we need to re-think and adapt our approach to a more dangerous and competitive world. And this means

engaging with China, which is estimated to have 1,500 warheads by 2035," he told an arms control conference in Washington.

<https://tass.com/defense/1606191>

H. United States of America

US ready to lend Poland \$4 billion for nuclear energy plan

Times of India, April 17, 2023

A project to develop small nuclear power reactors in Poland is moving forward, with a cooperation agreement between the Polish energy giant ORLEN and two U.S. government financial institutions signed Monday. Poland is turning toward renewable and non-carbon energy, away from its past reliance on its own coal. Moscow's invasion of Ukraine has also accelerated Poland's drive to cut its dependence on Russian oil and gas. In a ceremony at the U.S. ambassador's residence in Warsaw, the U.S. EXIM Bank signed a letter of interest in lending up to \$3 billion and the U.S. International Development Finance Corporation signed a letter of interest to lend up to \$1 billion to the ORLEN Synthos Green Energy project for developing some 20 small modular reactors designed by GE Hitachi Nuclear Energy.

<https://timesofindia.indiatimes.com/business/international-business/us-ready-to-lend-poland-4-billion-for-nuclear-energy-plan/articleshow/99559131.cms?from=mdr>

Statement on Civil Nuclear Fuel Cooperation Between the United States, Canada, France, Japan, and the United Kingdom

U.S. Department of Energy, April 17, 2023

The United States, Canada, France, Japan, and the United Kingdom share common visions of democracy as well as safe and secure global economic and energy systems. Russia's unprovoked and unjustifiable war against Ukraine and the increasing impacts of climate change have fundamentally altered the global energy

landscape and accelerated the need for collaboration between like-minded allies. In the June 2022 Group of Seven Leaders' Communique, our Leaders made clear our collective intent to reduce reliance on civil nuclear and related goods from Russia, including working to assist countries seeking to diversify their nuclear fuel supply chains.

<https://www.energy.gov/articles/statement-civil-nuclear-fuel-cooperation-between-united-states-canada-france-japan-and>

US ready to lend Poland \$4 billion for nuclear energy plan

AP News, April 18, 2023

A project to develop small nuclear power reactors in Poland is moving forward, with Polish energy company Orlen and two U.S. government financial institutions signing an agreement Monday. Poland is turning toward energy that is renewable or does not use climate-changing fossil fuels as it tries to break its reliance on coal. Moscow's invasion of Ukraine also has accelerated Poland's drive to cut its dependence on Russian oil and natural gas. In a ceremony at the U.S. ambassador's residence in Warsaw, the U.S. Export-Import Bank and U.S. International Development Finance Corporation signed letters of interest to lend up to \$3 billion and up to \$1 billion, respectively, to the Orlen Synthos Green Energy project. It's aims is to develop around 20 small BWRX-300 modular reactors designed by GE Hitachi Nuclear Energy.

<https://apnews.com/article/nuclear-energy-us-poland-221e7fcb13bba60bd872929a9c822aa>

DOD Officials Detail Progress With Indo-Pacific Allies, Friends

U.S. Department of Defense, April 18, 2023

Defense leaders will chart the progress made in ensuring a free and open Indo-Pacific region and what more needs to be done during testimony before the House Armed Services Committee today. Jedidiah P. Royal, the principal deputy assistant secretary of defense for Indo-Pacific affairs, will discuss U.S. force structure in the region,

steps made to improve contacts and military capabilities with friends and allies and how the United States and its allies will proceed.

<https://www.defense.gov/News/News-Stories/Article/Article/3365566/dod-officials-detail-progress-with-indo-pacific-allies-friends/>

Minuteman III test launch showcases readiness of US nuclear force's safe, effective deterrent

US Air Force, April 19, 2023

A joint team of Air Force Global Strike Command Airmen and Navy aircrew launched an unarmed Minuteman III intercontinental ballistic missile equipped with one test re-entry vehicle from aboard the Airborne Launch Control System April 19 at 5:11 a.m. Pacific Time from Vandenberg Space Force Base, California. This test launch is part of routine and periodic activities intended to demonstrate that the United States' nuclear deterrent is safe, secure, reliable and effective to deter twenty-first century threats and reassure our allies. Such tests have occurred over 300 times before, and this test is not the result of current world events.

<https://www.af.mil/News/Article-Display/Article/3367837/minuteman-iii-test-launch-showcases-readiness-of-us-nuclear-forces-safe-effecti/>

US warns Russia not to touch American nuclear technology at Ukrainian nuclear plant

CNN, April 19, 2023

The US has sensitive nuclear technology at a nuclear power plant inside Ukraine and is warning Russia not to touch it, according to a letter the US Department of Energy sent to Russia's state-owned nuclear energy firm Rosatom last month. In the letter, which was reviewed by CNN and is dated March 17, 2023, the director of the Energy Department's Office of Nonproliferation Policy, Andrea Ferkile, tells Rosatom's director general that the Zaporizhzhia Nuclear Power Plant in

Enerhodar “contains US-origin nuclear technical data that is export-controlled by the United States Government.” Goods, software and technology are subject to US export controls when it is possible for them to be used in a way that undermines US national security interests.

<https://edition.cnn.com/2023/04/18/politics/us-warns-russia-zaporizhzhia-nuclear-plant/index.html>

Russia says it doesn't need US fuel for Zaporizhzhia

World Nuclear News, April 20, 2023

Russia will switch the occupied Zaporizhzhia nuclear power plant back from US-made nuclear fuel as soon as possible, according to reported comments from Renat Karchaa, an adviser to Rosenergoatom's CEO. It follows a CNN report that the US Department of Energy had sent a letter saying that the occupied plant in Ukraine “contains US-origin nuclear technical data that is export-controlled by the United States Government”. According to the CNN report the US DOE letter says: “It is unlawful under United States law for non-authorized persons, including, but not limited to, Russian citizens and Russian entities, such as Rosatom and its subsidiaries, to knowingly and willfully access, possess, control, export, store, seize, review, re-export, ship, transfer, copy, manipulate such technology or technical data, or direct, or authorise others to do the same, without such Russian entities becoming authorised recipients by the Secretary of the US Department of Energy.”

<https://world-nuclear-news.org/Articles/Rosatom-ready-to-discuss-non-proliferation-and-exp>

Company Seeks First-Time Restart of Shuttered Nuclear Plant

US News, April 26, 2023

A company that tears down closed nuclear power plants wants to do in Michigan what has never been done in the U.S.: restore a dead one to life. Holtec Decommissioning International bought the Palisades Nuclear

Generating Station last June for the stated purpose of dismantling it, weeks after previous owner Entergy shut it down. Fuel was removed from the reactor core. Federal regulators were notified of “permanent cessation of power operations.” But with support from Democratic Gov. Gretchen Whitmer and leaders in the Lake Michigan community where Palisades was an economic driver for 50 years, Holtec soon kicked off a campaign to bring the plant back. The 800 megawatt facility had generated roughly 5% of the state's electricity.

<https://www.usnews.com/news/us/articles/2023-04-26/company-seeks-first-time-restart-of-shuttered-nuclear-plant>

US and South Korea agree key nuclear weapons deal

BBC News, April 27, 2023

Washington has agreed to periodically deploy US nuclear-armed submarines to South Korea and involve Seoul in its nuclear planning operations.

In return, South Korea has agreed to not develop its own nuclear weapons.

The Washington Declaration will strengthen the allies' co-operation in deterring a North Korean attack, US President Joe Biden said.

Concern has been rising on both sides about the nuclear threat posed by North Korea. Pyongyang is developing tactical nuclear weapons that can target South Korea, and refining its long-range weapons that can reach the US mainland.

<https://www.bbc.com/news/world-us-canada-65404805>

Biden, Yoon warn N. Korea on nukes, unveil deterrence plan

AP News, April 27, 2023

President Joe Biden and South Korea's Yoon Suk Yeol unveiled a new plan Wednesday to counter North Korea's nuclear threat, with the U.S. leader issuing

a blunt warning that such an attack would “result in the end of whatever regime” took such action.

The new nuclear deterrence effort calls for periodically docking U.S. nuclear-armed submarines in South Korea for the first time in decades, bolstering training between the two countries, and more. The declaration was unveiled as Biden hosted Yoon for a state visit at a moment of heightened anxiety over an increased pace of ballistic missile tests by North Korea. “A nuclear attack by North Korea against the United States or its allies and partners is unacceptable, and will result in the end of whatever regime were to take such an action,” Biden said during afternoon Rose Garden news conference with Yoon.

<https://apnews.com/article/biden-yoon-south-korea-nuclear-submarines-agreement-8f1e003990cb434afa0980707e471396>

West Asia

I. Iran

IRGC test-fires new domestic anti-tank missile

Tehran Times, April 16, 2023

In an effort to create cutting-edge military hardware, the Islamic Revolution Guards Corps (IRGC) Ground Force has effectively test-launched a new domestic top attack anti-tank missile. General Ali Kouhestani, the head of the IRGC Ground Force’s Research and Self-Sufficiency Jihad Organization, announced on Saturday that the Sadid-365 anti-tank missile, which has an 8-kilometer range and can destroy a variety of armored vehicles, is a noteworthy military development. He pointed out that the optically guided missile, designed and produced locally, has a high degree of pinpoint precision. The weapon is intended to engage targets from above using plunging fire, and can even pierce the active protection system (APS) of tanks and obliterate them, Kouhestani explained.

<https://www.tehrantimes.com/news/483729/IRGC-test-fires-new-domestic-anti-tank-missile>

N. Chief: Iran Working on Manufacturing 2 New Radiopharmaceuticals

Fars News Agency, April 19, 2023

Head of the Atomic Energy Organization of Iran (AEOI) Mohammad Eslami lauded the country’s remarkable achievements in the field of nuclear medicine, and said that the country is seeking to pass the clinical trial phase of two new types of radiopharmaceuticals in the current Persian year. Commenting on the development of radiopharmaceuticals inside Iran, Eslami stated that 67 such medicinal items were in distribution at 210 medical centers and hospitals across the country. He told reporters after a cabinet meeting on Wednesday that one million cancer patients had used radiopharmaceuticals in Iran, and that work was underway to increase this capacity. “Two new radiopharmaceuticals were being developed in the current year,” he continued, adding that all such medication was being produced domestically.

<https://www.farsnews.ir/en/news/14020130000789/N-Chief-Iran-Wrking-n-Manfacring-2-New-Radipharmaceicals>

Senior Commander: Iran’s Anti-Sub Drones Come into Service

Fars News Agency, April 19, 2023

Commander of the Iranian Navy Rear Admiral Shahram Irani said that the country’s navy has manufactured unmanned aerial vehicles which enjoy advanced technologies to hunt hostile submarines. Rear Admiral Irani stated that his force has employed new drones designed and built domestically to detect and destroy hostile vessels and submarines. He noted that the drone uses a homegrown sonar system and other homemade-developed equipment to stalk and hunt submarines. The commander added that the new unmanned aerial vehicle is currently in service in the Iranian Navy.

<https://www.farsnews.ir/en/news/14020130000181/Senir-Cmmmander-Iran's-Ani-Sb-Drnes-Cme-in-Service>

Iran has never left negotiating table: Raisi

Tehran Times, April 19, 2023

President Ayatollah Ebrahim Raisi has said that Iran has never left the negotiating table to revive the JCPOA – the 2015 nuclear deal – but it sought to neutralize economic sanctions. Speaking on Tuesday evening in a cordial meeting with clerics, Friday prayer imams and groups and young elites of seminary students, Raisi said the government is determined to solve the problems with a plan and relying on the internal power, the will of the nation, the blood of the martyrs and the considerable increase and strong presence of the people in the Feb. 11 demonstrations and Quds Day this year as the elements of production of power for the country, according to a readout by the official website of the Iranian presidency.

<https://www.tehrantimes.com/news/483875/Iran-has-never-left-negotiating-table-Raisi>

Iranian Army's Ground Force Receives New Defense Equipment

Fars News Agency, April 19, 2023

Iranian Army's Ground Force Commander Brigadier General Kioumars Heidari voiced Iran's full-preparedness to confront enemy's threats, and announced that his force has received over 1,000 pieces of new equipment. Brigadier General Heidari made the remarks on the sidelines of the parade marking Iran's Army Day on Tuesday. "We have received some 1,084 new pieces of defense equipment," he said.

Referring to the profound changes created in the structure of the Iranian Army over the past few years, General Heidari underlined that the Iranian Army's ground force has evolved into a dynamic force that benefits from new capabilities, including long-range, precision-guided, smart, and network-oriented equipment.

<https://www.farsnews.ir/en/news/14020130000530/Iranian-Army's-Grnd-Frce-Receives-New-Defense-Eipmen>

Iran's Army Receives Over 200 Strategic Drones for Various Missions

Fars News Agency, April 20, 2023

The Iranian Army took delivery of more than 200 domestically-manufactured strategic drones which have been designed to carry out a broad range of missions, including reconnaissance, surveillance and aerial combat operations against moving and fixed targets.

Mass delivery of the new strategic, sea-based and vertical launch drones took place in a ceremony in some parts of the country on Thursday in the presence of top military brass, including Chief Commander of the Army Major General Abdolrahim Mousavi, Defense Minister Brigadier General Mohammad Reza Ashtiani, and Deputy of Chief of Staff for the Armed Forces Brigadier General Aziz Nasirzadeh.

The new anti-radar drones have different missions of reconnaissance, destruction, combat reconnaissance, aerial interception, and hitting mobile and fixed targets with a low radar cross-section.

<https://www.farsnews.ir/en/news/14020131000394/Iran's-Army-Receives-Over-200-Sraegic-Drnes-fr-Varis-Missins>

Iran Warns Off US Nuclear-Powered Submarine in Strait of Hormuz

Fars News Agency, April 20, 2023

Commander of the Iranian Navy Rear Admiral Shahram Irani said that the country's naval forces have detected and warned off an American nuclear-powered guided-missile submarine as the seagoing vessel was sailing to cross the Hormuz Strait in stealth mode.

Rear Admiral Irani stated on Thursday that the naval forces detected the US submarine, Florida, as it entered the strategic region.

“The US submarine was approaching the Strait of Hormuz while submerged, but the domestically-manufactured Iranian submarine, Fateh, detected it and carried out... maneuvers to force it to surface and cross the Strait [of Hormuz] on the surface,” the senior commander explained.

<https://www.farsnews.ir/en/news/14020131000549/Iran-Warns-Off-US-Nuclear-Powered-Submarine-in-Srai-f-Hrmz>

Defense official says foreigners willing to buy Iranian-made drones

Tehran Times, April 24, 2023

The head of the Iran Aviation Industries Organization (IAIO) has emphasized the nation’s independence in producing military hardware, particularly drones, and said that several nations are interested in buying Iranian defense items. Brigadier General Afshin Khajeh Fard praised the advancements made in the field of creating manned drones and unmanned aerial vehicles (UAVs) with fixed and moveable wings during a Monday speech at the AJA University of Command and Staff. “We first wanted to buy military equipment, but we were unable to do so because of Western sanctions. But now, we are able to accept a lot of requests from many nations for the purchase of our defense equipment and collaboration,” he stated.

<https://www.tehrantimes.com/news/483954/Defense-official-says-foreigners-willing-to-buy-Iranian-made>

Hostile Aircraft Systems Hacked as Attempting to Intrude Iran’s Airspace

Fars News Agency, April 24, 2023

CEO of Iranian Defense Ministry’s Electronics Industries Rear Admiral Amir Rastegari said that the country has managed to hack the control systems of three spy aircraft near the Iranian air border, forcing the hostile planes to leave the area. “Some time ago, a hostile aircraft moved across our FIR [Flight Information Region] and started emitting waves to gather data. We disrupted the activity of the plane,” Rear Admiral

Rastegari said in an interview with Tasnim news agency. “The pilot of the plane thought that his system was malfunctioning; so he called the base and informed them that the aircraft system had a problem and he will return; We have recorded their conversations,” he stated. “The next day, two other planes flew and started spying; this time we disrupted both of them as we have achieved the technology at that bandwidth,” the official added.

<https://www.farsnews.ir/en/news/14020204000493/Hsile-Aircraf-Systems-Hacked-as-Aemping-Inrde-Iran’s-Airspace>

New Fateh-class submarines to join Iranian Navy fleet

Tehran Times, April 26, 2023

Two new models of domestically produced Fateh-class submarines will soon join the Iranian Navy fleet, Navy Commander Rear Admiral Shahram Irani said on Tuesday, highlighting the Iranian Army’s most recent accomplishments and efforts to fortify its naval forces. The admiral also said that the submarines will soon be included into the nation’s naval fleet. Referring to the new characteristics and capabilities of the new submarines, Fateh-2 and Fateh-3, Irani went on to say, “Today, they are equipped with dual-purpose and home-made torpedoes, and all their test launches have been successful.” In other parts of his remarks, Irani stated that the Navy will soon inform Iranians of an extremely good news on a “unique achievement”.

<https://www.tehrantimes.com/news/484043/New-Fateh-class-submarines-to-join-Iranian-Navy-fleet>

Iran Unveils 1st Indigenous Drone Flight Simulator

Fars News Agency, April 27, 2023

The Iranian Army showcased the first domestically-manufactured flight simulator system, compatible with various types of Unmanned Aerial Vehicles (UAVs), during a ceremony participated

by Iranian Army's Ground Force Commander Brigadier General Kioumars Heidari. At the event which was attended by Iran's Army commanders and drone experts, Brigadier General Heidari said, "Today, drones play an important and decisive role in promoting defensive and combat power of militaries, and it is a very valuable industry." The military official stated that the Iranian Army's Ground Forces have reached a desirable position in the manufacturing UAVs, adding, "All the country's borders where the ground forces are deployed are monitored and controlled with reconnaissance drones."

<https://www.farsnews.ir/en/news/14020207000198/Iran-Unveils-s-Indigens-Drne-Fligh-Similar>

U.S. Arms Warplanes With 'Bunker Busting' Bombs in Message to Iran

The Wall Street Journal, April 28, 2023

The U.S. military is for the first time putting 250-pound "bunker busting" bombs on attack aircraft recently sent to the Middle East, American officials said, in the latest move to deter Iran. The decision to put more powerful weapons on a squadron of A-10 Warthogs was designed to give pilots a greater chance of success in destroying ammunition bunkers and other entrenched targets in Iraq and Syria, where U.S. forces have been repeatedly targeted by Iran-backed fighters, the officials said. The move marks the first time that the U.S. military will put these precision-guided weapons on board the Warthogs, which were recently refitted so that they could each carry up to 16 bunker busters, known formally as GBU-39/B bombs.

<https://www.wsj.com/articles/u-s-arms-warplanes-with-bunker-busting-bombs-in-message-to-iran-ba1ecb08>

Iran Declares Readiness to Expand Military Exercises with China

Fars News Agency, April 29, 2023

Iranian Defense Minister Brigadier General Mohammad Reza Ashtiani voiced his country's readiness to expand joint

wargames with China in a bid to further develop the two countries' strategic relations and counter the West's unilateralism. Brig. Gen. Ashtiani made the remark in a meeting on Saturday with his Chinese counterpart Li Shangfu on the sidelines of a Shanghai Cooperation Organization (SCO) summit in the Indian capital of New Delhi. The Iranian minister stressed that the SCO has turned into an influential organization in global developments, adding that the expansion and consolidation of the organization is an effective step towards promoting multilateralism in the international arena.

<https://www.farsnews.ir/en/news/14020209000487/Iran-Declares-Readiness-Expand-Military-Exercises-wih-China>

J. Israel

Philippine Navy receives two Israeli-made Shaldag MKV patrol ships

Israel Defense, April 17, 2023

The Philippine Navy (PN) confirmed that two more brand-new fast attack interdiction-missile Shaldag Mark 5 ships - designated FAIC-M in the Philippine Navy - were delivered to the Philippine. Set for christening in May, these Shaldag Mark 5 ships will soon join the Acero-class patrol gunboats along with frontrunners BRP Nestor Acero (PG-901) and BRP Lolinato To-ong (PG-902) which were commissioned late last year. According the Philippine News Agency, five more are expected to be delivered within the next two years. The scope of the entire project is about \$195 million.

<https://www.israeldefense.co.il/en/node/57891>

British Army orders Carl-Gustaf M4 weapon systems

Israel Defense, April 17, 2023

The British Defense Equipment & Support (DE&S) placed a \$5.7 million order with Saab for a delivery of Carl-Gustaf M4s, plus a package of ammunition and training to the British Army. The new

systems will replace the anti-structure munitions, that the UK had sent to support Ukraine against the Russian invasion last year. The Carl-Gustaf was first adopted by the British Army towards the end of the 1960s in its M2 variant, referred to in the UK as "Mark 2", as an infantry anti-tank capability.

<https://www.israeldefense.co.il/en/node/57892>

Aeronautics to supply Greece with dozens of advanced Orbiter 3 tactical UAV systems

Israel Defense, April 18, 2023

Aeronautics, an Israeli designer, developer and manufacturer of Unmanned Aerial Systems (UAS) for global defense and HLS markets, announced a contract to supply dozens of its Orbiter 3 systems to the Greek Ministry of Defense. The agreement is part of the large contract between the Israeli and Greek Ministry of Defense, worth approximately •370 million, for the procurement of Rafael's Spike missiles. While the Orbiter 3 systems detect, recognize and identify (DRI) the target, the Spike missiles, launched from the air, sea, or land can rapidly close the sensor-to-shooter loop, using the "Fire Weaver" C4I system. The rapid Sensor to Shooter process implementing advanced technologies, enables mission success.

<https://www.israeldefense.co.il/en/node/57908>

Elbit awarded \$102 million contract to supply int'l customer with artillery systems

Israel Defense, April 19, 2023

Elbit Systems announced that it was awarded a contract worth approximately \$102 million to supply artillery systems to an international customer. The contract will be performed over a period of eight years.

Under the contract Elbit Systems will supply a battalion's worth of ATMOS (Autonomous Truck Mounted Howitzer) 155mm/52 caliber truck-mounted howitzers systems. The ATMOS modular artillery system is a combat proven wheeled Howitzer solution,

capable of firing all NATO-certified 155mm projectiles that has an effective range of over 40km with standard projectiles and offers extended range with Rocket-Assisted Projectiles (RAP). The ATMOS is designed for rapid deployment and operation enabling provision of fire support for a broad range of missions.

<https://www.israeldefense.co.il/en/node/57922>

Netherlands to procure Israeli-made Rocket launchers

Israel Defense, April 20, 2023

The Netherlands is about to purchase artillery rocket systems from Israel. The Dutch Minister of Defense, Christoph van der Maat, confirmed that the Dutch army is going to be equipped with PULS (Precise and Universal Launching System) rocket launchers made by Elbit Land Systems. The minister did not disclose the value of the deal, but the Spanish website Infodefensa indicates that its value is estimated at over 0.5 billion euros. In his announcement, the Dutch minister explained that he has evaluated two systems that meet his requirements: the Himars and the PULS and concludes that the latter stands out in several areas. Compared to the American Himars system, it can carry more missiles, it also makes it possible to buy more rockets with the same budget and they can also be available sooner. And to all this he adds that the PULS will be suitable for ammunition from European manufacturers in the future.

<https://www.israeldefense.co.il/en/node/57934>

Elbit to supply intelligence, EW aircraft to int'l customer in \$100 million deal

Israel Defense, April 23, 2023

Elbit Systems announced that it was awarded a follow-on contract worth approximately \$100 million to convert commercial aircraft into Intelligence and Electronic Warfare (EW) aircraft for an international customer. The contract will be performed over a period of three years.

As part of the contract, Elbit Systems will equip the aircraft with advanced Intelligence Mission Suite and EW capabilities. This solution will provide a comprehensive operational picture of the arena generated by SIGINT and Electro-Optics VISINT sensors and systems as well as the capability to activate Electronic Counter Measures against a range of threats. The aircraft will also be equipped with Immune Satellite Navigation Systems (ISNS) and an advanced self-protection solution.

<https://www.israeldefense.co.il/en/node/57957>

Raytheon Wins \$237 million counter-UAS US Army contract

Israel Defense, April 25, 2023

American Raytheon Technologies announced last week that it was awarded a \$237 million U.S. Army contract for Ku-band Radio Frequency Sensors (KuRFS) and Coyote effectors to detect and defeat unmanned aircraft. The contract includes a combination of fixed-site and mobile systems as well as a quantity of effectors, designated to support the Army's U.S. Central Command operations. As part of the U.S. Army's Low, slow, small-unmanned aircraft Integrated Defeat System, called LIDS, KuRFS provides advanced 360-degree threat detection, while Coyote low-cost effectors defeat drones.

<https://www.israeldefense.co.il/en/node/57978>

SCD launches SWIR detector for defense applications

Israel Defense, April 25, 2023

SCD, an Israeli developer and manufacturer of cooled and uncooled infrared detectors and high-power laser diodes, announces the launch of its latest product, the SWIFT-EI. This SWIR detector is designed as a very low Size Weight and Power (SWaP) and low-cost VGA format 10-micron pitch SWIR detector. According to SCD, The SWIFT-EI is the world's first SWIR detector integrating event-based imaging capabilities, making it a revolutionary addition to the defense and industrial sectors. Its advanced FPA level detection capabilities enable tactical forces

to detect multiple laser sources, laser-spots, Hostile Fire Indication (HFI), and much more. Its state-of-the-art ROIC imager technology offers two parallel video channels in one sensor - a standard imaging SWIR video channel, and a very high frame event imaging channel.

<https://www.israeldefense.co.il/en/node/57979>

Sierra Nevada Corporation, BIRD Aerosystems enter airborne missile protection system agreement

Israel Defense, April 25, 2023

Sierra Nevada Corporation (SNC) announced an agreement with BIRD Aerosystems to jointly offer the full spectrum of BIRD Airborne Missile Protection Systems (AMPS) to a wide range of domestic and international customers. Leveraging SNC's mission system integration capabilities together with BIRD Aerosystems' AMPS technology allows the companies to maximize opportunities to safeguard the warfighter across a wide range of military and civil aircraft. As part of the agreement, SNC will manufacture AMPS in the United States. Together, the companies intend to pursue U.S. Department of Defense markets, foreign military sales to U.S. allied nations and various international commercial markets.

<https://www.israeldefense.co.il/en/node/57980>

Elbit signs \$100 million follow-on contract with Israeli Ministry of National Security

Israel Defense, April 30, 2023

Elbit Systems announced today that it has signed a follow-on contract worth approximately \$100 million to provide aerial firefighting services to the Israeli Ministry of National Security. The contract will be carried out over a period of eight years. As part of the contract, Elbit Systems will continue to provide aerial firefighting services in Israel to the Ministry of National Security through a

fleet of 14 aircraft, as well as additional operational services including ongoing maintenance of the aircraft and their preparation for flights. The squadron will be operated under the guidance of the Israeli Police and in accordance with the operational needs determined in coordination with the Fire and Rescue Authority.

<https://www.israeldefense.co.il/en/node/58019>

K. Türkiye

Türkiye's uncrewed fighter jet Kızılirmela conducts 4th test flight

Daily Sabah, April 16, 2023

Türkiye's unmanned fighter jet, the Bayraktar Kızılirmela, completed its fourth test, the System Identification Test, a high-ranking official from the developing company said Saturday. Selçuk Bayraktar, Baykar chairperson and chief technology officer (CTO), shared the update on his Twitter account with video footage. The Bayraktar Kızılirmela will be showcased at the major technology event Teknofest, which will be held this year in Istanbul from April 27 to May 1. Having completed its maiden flight in December last year, the fast drone fighter jet, Kızılirmela, marks a significant expansion of capabilities for slow-moving reconnaissance and missile-carrying drones.

<https://www.dailysabah.com/business/defense/turkiyes-uncrewed-fighter-jet-kizilirmela-conducts-4th-test-flight>

White House notifies Congress on F-16 equipment sale to Türkiye

Daily Sabah, April 17, 2023

U.S. President Joe Biden's administration officially notified Congress Monday about the planned sale to Türkiye of avionics software upgrades for its current fleet of F-16 fighter aircraft. Valued at \$259 million (TL 5.02 billion), the deal will move ahead with the sale of the modernization package for Türkiye's aircraft, after leaders of U.S. congressional committees gave informal approval. A larger agreement, NATO member Türkiye's request to buy billions of

dollars worth of F-16s, remains uncertain amid ongoing opposition in Congress. If Congress clears it during the formal approval process, the package would be the first major military sale to Türkiye that Congress has approved for years.

<https://www.dailysabah.com/business/defense/white-house-notifies-congress-on-f-16-equipment-sale-to-turkiye>

National utility chopper takes flight with 1st Türkiye-built engine

Daily Sabah, April 22, 2023

Developed within the scope of the contract signed between the Presidency of Defense Industries (SSB) and Turkish Aerospace Industries (TUSA^a), the T625 Gökbey Helicopter on Saturday successfully completed its first test flight with the Türkiye-developed TS1400 Turboshaft Engine produced by TUSA^a Engine Industries (TEI). Testing and certification activities of the T625 Gökbey Utility Helicopter, which is an indigenous project of TUSA^a, have continued successfully. The helicopter, whose mass production continues and three of which will be delivered to the Gendarmerie General Command in 2023, is set to be able to perform transport, cargo, air ambulance, search and rescue, and offshore transport duties thanks to its wide range of mission capabilities.

<https://www.dailysabah.com/business/defense/national-utility-chopper-takes-flight-with-1st-turkiye-built-engine>

Türkiye's largest warship sets sail after public unveiling

Daily Sabah April 23, 2023

Türkiye's recently commissioned, long-anticipated largest warship sailed through the Bosphorus on Sunday as it headed for the Black Sea. The TCG Anadolu rendered a 21-gun salute in honor of President Recep Tayyip Erdoğan as the citizens along the coast of Istanbul closely followed its passage. Türkiye's first amphibious assault ship departed the port of Sarayburnu,

where the vessel was opened to the public, and sailed past Dolmabahçe Palace. On the palace's shore, Erdoğan and first lady Emine Erdoğan were accompanied by children from Türkiye's southern quake-hit provinces to see off the TCG Anadolu. Addressing the ship's crew, Erdoğan said they are eager to build an even larger vessel in the coming period.

<https://www.dailysabah.com/business/defense/turkiyes-largest-warship-sets-sail-after-public-unveiling>

Turkish army gets revamped indigenous main battle tank for trials

Daily Sabah, April 24, 2023

Türkiye's army has received what officials dub one of the most modern main battle tanks in the world that will undergo testing in the period ahead before the country launches its mass production and deliveries.

Two long-anticipated domestically built Altay tanks were delivered to the Turkish Armed Forces (TSK) on Sunday in a ceremony led by President Recep Tayyip Erdoğan, who praised Türkiye's current capability of meeting almost all of its land vehicle needs with domestic resources. The final trials of the Altay tank are expected to be completed within 2024. Its mass production will be launched in 2025, and South Korean-made power packs will power the first tanks.

<https://www.dailysabah.com/business/defense/turkish-army-gets-revamped-indigenous-main-battle-tank-for-trials>

Türkiye's homegrown 5th-gen light attack jet makes maiden flight

Daily Sabah, April 25, 2023

Türkiye's first domestically produced jet-powered training and light attack aircraft, Hürjet, successfully completed its inaugural flight on Tuesday. Developed by Turkish Aerospace Industries (TAI), the Hürjet initially started its engine in February. Featuring a single-engine, tandem cockpit and modern avionics suite, the Hürjet is

expected to play a critical role in the Turkish Air Forces Command's inventory, leveraging its superior performance features. The Hürjet project aims to design, manufacture, and complete qualification and certification activities for the new generation jet trainer by the end of 2025.

<https://www.dailysabah.com/business/defense/turkiyes-homegrown-5th-gen-light-attack-jet-makes-maiden-flight>

Turkish unmanned jet Kızılelma, drone Akıncı conduct formation flight

Daily Sabah, April 25, 2023

Türkiye's homegrown unmanned fighter aircraft, Bayraktar Kızılelma, has achieved another milestone in its flight test campaign. According to a statement by the developing company, Baykar, the campaign is progressing as planned. During the ninth and 10th flight tests at the Akıncı Flight Training and Test Center in the Çorlu district of northwestern Tekirdağ province, Bayraktar Kızılelma, the country's first unmanned fighter jet, successfully conducted a formation flight with Baykar's Bayraktar Akıncı unmanned combat aerial vehicle (UCAV). This marks the first time that two unmanned aerial vehicles have flown together in formation.

<https://www.dailysabah.com/business/defense/turkish-unmanned-jet-kizilelma-drone-akinci-conduct-formation-flight>

Romania grants \$321M contract to buy Turkish TB2 combat drones

Daily Sabah, April 26, 2023

Romania's Ministry of National Defense has granted a contract worth \$321 million to Turkish drone magnate Baykar, to purchase Bayraktar TB2 unmanned combat aerial vehicles (UCAVs), according to the recently published official document. The official contract award notice was published on the Tenders Electronic Daily website, an online version of the Supplement to the Official Journal of the European Union. Haluk Bayraktar,

general manager at Baykar also confirmed the contract, saying that Romania, “which has long-standing friendship and strong ties based on mutual trust,” has joined the list of countries that have taken the high-tech Bayraktar TB2 UCAV into its inventory.

<https://www.dailysabah.com/business/defense/romania-grants-321m-contract-to-buy-turkish-tb2-combat-drones>

Türkiye’s 1st flying-wing, deep-strike stealth drone gets on runway

Daily Sabah, April 26, 2023

Turkish combat drone Anka-3, with its “flying-wing” structure enabling low radar visibility, high-speed transfer capability, and high payload, got on the runway and is counting the days until its maiden flight. Developed by the Turkish Aerospace Industries (TAI), the first footage of the Anka-3 unmanned fighter drone was captured by Anadolu Agency (AA). Anka-3, which has no tail surface, has great advantages, Bülent Körkem, the unmanned aerial vehicles engineering director at TAI, told AA. “One of the advantages of its design and the most important one is low radar visibility. Because the aircraft has neither horizontal nor vertical tails, the visibility decreases considerably. With some extra measures, it is possible to further reduce the visibility,” Körkem said.

<https://www.dailysabah.com/business/defense/turkiyes-1st-flying-wing-deep-strike-stealth-drone-gets-on-runway>

Turkish arms pioneer CANiK buys British defense firm AEI Systems

Daily Sabah, April 27, 2023

Turkish pioneering gun maker CANiK announced Thursday it had completed a purchase of well-established British defense company AEI Systems, in a move that promises to make Türkiye a major player in manufacturing medium-caliber weapons. The merger of CANiK’s new-generation technology-backed high production capacity and AEI Systems’ 60-year knowledge of medium-caliber weapons was announced at a reception at the Consulate

General of the United Kingdom in Istanbul. The synergy will see cannons, which will be produced in high quantities both in the U.K. and Türkiye, be offered on remote-controlled weapon systems to the service of land, air and sea platforms of all friendly and allied countries, a statement by CANiK said.

<https://www.dailysabah.com/business/defense/turkish-arms-pioneer-canik-buys-british-defense-firm-aei-systems>

Aliyev hopes to see Turkish jet Kızılirmal in Azerbaijan skies

Daily Sabah, April 29, 2023

Azerbaijan President Ilham Aliyev attended Teknofest, the world’s largest aviation, space and technology festival in Istanbul, on Saturday with President Recep Tayyip Erdoğan, as he said that he hoped to see Türkiye’s homegrown unmanned fighter aircraft, Bayraktar Kızılirmal, in Azerbaijan skies as well. President Aliyev stated that Türkiye was the guarantor of peace, stability and security in the region. “Kızılirmal in the air, Altay and Togg here, Anadolu in the sea... This is Türkiye today,” he said. Emphasizing that Türkiye and Azerbaijan were close allies, Aliyev stated that Türkiye played a very important role in the unification of the great Turkic world. Aliyev said that the Turkish world has a great geography, potential and natural resources.

<https://www.dailysabah.com/business/defense/aliyev-hopes-to-see-turkish-jet-kizilirmal-in-azerbaijan-skies>

Physical start-up of first unit of Akkuyu NPP scheduled for next year – Rosatom CEO

TASS, April 27, 2023

The physical start-up of the first power generating unit of the Akkuyu nuclear power plant is scheduled for next year, Alexey Likhachev, Director General of Russian nuclear corporation Rosatom, told reporters on Thursday.

“We plan to carry out a physical start-up next year, bring the reactor to the minimum controllable power level in order to generate electricity steadily in 2025,” he said. The Akkuyu NPP is the first nuclear power plant to be built in Turkey. The project is being implemented in accordance with the inter-governmental agreement signed by Russia and Turkey in 2010. The power plant will include four Russian-designed VVER generation 3+ reactors.

<https://tass.com/science/1610655>

East Asia

L. North Korea

As Democratic People’s Republic of Korea Increases Missile Launches, Inaction Has Left Pyongyang Unconstrained, Senior Official Tells Security Council

United Nations, April 17, 2023

While a senior United Nations official today outlined the dangers posed by the Democratic People’s Republic of Korea’s latest missile launch, Security Council members disagreed on the path forward and whether it should include more sanctions.

Briefing the 15-member organ, Khaled Khiari, Assistant Secretary-General for Middle East, Asia and the Pacific in the Departments of Political and Peacebuilding Affairs and Peace Operations, drew attention to Pyongyang’s launch of a long-range solid-fuel intercontinental ballistic missile on 13 April. Noting that solid-propellant missiles do not need to undergo fuelling prior to launch and can thus be launched very quickly, he said this makes it more difficult to detect the preparation of a launch in a timely manner.

<https://press.un.org/en/2023/sc15260.doc.htm>

G7 nations regret DPRK’s refusal to take action towards denuclearization – statement

TASS, April 17, 2023

The Group of Seven (G7) countries believe that North Korea is developing its nuclear

capabilities unlawfully, and regrets the lack of action towards denuclearization on Pyongyang’s part, said a statement of the G7 Non-Proliferation Directors Group on Monday.

“The DPRK’s development of nuclear weapons and ballistic missiles poses a clear and serious challenge to the international community and is blatant violations of multiple UNSCRs. Its missile launches also pose an unacceptable risk to civil aviation operating in the Pyongyang Flight Information Region and could endanger civil aviation and maritime operations transiting the region,” the statement said.

<https://tass.com/defense/1605453>

US nuke threats against North Korea reach new level – North Korean official

TASS, April 17, 2023

North Korea condemns the United States and its allies’ plans to call a United Nations Security Council meeting on North Korea’s missile launches and notes that Washington’s nuclear threats against Pyongyang have reached a new level, Ri Pyong Chol, member of the Presidium of the Political Bureau of the Central Committee of the Workers’ Party of Korea, said on Monday.

“The United States and its allies are again seeking to use force to call a UN Security Council meeting to question our self-defense measures and the strengthening of our defense capabilities. I see the US is seeking to challenge our natural right to self-defense. North Korea’s efforts to develop new strategic weapons are a legitimate measure to enhance self-defense against the growing military threat from the US,” he said in a statement released by the Korean Central News Agency.

<https://tass.com/defense/1605483>

US, Allies Stage Drills as N. Korea Warns of Security Crisis

VOA News, April 17, 2023

The United States, South Korea and Japan conducted a joint missile defense exercise

Monday aimed at countering North Korea's growing nuclear arsenal, as a top North Korean army official warned the U.S. that it risks "a clearer security crisis and insurmountable threats." Last week, North Korea conducted one of its most provocative weapons demonstrations in years by flight-testing for the first time an intercontinental ballistic missile powered by solid fuel. It is considered a more mobile, harder-to-detect weapon and could directly target the continental United States. South Korea's navy said Monday's three-way drills took place in international waters off the country's eastern coast and focused on mastering procedures for detecting, tracking and sharing information on incoming North Korean ballistic missiles. The one-day naval exercise involved an Aegis destroyer from each country.

<https://www.voanews.com/a/us-allies-stage-drills-as-n-korea-warns-of-security-crisis-/7054447.html>

US has nuclear warheads 'pointed right at' North Korea

Sky News Australia, April 28, 2023

The meeting between South Korea President Yoon Suk Yeol and US President Joe Biden is a "particular statement of intent of deterrence" to North Korea President Kim Jong Un, says Sky News US contributor Michael Ware.

"North Korea lives in a world where it knows that it will face retaliation if it launches any kind of a significant strike," Mr Ware told Sky News Australia.

"Now, will that slow down the North Korean missile testing - which is happening at a rapid pace at the moment, I mean, it's almost stock becoming news when North Korea tests a new missile.

<https://www.skynews.com.au/world-news/united-states/us-has-nuclear-warheads-pointed-right-at-north-korea/video/badc2f7075ac1057afb6f686cc040dc8>

M. South Korea

South Korea's Nuclear Options

Foreign Affairs, April 19, 2023

In January, the U.S.-South Korean alliance was rocked by President Yoon Suk-yeol's surprising suggestion: his country, a law-abiding member of the international system and a key U.S. ally, might need its own nuclear deterrent. In the United States, many foreign policy experts were aghast. A South Korean nuclear arsenal was unnecessary, they argued, because Seoul enjoys U.S. protection. Moreover, a South Korean nuclear program would violate the Nuclear Nonproliferation Treaty (NPT), destabilize East Asia, and expose South Korea to crippling economic sanctions.

Top of Form

Bottom of Form

<https://www.foreignaffairs.com/united-states/south-koreas-nuclear-options-north-korea-deterrence>

Biden to unveil new efforts to protect South Korea from nukes

The Hindu, April 25, 2023

President Joe Biden will use this week's celebratory state visit by South Korean President Yoon Suk Yeol to underscore that the U.S. is ready to step up its efforts to deter a North Korean attack on South Korea, according to senior administration officials. Mr. Biden will announce specific new nuclear deterrence efforts as well as a new cyber security initiative, economic investments and an educational partnership, part of an effort to highlight the "breadth and depth" of the two countries' relationship as they mark the 70th anniversary of their alliance, according to two officials who requested anonymity to discuss planning for Mr. Yoon's visit.

<https://www.thehindu.com/news/international/biden-to-unveil-new-efforts-to-protect-south-korea-from-nukes/article66775320.ece>

N. Japan

Pacific Islands' Rejection of Japan's Radioactive Wastewater Disposal Plan Gains Support

VOA News, April 20, 2023

Pacific Island nations are pushing back against Japan's request to release into the ocean treated radioactive wastewater from the Fukushima Daiichi nuclear power plant, which was disabled in an accident 12 years ago. During the Group of Seven environment ministers meeting this month, the Islanders' effort gained momentum.

<https://www.voanews.com/a/pacific-islands-rejection-of-japan-s-radioactive-wastewater-disposal-plan-gains-support-7059563.html>

Japan puts military on alert fearing North Korean missile

WION, April 23, 2023

Japan ordered its military Saturday to prepare to shoot down a North Korean ballistic missile after Pyongyang said this week it was ready to launch its first military spy satellite. Placing the satellite into orbit would require a long-range projectile, which North Korea is banned from launching because the United Nations views such exercises as tests of ballistic missile technology.

<https://www.wionews.com/world/japan-puts-military-on-alert-fearing-north-korean-missile-585189>

Japan hopes to start discharging Fukushima nuclear wastewater in July

CGTN, April 23, 2023

Japan is hoping to start discharging radioactive waste water from its destroyed Fukushima nuclear plant into the ocean in July. Tokyo Electric Power Company (TEPCO) told Kyoto News on Saturday that the excavator is near the exit of the tunnel located one-kilometer offshore. The 1,030-meter tunnel is used to discharge the treated water stored in the Fukushima Daiichi Nuclear Power Plant into the sea. As long

as 1,017 meters of the tunnel have been excavated.

<https://news.cgtn.com/news/2023-04-23/Japan-hopes-to-start-discharging-Fukushima-nuclear-wastewater-in-July-1jfbTfpbNoy/index.html>

O. Australia

Canada, France, Japan, UK and US form nuclear power alliance

Power Technology, April 17, 2023

Canada, France, Japan, the UK and the US have announced an alliance to develop shared supply chains for nuclear power.

According to the UK government, the new agreement seeks to “displace [Russian leader Vladimir] Putin from the international nuclear energy market”.

The alliance was formed on Sunday as part of the Nuclear Energy Forum, at G7 talks in Sapporo, Japan. The nations will use their civil nuclear power stations to undermine the influence that Russia has on nuclear supply chains. According to a joint statement from the five countries, they have “identified potential areas of collaboration on nuclear fuels to support the stable supply of fuels for the operating reactor fleets of today, enable the development and deployment of fuels for the advanced reactors of tomorrow, and achieve reduced dependence on Russian supply chains”.

<https://www.power-technology.com/news/canada-france-japan-uk-us-nuclear-alliance/>

Australia prepares more assertive military stance to deter conflict

The Japan Times, April 22, 2023

Australia will outline its defense plans on Monday, and its leaders are previewing a more assertive posture — in which it can strike farther, faster — while working with midsize allies to reduce tensions as the United States and China square off. The Labor government of Anthony Albanese will lay out those proposals on Monday in response to a wide-ranging and secret

defense review of Australia's investment in modern military systems and logistics, and how they would fare in a sudden conflict. The review examined how Australia could better integrate with its AUKUS partners the United States and Britain, as well as other allies, the government has said. The AUKUS countries last month announced Australia would spend 368 billion Australian dollars on nuclear-powered submarines, and will jointly develop hypersonic weapons to catch up to China.

<https://www.japantimes.co.jp/news/2023/04/22/asia-pacific/australia-defense-review/>

Australian defence review plots pivot from armour to missiles

BBC, April 24, 2023

Australia will speed up efforts to buy longer range missiles to counter the growing threat from China, a major defence review says. It warns the country can no longer be protected by its geographic isolation in the "missile age". The government will spend some A\$19bn (\$12bn, £10bn) to deliver the report's immediate recommendations.

The 110-page study is described as the biggest overhaul of Australian defence since World War Two. The Defence Strategic Review (DSR) comes amid increasing regional tension over China's stance towards Taiwan, which it has repeatedly vowed to take by force if necessary. The Chinese navy has also established a major presence in the South China Sea, claiming parts of it as its own territory, contrary to international law.

<https://www.bbc.com/news/world-australia-65370284>

AUKUS Nuclear Submarine Cost Includes 50% Fund for Unexpected Overruns

U.S. News, April 27, 2023

Australia's defence minister said on Friday the government was being "upfront and transparent" about the cost of its AUKUS nuclear submarine programme, after an analysis showed the forecast A\$368 billion cost included a 50% contingency fund. The

Greens party, which commissioned the analysis by the Parliamentary Budget Office, said it showed the "huge" uncertainty over the project. U.S. President Joe Biden, Australia Prime Minister Anthony Albanese and British Prime Minister Rishi Sunak unveiled details in March of a plan to provide Australia with nuclear-powered attack submarines, a major step to counter China's ambitions in the Indo-Pacific.

<https://www.usnews.com/news/world/articles/2023-04-27/aukus-nuclear-submarine-cost-includes-50-fund-for-unexpected-overruns>

Contribute Articles

Indian Pugwash Society welcomes research articles from students, researchers and faculties on Space, Missile, nuclear technology, WMD proliferation, arms control, disarmament, export controls and other related issues. Articles should be crisply written and should address contemporary debates in the policy arena. Manuscripts submitted for the consideration of the Indian Pugwash Society should be original contributions and should not have been submitted for consideration anywhere else. For further assistance, please contact us at : indianpugwashsociety@gmail.com

The Indian Pugwash Society aims to promote the study, discussion, and knowledge of and to stimulate general interest in, and to diffuse knowledge in regards to problems relating on WMD proliferation, arms control, disarmament, space security, export controls, nuclear technology and other related issues. This newsletter is part of the project "Emerging Nuclear Order in Asia: Implications for India" sanctioned to us by Department of Atomic Energy-Board of Research in Nuclear Sciences (DAE-BRNS).

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